State at September 21, 2001
See also:
- Brezillon's bibliography at http://www-poleia.lip6.fr/~brezil/
- Thomason's compilation at

@inproceedings{
author = "Benerecetti M., Bouquet P. and Ghidini C.",
title = "Formalizing opacity and transparency in belief contexts",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: One of the most interesting puzzles in formalizing belief contexts is the fact that many belief reports can be given both an opaque and a transparent reading. A traditional explanation is that the two readings are related to failure and success of the principle of substitutivity respectively, and this in turn is explained with the de re/de dicto distinction. We propose an alternative analysis, based on the idea that another agent's beliefs can just be quoted (preserving opacity) or translated into the reporter's language (allowing transparency). We show that multicontext systems allow the formalization of these two phenomena at the same time, thanks to their multi-language feature. }

@inproceedings{
author = "Shanks G. and Darke P.",
title = "Incorporating context to improve understanding of a data warehouse",
booktitle = "Proc. of the IFIP Conference on Context-Sensitive Decision Support Systems",
year = "1998",
publisher = "Chapman & Hall",
editor = "Widmeyer G., Berkeley D., Brezillon P. & Rajkovic V.",
comments = "
• Abstract: Data warehouses (DWs) provide the necessary data infrastructure for executive information systems and decision support systems. The design of a DW is a complex and critical activity within the DW process. The corporate data models are widely used to support data management within organisations, both information systems professionals and business users find them difficult to understand. This paper describes a DW design approach which is intended to facilitate stakeholder understanding by making explicit use of explanation and visualisation mechanisms to incorporate context into the representation of the DW design, and reports a case study of the use of the approach in practice. Three important findings about the use of the explanation an visualisation mechanisms emerged from the case study. First, design rationale is an effective means of explaining the evolution of concepts in the DW design for specialist data modellers. Second, scenarios should be used for elicitation of information requirements and to explain abstract concepts in the model to business users. Third, graphical icons and subject area partitions are effective means of visualising the model and lead to improved understanding of the model by business users.
}

@inproceedings{
author = "Berztiss A.T.",
title = "Domain models for flexible decision support systems",
booktitle = "Proc. of the IFIP Conference on Context-Sensitive Decision Support Systems",
year = "1998",

publisher = "Chapman & Hall",
editor = "Widmeyer G., Berkeley D., Brezillon P. & Rajkovic V.",
comments = "
• Abstract: Information systems are affected by the very rapid change of the environment in which they are embedded. There is also increased dependence of organizations on externally developped information systems. The first trend requires that any particular DSS be easily adaptable to environmental changes. This we call context evolution. The second leads to DSSs being developed as product lines, and this gives rise to context switching. We address these trends by means of two-level domain modeling: a generic base model remains for the most part unchanged for allproducts of a product line; an upper level consists of specializations for specific contexts.
}

@inproceedings{
author = "Reed C. and Long D.",
title = "Context and focusing in argumentative discourse planning",
booktitle = "Proceedings of Context-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: One of the key issue in natural language generation (NLG) is the question of how to ensure that text is coherent. In this paper, the problem is viewed as one of setting up and dynamically updating an appropriate context for each utterance, by maitaining a topic stack indicating the current focus of conversation. The research centres around the problem of producing argumentative discourse, where there are a number of close ties between discourse context, focusing and linguistic structure. The proposed model employs several conceptual tiers in a hierarchical planner, the higher of which is responsible for the structure (including focusing and coherency) of the argument, and which uses purely intentional data structures to achieve this structure. The notion of saliency of a proposition to the hearer plays a key role in the planning process and the resultant focusing constraints. ",
}

@inproceedings{
author = "Kohler A.",
title = "Proposition of a cognitive model of interpretation context. ",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: We introduce a formalism of knowledge representation, the contextual logic Lc. Based on the dicto concept, it lays down a syntactical restriction upon every set of well formed formulae on the propositional logic Lp, in order to secure the axiomatic consistency. The contextual function of interpretation is used to define semantics adapted to the new syntax. The flexibility of Lc representations will allow us to devise a cognitive model of interpretation context. This one uses the dynamic management of an epistemic entranchment about the formulae. The process notion is to restrict the knowledge source to a relevant subset (the context of semantic interpretation) which develops in accordance with the historic of the system.",
}

@inproceedings{AAM93,
author = "Aamodt A.",
title = "A case-based answer to some problems of knowledge-based systems",

booktitle = "Scandinavian Conf. on Artificial Intelligence. Sandewall E. & Jansson C.G. (Eds.). IOS Press.",
year = "1993",
pages = "168-182",
comments = "
• Abstract: Among the most important challenges for contemporary AI research are the development of methods for improved robustness, adaptability, and overall interactiveness of systems. Interactiveness, the ability to perform and react in tight co-operation with a user and/or other parts of the environment, can be viewed as subsuming the other two. There are various approaches to addressing these problems, spanning from minor improvements of existing methods and theories, through new and different methodologies, up to completely different paradigms. As an exampleof the latter, the very foundation of KBSs, based on a designer's explicit representation of real world knowledge in computer software structures, has recently been questioned by prominent members of the KBS community. In the present paper, some foundamental issues of the knowledge-based paradigm are reviewed, and the main arguments of the critiquing position are discussed. Some of the deficiencies of current approaches pointed out by the critics are acknowledged, but it is argued that the deficiencies cannot be solved by escaping from the knowledge-based paradigm. However, an alternative to the main-stream, generalisation-based, approach is needed. An approach is advocated where reasoning from situation-specific knwoledge-captured as a collection of previously solved cases, is combined with generalised domain knowledge in the form of a densely connected semantic network. The approach enables continuous, sustained learning by updating the case base after each new problem has been solved. The paper shows how an example of this approach--the CREEK system--can provide an answer within the knowled-based paradigm to the problems pointed out by the critics.
}

@article{
author = "S. Abu-Hakima",
title = "Improving explanations in knowledge-based systems: RATIONALE",
journal = "Knowledge Acquisition",
year = "1990",
volume = "2",
pages = "301-343",
comments = "
}

@inproceedings{
author = "Abu-Hakima S.",
title = "The use of context in diagnostic systems",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August",
comments = "",
}

@inproceedings{ABU95,
author = "Abu-Hakima S & Brézillon P",
title = "Principles for the application of context in dagnostic problem solving",

booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "179-182",
month = "August",
comments = ""
}

@inproceedings{
author = "Agabra-Joyau J., Alvarez-Dabas I. and Brezillon P.",
title = "Contextual knowledge based system: A study and design in enology",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February",
year = "1997",
comments = "
• Abstract: Wine making is a domain where formalization is very difficult, mainly because one has to deal with a huge quantity of heterogeneous pieces of knowledge that intervene at different steps of the wine-making process. Moreover, steps of the wine-making process are strongly connected together. We address the problem of stops in the alcoholic fermentation. This step of the wine-making process is shown to be strongly correlated with knowledge on events that occur at previous steps. For the problem of stop in alcoholic fermentation, knowledge pieces of previous steps of the wine-making process intervene as contextual knowledge. In this paper, we present the results of our modeling of such contextual knowledge and the design of a system using context-based knowledge. In our application, contextual knowledge is modeled according to the metaphor of the onion model in which the problem to solve is the heart and contextual knowledge is organized in layers around the heart according to an ordering that does not rely on a mathematical distance. ",
}

@inproceedings{
author = "Aha D.W.",
title = "Case-based learning algorithms",
booktitle = "Proceedings of the 1991 DARPA Case-Based reasoning Workshop, Washington D.C., Morgan Kaufmann, ",
year = "1991",
pages = "147-158",
comments = "
• Abstract: Casbased learning (CBL) algorithms are CBR systems that focus on the topic of learning. This paper notes why CBL algorithms are good choices for many supervised learning tasks, describes a frmaework for CBL algorithms, outlines a progression of CBL algorithms for tackling learning applications characterised by challenging problems (i.e. noisy cases, poor similarity functions, contextual importance of features), and discusses unsolved problems with the case-based learning approach. ",
}

@inproceedings{
author = "Aiello L.C., M. Cialdea and D. Nardi",
title = "Reasoning about student knowledge and reasoning",
booktitle = "Proc. of the Twelfth IJCAI'91",
year = "1991",
volume = "2",
pages = "1087-1093",

address = "Sidney, Australia",
month = "August 24-30",
comments = "",
}

@inproceedings{
author = "Aïmeur E. & Frasson C.",
title = "Eliciting the learning context in co-operative tutoring systems",
booktitle = "Proc. of the IJCAI_95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal",
year = "1995",
pages = "1-11",
month = "August, ",
comments = "
• The evolution of tutoring systems has led to a co-operative approach between the learner and the system. Learning is considered more as a joint construction of knowledge than a transfer of expertise from the teacher to the learner. However, the dialogue which is the most important element of this co-operation needs to take into account the context of each agent. In this paper we show how elicitation methods are useful for two reasons. First, they can be used to determine the contexts of the learner and the tutor. They also can strengthen task acquisition to the learner. In this article the context includes elements such like the learning level, the profile of the learner, and the history of his/her transactions. Goal and task structure are used as a guideline for eliciting the characteristics and the decomposition of the task from the learner. These elicitation techniques can be embedded into various learning strategies whose adaptability can be tuned dynamically using contextual rules. We illustrate the elicitation process with a learning strategy. ",
}

@article{
author = "Ackman V. and Surav M.",
title = "Steps towards formalizing context",
journal = "AI Magazine",
year = "1996",
volume = "17",
number = "3",
pages = "55-72",
month = "Fall",
comments = "
• Abstract : The importance of contextual reasoning is emphasized by varioous researchers in AI. (A partial list includes J. McCarthy and his group, R.V. Guha, Y. Shoham; G. Attardi and M. Simi, F. Giunchiglia and his group.) Here, we survey the problem of formalizing context and explore what is needed for an acceptable account of this abstract notion. ",
}

@inproceedings{
author = "D. D'Aloisi and C. Castel franchi",
title = "Propositional and terminological knowledge representations",
booktitle = "AAAI-92 Spring Symposium on Propositional Knowledge Representation",
year = "1992",
pages = "57-66",
month = "March",

```
        comments = "",
}

@unpublished{
        author = "Aoki P.M. & Woodruff A.",
        title = "Improving electronic guidebook interfaces using a task-oriented design approach",
        year = "2001",
        comments = "
```
• Abstract: Item selection is a key problem in elevtronic guidebook design. Many systems do not apply so-called “context-awareness” technologies to infer user interest, placing the entire burden of selection on theuser. Conversely, to make selection easier, many systems automatically eliminate information that they infer is not of interest to the user. However, such systems often eliminate too much information, preventing the user from finding what they want. To realize the full potential of electronic guidebooks, designers must strike the right balance between automatic context-based inference and manual selection. In this paper, we introduce a task-oriented model of item selection for electronic guidebooks to help designers explore this continuum. We argue that itme selection contains three substasks and that these subtasks should be considered explicitly in system design. We apply our model to exisitng systems, demonstrating pitfalls of combining subtasks, and discuss how our model has improved the design of our own guidebook prototype. ",
```
}

@inproceedings{
        author = "B. Arbab",
        title = "A formal language for representation of knowledge",
        booktitle = "AAAI'92 Workshop on Propositionnal Knowledge Representation, Stanford, CA",
        year = "1992",
        pages = "1-8",
        month = "March",
        comments = "",
}

@article{ATT98,
        author = "Attardi G., Di Marco S. & Salvi D.",
        title = "Categorization by context",
        journal = "Journal of Universal Computer Science",
        year = "1998",
        volume = "4",
        number = "9",
        pages = "719-736",
        comments = "
```
• Abstract: Assistance in retrieving of documents on the World Wide Web is provided eiither by search engines, through keywords based on queries, or by catalogues, which organise documents into hierarchical collections. Maintaining catalogues manually is becvoming increasingly difficult due to the sheer amount of material on the web, and therefore it will be soon necessary to resort to techniques for automatic classification of documents. Classification is traditionally performed by extracting information for indexing a document from the document itself. The paper describes the technique of categorization by context, which exploits the context perceivable fro the structure of HTML documents to extract useful information for classifying the documents they refer to. We present the result of experiments with a preliminary implementation of the technique. ",
```
```

}

@inproceedings{AUS91,
	author = "N. Aussenac, J. Frontin and J.L. Soubie",
	title = "Evolution d'une représentation des connaissances pour l'acquisition",
	booktitle = "Knowledge Modeling & Expertise Transfer, Sophia Antipolis, KMET'91",
	year = "1991",
	publisher = "IOS Press",
	pages = "135-149",
	editor = "D.Herin-Aimé, R.Dieng, J.P.Regourd and J.P. Angoujard",
	series = "Frontiers in AI and Applications",
	month = "April 22-24",
}

@article{
	author = "Avgerou C.",
	title = "The significance of context in information systems and organizational change",
	journal = "Information Systems",
	year = "2001",
	volume = "11",
	pages = "43-63",
	comments = "
• Abstract: This paper argues that it is of crucial importance that information systems (IS) research and practice associates technology innovation with the context within which it is embedded. It identifies three principles to be followed in order to address the contextual processes involved in IS implementation: first, technology innovation should be considered in relation to socio-organizational change; second, analysis should consider not only the local organizational, but also the national and international context; and third, analysis should consider both the technical/rational decisions and actions involved in the innovation process and the cultural, social and cognitive forces of such a process. These principles are demonstrated with the analysis of a case study of organizational reform in Cyprus.",
}

@inproceedings{BAL90,
	author = "N. Balacheff",
	title = "Nature et objet du raisonnement explicatif",
	booktitle = "Colloque Esprit/LIREST",
	year = "1990",
	month = "Avril",
}

@book{BAR81,
	title = "The Handbook of Artificial Intelligence",
	publisher = "William Kaufmann, Inc.",
	year = "1981",
	editor = "A. Barr and E.A. Feigenbaum",
	volume = "1",
	series = "Chap III: Representation of Knowledge, représentation",
}

```
@phdthesis{BAR91,
	author = "M. Barthe",
	title = "ERGO-METH': Principes d'une méthodologie d'informatisation visant à intégrer les apports de l'ergonomie cognitive dans la démarche de conception pour améliorer l'utilité et la amniabilité des logiciels interactifs de gestion ",
	school = "CNAM, Paris, France",
	year = "1991",
	month = "25 novembre",
	type = "Mémoire d'Ingénieur",
}

@article{
	author = "C. Bastien",
	title = "Le décalage entre logique et connaissances",
	journal = "Le Courrier du CNRS, Numéro Spécial “Sciences Cognitives”",
	year = "1992",
	number = "79",
	pages = "38",
}

@inproceedings{
	author = "Bazzanella C.",
	title = "On context and dialogue",
	booktitle = "Proc. of the 6th Conference on Dialogue Analysis, Prague, 1996",
	year = "1998",
	publisher = "Max Niemeyer Verlag, Tübigen 1998",
}

@inproceedings{BEC91,
	author = "M. von Bechtolsheim",
	title = "REAS: a knowledge-based real-time assistant for financial market monitoring",
	booktitle = "Proc. of the ERCIM Workshops INESC, Lisbon, Portugal",
	year = "1991",
	pages = "259-262",
	month = "November 14-15",
}

@phdthesis{BEL91,
	author = "F. Belaid",
	title = "Un système explicateur basé sur des formes de connaissance dans une approche objet",
	school = "I2S, Sophia Antipolis",
	year = "1991",
	address = "Bât.4, SPI, 250 rue A.Einstein, 6560 Valbonne",
	month = "septembre",
	type = "thèse en science ",
}

@inproceedings{BEL91,
	author = "P. Belegrinos and M. Georgeff",
```

title = "A model of events and processes",
booktitle = "IJCAI-91, Proc. of the Twelfth Int'l Conf. on Artificial Intelligence",
year = "1991",
volume = "1",
address = "Sidney, Australia",
month = "August 24-30",
comments = "
ABSTRACT. The aim of this paper is to provide a basis for a theory of events and processes that can be used for reasoning about arbitrarily complex dynamic domains involving multiple agents. The approach is based on a model of events that explicitly represents the domain of influence of each event. By scoping an event's domain of influence most of the problems that have plagued the more conventional stated-transition models of events can be avoided. The effect of performing events, either in isolation or concurrently with other events, is described. To represent constraints among events, a model of processes is developped. This allows the modelling of arbitrarily complex behaviors. Finally, a representation of causal influence is provided that allows the ramifications of any given event occurence to be modelled.",
}

@article{BEN95,
author = "Bengio Y. and Frasconi P.",
title = "Diffusion of context and credit information in markovian models",
journal = "J. of Artificial Intelligence Research",
year = "1995",
volume = "3",
pages = "249-270",
comments = "
• Abstract: This paper studies the problem of ergodicity of transition probability matrices in Markovian models, such as hidden Markov models (HMMs), and how it makes very difficult the task of learning to represent long-term context for sequential data. This phenomena hurts the forward propagation of long-term information, as well as learning a hidden state representation to represent long-term context, which depends on propagating credit information backwards in time. Using results from Markov chain theory, we show that this problem of diffusion of context and credits is reduced when the transition probabilities approach 0 or 1, i.e., the transition probability matrice are sparse and the model essentially deterministic. The results found in this paper apply to learning approaches based on continuous optimization, such as gradient descent and the Baum-Welch algorithm.
}

@article{BER96,
author = "Berkem B.",
title = "Un système d'information réactif par le “Modèle des Objets Contextuels”",
journal = "L'OBJET: Logiciel, base de données, réseaux",
year = "1996",
volume = "2",
number = "5",
pages = "4-9",
comments = "
• Abstract: Les formalismes utilisés dans le cycle de développement du logiciel restent insuffisants pour projeter la dynamique de l'organisation sur son système d'information. Le présent travail fait le constat qu'une analyse de l'organisation par domaine d'activité reste inadaptée quant à la réactivité

au changement et propose une étude d'interactions entre les objets apparents pour l'ensemble de l'entreprise. Le “modèle des objets contextuels” permet de simuler la dynamique d'environnement du système d'entreprise à l'aide d'un moniteur et laisse les réactions aux changements se propager aux autres cellules de l'organisation afin de susciter la réaction de celles-ci. Il constitue de ce fait une base formelle comme outil de re-engineering permanent. ",
}

@article{BES98,
	author = "Bès M.-P.",
	title = "La capitalisation active des connaissances. Principes, contextes et obstacles",
	journal = "Annales des Mines",
	year = "1998",
	pages = "38-51",
	month = "décembre",
	comments = "
• Abstract: Lorsque les entreprises se posent la question de la capitalisation des connaissances, qui se décline aussi sous les vocables “mémoire d'entreprise, retour d'expérience, management de la technologie, base de données techniques”, l'objectif visé est toujours celui de la réduction des coûts de production ou de conception. Cependant, les projets de capitalisation des connaissances rencontrent de nombreux obstacles, pour de multiples raisons qui tiennent autant à la surévaluation des systèmes de gestion informatisée des données qu'à la difficile prise en compte des contextes productifs et de la dimension collective du travail. ",
}

@inproceedings{BIA94,
	author = "Bianco L., Dell'omo P., & Ezhkova I.V.",
	title = "Application of contextual technology for supporting decision making in transportation",
	booktitle = "Proc. of the 7th IFAC/IFORS Symposium on Transportation Systems, Tianjin, China",
	year = "1994",
	pages = "363-368",
	month = "August",
}

@inproceedings{BIE97,
	author = "Bielikova M. and Navrat P.",
	title = "A multilevel knowledge representation of strategies for combining modules",
	booktitle = "Proc. of the Seventh Int. Conf. on AI and Information-Control Systems of Robots",
	year = "1997",
	publisher = "World Scientific, Singapore",
	pages = "155-168",
	comments = "
• Abstract: The research was motivated by the need to represent knowledge (when written in Prolog) in a way that would retain its inherent structure. Our approach attempts to offer means of abstraction for structuring logic programs according to both generality levels and to knowledge content, i.e. meta-levels. Using the notion of a modular logic program, we define a special reflection mechanism which establish connections between modules at a given level and a level above. We describe various ways of combining of modules. We propose defining meta-knowledge

in separate modules, with each module defining one particular strategy. Another option is dividing meta-knowledge that defines one strategy into several modules at one level, and defining a way of combining them.",
}

@article{BIL96,
	author = "Taner Bilgiç and Mark S. Fox",
	title = "Constraint-Based Retrieval of Engineering Design Cases: Context as constraints",
	journal = ". In J. Gero and F. Sudweeks (eds.) Artificial Intelligence in Design '96 , Kluwer Academic Publisher",
	year = "1996",
	pages = "pp. 269-288",
	comments = "
Abstract:The case-based retrieval is frequently reported as a valuable tool for engineering design. We discuss similarity based retrieval in the engineering design domain when the context is given as a set of constraints. This approach comprises the lowest level with which we support case-based retrieval from our Integrated Knowledge-Base. The characterization of the retrieval process yields a robust compliance measure and a similarity measure for the cases in a given context. The problematic concept of context is taken up front by making it an explicit part of the query. ",
}

@article{BOB77,
	author = "Bobrow D.G. and T. Winograd",
	title = "An overview of KRL, a knowledge representation language",
	journal = "Cognitive Science",
	year = "1977",
	volume = "1",
	number = "1",
	pages = "3-46",
}

@article{BOB91,
	author = "D.G. Bobrow",
	title = "Dimensions of interaction",
	journal = "AI Magazine",
	year = "1991",
	pages = "64-80",
	month = "Fall",
}

@book{BOE94,
	title = "Advances in the Neurobiology of Schizophrenia.",
	publisher = "Chichester, Wiley",
	year = "1994",
	author = "http://www.psy.med.rug.nl/0014",
	editor = "Boer, J.A. den, Westenberg, H.G.M. and Praag, H.M. van (Eds.)",
}

@inproceedings{BOH98,
	author = "Bohanec M., Cestnik B. & Rajkovic V.",

title = "Evaluation models for housing loan allocation in the context of floats",
booktitle = "Context Sensitive Decision Support Systems, D. Berkeley, G. Widmeyer, P. Brezillon and V. Rajkovic (Eds.), ",
year = "1998",
publisher = "Chapman & Hall",
pages = "174-189",
comments = "
• Abstract: In this paper, we analyze the impact of contextual changes to the size, structure and behavior of a qualitative multi-attribute model. The study involves an evaluation model for allocating housing loan in the Housng Fund of the Republic of Slovenia. So far, this model was used in 13 completed floats of loans for citizens. As a result of considerable contextual changes that occurred from float to float, the model had to be adapted accordingly. These changes were reflected n the modifications of model structure, used attributes, and decision rules at various levels of the model. Based on the analysis of time series of different model parameters, we articulate some guidelines for efficient model management, and justify the flexibility of the approach and its robustness to contextual changes. In particular, we show that a model can be designed so that relatively large changes in the decision environment cause minor and isolated changes in the model. ",
}

@article{BON97,
author = "Bonzon P.",
title = "Context-based models of non-monotonic reasoning for cooperative logical agents",
journal = "voir à http://www.hec.unil.ch/pbonzon/aipress.htm",
year = "1997",
comments = "
• Abstract: This work addresses theproblem of developing a single formalism for defining and directly executing logical agent specifications. A central issue for cooperative behavior, i.e. that of non-monotonic reasoning, is first approached by introducing a restricted logic for contexts together with an effecitve automated proof system. We then present a model of agent class and instances as objects encapsulating beliefs, communicating methods and refied deduction capabilities, all under the form of explicit context assertions. Messages sent to objects allow for the creation of agent class and instances as well as for solving reasoning scenarios. As an illustration, we give a scenario for solving the Three Wise Men Puzzle. ",
}

@inproceedings{BON97,
author = "Bonzon P.E.",
title = "Learning meta-level operators in hierarchical contexts",
booktitle = "Proc. of CONTEXT-97, Rio de Janeiro, Brasil, February",
year = "1997",
comments = "
• Abstract: A common approach to machine learning aims at the synthesis of object-level macro-operators representing sequences of actions. We argue that a greater generality could be achieved by learning instead meta-level operators representing sequences of partially defined (or generic) inference steps that lead to the discovery of object-level operators or concepts. The implementation of these ideas relies on a hierarchy of formalized contexts. Inference steps are represented as deduction traces that can be both derived from and forced back into a new kind of reflective contexts. While learning follows from hopping up a level in this hierarchy, reuse implies hopping

down again. We illustrate this approach with an example showing how to learn and apply an instance of a rule involving the compilation of heterogeneous knowledge. ",
}

@inproceedings{BON98,
	author = "Bonzon P.E.",
	title = "A contextual model of beliefs for communicating agents.",
	booktitle = "11th International Conference on IEA-AIE-98, Benicassim, Spain, June",
	year = "1998",
	comments = "
• Abstract: We consider the problem of defining effective ways to reason about the cognitive state of communicating agents. In order to allow for novel human-computer or computer-computer interaction, these agents could be ascribed models of explicit mental states. These models should then be used to compute belief revisions resulting from information exchanges. Towards this end, we introduce a model of distributed beliefs based on formalizing the assertion “fact P is believed by agent X in context C”. These developments give rise to a logic program embodying the various computational aspects (object class and instance creation, proof system, message interpreter) of a complete test bed.",
}

@phdthesis{BOU90,
	author = "R. Bourgeois",
	title = "ICEO: Intension, coréférences et objets dans la fédération de formalismes de spécification",
	school = "LAFORIA, Université de Paris VI",
	year = "1990",
	month = "December 20",
	type = "Thèse d'Université",
}

@inproceedings{BOU95,
	author = "Bouquet P & Cimatti A",
	title = "Mechanizing lical reasoning with context",
	booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal",
	year = "1995",
	pages = "13-23",
	month = "AUgust",
	comments = "
• Abstract: One of the main problem in formalizing common sense rasoning is that often its conclusions rely on partial information. Although this may depend on a lack of information, most time it depends on the fact that (common sense) reasoning is local, i.e., does not use all the potentially available knowledge when drawing a conclusion. In [BG95], local reasoning is formalized in a multi context framework. In the proposed architecture, subsets of a knowledge base are used to formulate local theories for given problems. In this paper, we address the problem of mechanizing this conceptual architecture. We focus on the mechanization of the basic mechanism for the formulation of local theories, and in particular on the process of lifting the information of a context into another context. As a case study, we describe the mechanization McCarthy's Glasgow-London-Moscow problem. ",
}

@inproceedings{BOU97,
	author = "Bouzy B. and Cazenave T.",
	title = "Using the object oriented paradigm to model context in computer GO",
	booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
	year = "1997",
	comments = "
• Abstract: In this paper, we investigate the use of contextual knowledge in order to simplify knowledge representation in very complex domains and systems. In the case of a complex domain, like the game of Go, there are several types of context. We give some example of temporal, goal, spatial and global contexts. We describe jow Go playing programs represent and use these contexts in the object-oriented paradigm (OOP). We introduce three examples of OOP mechanisms that enable to deal with contexts: a general class with specialized classes, a master slot of a class and slave slots, a list of goals that depend on each other. We claim that these OOP mechanisms are useful to represent context in other complex domains. ",
}

@inproceedings{BOU99,
	author = "Bouaud J., Séroussi B. & Antoine E.-Ch.",
	title = "OncoDoc: modélisation et “opérationalisation”d'une expertise thérapeutique au niveau des connaissances",
	booktitle = "Actes de Ingénierie des Connaissances (IC'99), Palaiseau",
	year = "1999",
	pages = "61-69",
	month = "juin",
	comments = "
• Résumé: La diffusion des “guides de bonnes pratiques cliniques” sous la forme de systèmes d'aide à la décisionse heurte en pratique à des taux d'observance faibles. Ceci s'explique en partie par une formalisation hors contexte d'une connaissance médicale dont le moyen d'expression privilégié est la langue. Prenant acte de l'influence peu contrôlable du contexte, OncoDoc est unebase de connaissances thérapetique conçue et utilisée au “niveau des connaissances”, à mi-chemin entre texte et formalisation. L' “opérationalisation” des connaissances se fait par le biais d'une lecture hypertextuelle contrôlée par la structure formelle de la base connaissances et par une normalisation sémantique des notions. Cette approche permet l'interprétation des connaissances dans le contexte clinique par le médecin, qui se trouve ainsi acteur de la démarche décisionnelle. Lors d'une évaluation vraie grandeur, les taux d'accords théorique et pratique avec les recommendations d'OncoDoc ont été supérieurs aux meilleurs chiffres publiés. ",
}

@inproceedings{BOY91,
	author = "G. Boy",
	title = "Indexing hypertext documents in Context",
	booktitle = "Hypertext'91, San Antonio, Texas, USA",
	year = "1991",
	month = "December 15-18",
}

@techreport{BOY91b,
	title = "Computer integrated documentation ",
	author = "G. Boy",

institution = "NASA Ames Research Center",
year = "1991",
type = "NASA Technical Memorandum",
number = "103870",
month = "September",
address = "Moffett Field, CA 94035-1000, USA",
}

@inproceedings{BOY92,
author = "G. Boy",
title = "Semantic correlation in context: application in document comparison and group knowledge design",
booktitle = "AAAI'92 Workshop on Cognitive Aspects of Knowledge Acquisition, Stanford, CA, ",
year = "1992",
pages = "23-30",
month = "March",
}

@inproceedings{BOY93,
author = "Boy G.",
title = "“Information-intensive” tools certification: A matter of context",
booktitle = "IJCAI-93 Workshop on “Using Knowledge in its Context”, Chambéry, France",
year = "1993",
month = "August",
}

@inproceedings{BRE97,
author = "Bremond F. and Thonnat M.",
title = "Issues in representing context illustrated by scene interpretation applications",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: This paper tackles several issues of the representation of context in knowledge-based systems. First, we propose a context definition through the description of the different information types manipulated by process. Thanks to this definition we explain the role of the granularity level of processing and the role of the abstraction level of application in modelling context. Then two rules are provided helping with the construction of context representation. We illustrate the proposed context model with the example of the scene interpretation process. Then we present a representation of its context. Through this specific representation two more general issues of context representation are tackled: how context can be built and organized and how its contents can be reused for other applications. In the last part of the paper we propose solutions to deal with these issues. Thus the proposed context representation model allows us to see the representation under different viewpoints. At the same time it allows to gather all contextual information in one place. As the representation is partially generic it also makes possible the reuse of context contents for different interpretation applications. ",
}

@inproceedings{BRE97,
author = "Brezillon P., Gentile C., Saker I. and Secron M.",

title = "SART: A system for supporting operators with contextual knowledge",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1996",
comments = "
• Abstract: The regulation of the metro line traffic is a domain where human controllers must deal with a huge quantity of knowledge pieces more or less implicit in the regulation itself. When an incident oddurs on a metro line, The operator-the controller who has currently the resposibility of the metro line--must choose the better strategy to apply for moving from the incidental context to operational one. An incident on the subway line may cause traffic delay or service interruption, and may last for a short or long time, depending on the nature of the incident and many other factors. Operators mainly focus on contextual information for incident solving. An operator said: “When an incident occurs, I first look at what the incident context is.” We propose to support metro line controllers in incidentla context with the SART system (French acronym for support system in traffic regulation). SART is a decision support system based on the contextual analysis of events that arise at the time of the incident. It uses a base of context-based incidents and applied a context-based reasoning. The SART project now enters the second year of system design and development and implies two universities and two subway companies in France and Brasil. We present in this paper an original model, called the onion model, for representing context-based incidents. ",
}

@inproceedings{BRE97,
author = "Brezillon P. and Pomerol J.-Ch.",
title = "Contextual issues in the frameworkof multicriteria decision making",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: In this paper, using the framework of Multicriteria Decision Support Systems (MCDSSs), we try to identify where the contextual knowledge is necessary. The MCDSS framework is a good model to specify the exact role of the context because it is a rather well structured and thoroughly studied. The main observation is the contextual knowledge is especially useful to delimit the usual concepts of the domain and strongly influences the relationships between the concepts. We also point out the necessity to include a large quantity of contextual knowledge in the model, especially as regards alternatives and the decision maker, even if this latter cannot be fully modelled. ",
}

@article{BRE98,
author = "Brémond F. and Thonnat M.",
title = "Issues of representing context illustrated by video-surveillance applications",
journal = "Special Issue on Using Context in Applications. International Journal on Human-Computer Studies",
year = "1998",
comments = "
• Abstract: This paper tackles several issues of context representation in knowledge systems. First, we propose a definition of context through the description of the different types of information manipulated by a process. Thanks to this definition, we explain the role of the granularity level of processing and the role of the abstraction elevel of the application in modeling context. Based on this definition, two main issues related to context are tackled: how context representation can be built and organized and how context contents can be reused for other applications. Then we propose several solutions to deal with these issues: using a multi viewpoint representation and

describing context through symbolic information. We illustrated the proposed context model with the process of dynamic scene interpretation. After explaining the reasons why this process is particularly concerned with the use of contextual information, we describe the context representation and its implementation for this specific process. Finally, we give an example illustrating the use of the context representation and we describe the software we have developed to ease the acquisition stage of context contents. ",
}

@misc{BRO00,
	title = "Context-awareness: some compeling applications",
	author = "Brown P. et al. ",
	howpublished = "http://www.dcs.ex.ac.uk/~pjbrown/papers/acm.html",
	year = "2000",
}

@inproceedings{BUB00,
	author = "Bubl F.",
	title = "Towaeds designing distributed systems with ConDIL",
	booktitle = "Proc. of the 2nd EDO in Davis, CA",
	year = "2000",
	publisher = "Springer Verlag",
	comments = "
Abstract: Designing and maintaining a distributed system requires consideration of dependencies and invariants in the system's model. This paper suggests expressing distribution decisions in the system model based on the system's context. Hence, UML is enriched by two new specification techniques for planning distribution: On th eone hand, “context properties” describe dependencies on the design levelbetween otherwise possibly unrelated model elements, which share the same context. On the other hand, “context-based distribution instructions” specify distribution decisions based on context properties. The distirbution language “ConDIL” combines both techniques. It consists of four layers introduced informally via examples taken from a case study.",
}

@article{BUC88,
	author = "Bucciarelli L.L.",
	title = "An ethnographic perspective on engineering design",
	journal = "Design Studies",
	year = "1988",
	volume = "9",
	number = "3",
	pages = "159-168",
	month = "July",
	comments = "
• Abstract: The paper reports two studies of the design process within engineering firms. The studies were based on participant-observation techniques: in each case the firm was approached in the way an ethnographer might approach a foreign culture. The paper presents and discusses observations of typical activities that occurs in the design process. In particular, design is observed as a social process. Three types of discourse are identified: constraining,naming and deciding.",
}

@article{BUD01,

author = "Budzik J., Hammond K.J. & Birnbaum L.",
title = "Information access in context",
journal = "Knowledge-Based Systems",
year = "2001?(web)",
comments = "
• Abstract: Our central claim is that user interactions with productivity applications (e.g. word processors, Web browsers, etc.) provide rich contextual information that can be leveraged to support just-in-time access to task-relevant information. As evidence for our claim, we preseznt Watson, a system which gathers contextual information in the form of the text of a document theuser is manipulating, in order to proactively retrieve documents from distributed information repositories related to task at hand, as well as process explicit requests in the context of this task. We close by describing the results of several expeirmentswith Watson, which show it consistently provides usefule information to its users. The experiment also suggest that, contrary to to the assimptions of many system designers, similar documents are not necessarily useful documents in the context of a particular task. ",
}

@inproceedings{BUD99,
author = "Budzik J. & Hammond K.",
title = "Watson: anticipating and contextualizing information needs",
booktitle = "Proceedings of the 62th Annual Meeting ofthe Ameircan Society for Information Science. ",
year = "1999",
comments = "
• Abstract: In this paper, we introduce a class of systems called Information Management Assistants (IMAs). IMAs automatically discover related material on behalf of the user by serving as an intermediary between the user and information retrieval systems. IMAs observe users interact with everyday applications and then anticipate their information needs using a model of the task at hand. IMAs then automatically fulfill these needs using the text of the document the user is manipulating and a knowledge of how to form queries to traditional information retrieval systems (eg Internet search engines, abstract databases, etc.) IMAs automatically query information systems on behalf of users as well as provide an interface by which the user can pose queries explicitly. Because IMAs are aware of the users'task, they can augment their explicit query with terms representative of the context of this task. In this way, IMAs provide a framework for bringing implicit task context to bear on servicing explicit information requests, significantly reducing anbiguity. IMAs embody a just-in-time inforamtion infrastructure in which infromation is brought to users as they need it, without requiring explicit requests. In this paper, we present our wor,k on an architecture for this class of system, and our progress implementing Watson, a prototype of such a system. Watson observes users in word processing and web browsing applications and uses a simple model of the user's task, knowledge of termimportance, and an understanding of query generation to find relevant documents and service explicit queries. We close by discussing our experimental evauation of the sytem. ",
}

@inproceedings{BUN97,
author = "Bunt H.",
title = "Dialogue context modelling",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February",
year = "1997",
comments = "

• Abstract: This paper is concerned with context in relation to language understanding, focusing on the interactive use of language in dialogues. We argue that understanding not only requires contextual information in order to assign appropriate meaning to linguistic expressions, but that the very notions of language understanding and 'meaning' should be defined in terms of changing contexts. According to this point of view, the analysis of the meanings of utterances in dialogues provides us insights into the conceptual content of the contexts changed by these utterances. More specifically, an analysis of the different kinds of utterances occurring in dialogues and their intended context-changing effects tells us what kinds of information this notion of context should include, thus providing clues for the formal modelling and computational representation of contexts. ",
}

@inproceedings{BUN99,
author = "Bunt H.",
title = "Context representation for dialogue management.",
booktitle = "Proc. of CONTEXT-99",
year = "1999",
comments = "
Abstract:There are many different kinds of context information, with different demands on representation. In this paper, we discuss the representation of the context information needed to support intelligent dialogue management in interactive speech systems. We argue that simple types of context information should be represented in a very simple form to allow efficient simple processing, while other types of context information require sophisticated logics for articulate representation and reasoning. For dialogue management in spoken natural language dialogue systems, a complication is that some types of context information most of the time have a very simple structure, but may become the focus of attention and require articulate representation. We will propose a way to handle this problem, and show how a dialogue manager can operate on context information that may be represented in different formalisms.",
}

@inproceedings{BUN99(#95),
author = "Bunt H.",
title = "Context representation for dialogue management",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Abstract:There are many different kinds of context information, with different demands on representation. In this paper, we discuss the representation of the context information needed to support intelligent dialogue management in interactive speech systems. We argue that simple types of context information should be represented in a very simple form to allow efficient simple processing, while other types of context information require sophisticated logics for articulate representation and reasoning. For dialogue management in spoken natural language dialogue systems, a complication is that some types of context information most of the time have a very simple structure, but may become the focus of attention and require articulate representation. We will propose a way to handle this problem, and show how a dialogue manager can operate on context information that may be represented in different formalisms.",
}

@article{BUT93,
author = "Butterworth G.",

title = "Context and cognition in models of cognitive growth",
journal = "In: Context and Cognition: Ways of Learning and Knowing, Light P. & Butterworth G. (Eds.), Lawrence Erlbaum Associates, Hillsdale",
year = "1993",
pages = "1-13",
}

@inproceedings{BUV95,
author = "Buvac S.",
title = "Quantificational logic of context",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal",
year = "1995",
pages = "25-34",
month = "August",
}

@inproceedings{CAH93,
author = "Cahour B. and L. Karsenty",
title = "Context of dialogue: a cognitive point of view",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August, ",
note = "context, communication, dialogue",
}

@phdthesis{CAL93,
author = "Marcos Cavalcanti",
title = "Les mondes possibles dans les systèmes de production : un métalangage pour la gestion d'hypothèses et le raisonnement non-monotone",
school = "LRI, Université Paris-Sud, Orsay",
year = "1993",
month = "juin",
type = "Thèse d'Université",
}

@inproceedings{CAW91a,
author = "A. Cawsey",
title = "Planning tailored interactive explanations",
booktitle = "AAAI'91 Workshop on Comparative Analysis of Explanation Planning Architectures",
year = "1991",
pages = "6-14",
address = "Anaheim, California",
month = "July 14",
}

@inproceedings{CAW91b,
author = "A. Cawsey",

title = "Generative Interactive Explanations",
booktitle = "Proc. Ninth Nat'l Conf. on Artificial Intelligence (AAAI-91)",
year = "1991",
publisher = "AAAI Press / The MIT Press",
volume = "1",
pages = "86-91",
address = "Menlo Park",
month = "July",
}

@techreport{CHE00,
title = "A survey of context-aware mobile computing research",
author = "Chen G. and Kotz D.",
institution = "Dpt of Computer Science, Dartmouth College",
year = "2000",
type = "Technical Report ",
number = "TR2000-381",
comments = "
• Abstract: Context-aware computing is a mobile computing paradigm in which applications can discover and take advantage of contextual information (such as user location, time of the day, nearby people and devices, and user activity). Since it was proposed about a decade ago, many researchers have studied this topic and built several context-aware applications to demonstrate the usefullness of this new technology. Context-aware applications (or the system infrastructure to support them), however, have never been widely available to every users. In this survey of research on context-aware systems and applications, we looked in depth at the types of context used and models of context information, at systems that support collecting and disseminating context, and at applications that adapt to the changing context. Through this survey, it is clear that context-aware research is an old but rich area for research. The difficulties and possible solutions we outline serve as guidance for researchers hoping to make context-aware computing a reality. ",
}

@article{CHE01,
author = "Chevalier A. & Martinez L.",
title = "The role of context in the acquisition and the organization of knowledge: studies from adultsd and children",
journal = "In: Modeling and Using Context (CONTEXT-01). V. Akman, P. Bouquet, R. Thomason & R.A. Young (Eds.). Springer Verlag",
year = "2001",
pages = "425-428",
comments = "
• Abstract: For a few years, partisans of two theoretical approaches have debated about the role attributed to the concept of context in acquisition and organization of the knowledge. The first one is the symbolic information processing system which focusses on the symbolic structures of the mind. The second one is the “situated cognition” theory which postulates that all the action of subjects proceed according to social and physical context in which it appears. Although these two approaches appear apriori conflicting, several authors get to connect certain characteristics of these two theories. These authors propose the intervention of two forms of context in cognition. The purpose of this paper is to present this new approach and illustrate it with experimental studies.• external and internal contexts.",
}

@inproceedings{CHE92,
author = "R. Chevallier",
title = "STUDIA: Un système tutoriel intelligent coopératif fondé sur la négociation et sur un modèle dynamique du dialogue",
booktitle = "ITS'92",
year = "1992",
}

@article{CIM95,
author = "Cimatti A. and Serafini L.",
title = "Multi-agent reasoning with belief contexts: the approach and a case study",
journal = "In: Intelligent Agents, M. Wooldridge & Jennings N. (Eds.), Lecture Notes in AI, 890, Springer Verlag, Berlin",
year = "1995",
pages = "71-85",
comments = "
• Abstract: In this paper, we discuss the use of belief contexts for the formalization of multi-agent reasoning. In addition to representational power, belief contexts provide implementational advantages. We substantiate this claim by discussing a paradigmatic case study, the Three Wise Men Puzzle.• Belief contexts are a formalism for the representation of propositional attitudes. Their basic feature is modularity: knowledge can be distributed in different, separated modules, called contexts; the interaction between them, i.e. the transfer of knowledge between contexts, can be formally defined according to the application. ",
}

@inproceedings{CIM95,
author = "Cimatti A & Serafini L",
title = "Multi-agent reasoning with belief context III: Towards the mechanization",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal",
year = "1995",
pages = "35-45",
month = "August",
comments = "
• Belief contexts are a powerful and adequate formalism for the representation of propositional attitudes in a multiagent environment. Belief contexts give also implementational advantages. In this paper we discuss the issues related to the practical use of belief contexts, by showing the mechanized solution to some paradigmatic case studies. We show that this mechanization has the following implementational advantages. First, proofs have a natural interpretation, close to standard patterns in reasoning about propositional attitudes, and are based only on few conceptual reasoning steps: this makes proof search easier to understand and automatize. Futhermore, it is easier to implement inference strategies which exploit the structure of the problem. Finally, substantial parts of the reasoning are local to contexts: this allows for the efficient use of general purpose deciders.",
}

@inproceedings{CIM97,
author = "Cimatti A. and Serafini L.",
title = "A context-based machanization of multi-agent reasoning",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",

year = "1997",
comments = "
• Abstract: As discussed in previous papers, belief contexts are a powerful and adequate formalism for the representation of propositional attitudes in a multiagent environment. Belief contexts give also implementational advantages. In this paper, we discuss the issues related to the practical use of belief contexts, by showing the mechanized solution to some paradigmatic case studies. We show that this mechanism has the following implementational advantages. First, proofs have a natural interpretation, close to standard patterns in reasoning about propositional attitudes, and are based only on few conceptual reasoning steps: this makes proof search easier to understand and automatize. Futhermore, it is easier to implement inference strategies which exploit the structure of the problem. Finally, substantial parts of the reasoning are local to contexts: this allows for the efficient use of general purpose deciders. ",
}

@article{CLA91a,
author = "W.J. Clancey",
title = "Israel Rosenfield, The Invention of Memory: A New View of the Brain (Book Review)",
journal = "Artificial Intelligence",
year = "1991",
volume = "50",
pages = "241_284",
}

@inproceedings{CLA92b,
author = "W.J. Clancey",
title = "The knowledge level reinterpreted: modeling socio-technical systems",
booktitle = "AAAI'92 Worshop on Cognitive Aspects of Knowledge Acquisition, Stanford, CA",
year = "1992",
pages = "47-56",
month = "March",
}

@inproceedings{CLA95,
author = "Clancey William J.",
title = "The conceptual, non-descriptive nature of knowledge, situations, and activity",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "47-68",
month = "August",
}

@techreport{COH01,
title = "Finding patterns that correspond to episodes",
author = "Cohen P.R., Adams N. & Hand D.",
institution = "Univ. of Massassuchetts, CS Dpt",
year = "2001",
type = "Technical report ",

number = "01-11",
comments = "
• Abstract: We present two algorithms for elucidating structures in time series. These areunsupervised algorithms; they discover patterns without any knowledge about the episodic structures in the time series data. Yet, these patterns correspond with episodes, at least in an experiment with data from robot episodes. We offer a preliminary explanation for this resultbased on the idea that episodes persist. If this explanation is correct, then the algorithms are apt to be more generally applicable. ",
}

@inproceedings{COH97,
author = "Cohen P.",
title = "Projections as concepts",
booktitle = "Proc. of the 2nd European Conference on Cognitive Science, Manchester, UK, April",
year = "1997",
pages = "56-60",
month = "April",
comments = "
• Abstract: What do the first concepts look like? I propose that the earliest concepts learned by infants are abstractions of activities. The semantics of these concepts are predictive--a good abstractionis one that will help the infant predict reward. This idea has been implemented in several programs, in particular, as fluents in the Baby simulator and preimages in Coelho and Grupen's robotics work. Additional examples and a longer version of this paper can be found at http://eksl-www.cs.umass.edu/research/conceptual-systems/index.html.",
date = "21/04/97"
}

@inproceedings{COM88,
author = "Compton P. and Jansen B.",
title = "Knowledge in context: A strategy for expert system maintenance",
booktitle = "Lecture Notes in AI, J.Siekmann (ed), Subseries in Computer Sciences 406, Proc. 2nd of AI'88, Adelaide, Australia",
year = "1988",
comments = "
• Abstract: Knowledge engineering, obtaining knowledge from experts and incorporating it into expert systems is difficult and time consuming. We suggest that these difficulties arise because experts never report on how they reach a decision, rather they justify why the decision is correct. These justifications vary markedly with the context in which they are required, but in context they are accurate and adequate; the difficulties in knowledge engineering aise from taking the justification out of context. We therefore hypothesise that knowledge engineering may be obviated, particularly in the long term maintenance of expert systems, if the rule experts provide are used in the context in which they are given. This paper describes work in progress to test this hypothesis.",
}

@inproceedings{COM89,
author = "P. Compton and R. Jansen",
title = "A philosophical basis for knowledge acquisition",
booktitle = "EKAW89, Paris, France",
year = "1989",

pages = "75-89",
month = "July",
}

@article{COM90,
author = "P. Compton and R. Jansen",
title = "A philosophical basis for knowledge acquisition",
journal = "Knowledge Acquisition",
year = "1990",
volume = "2",
pages = "241-257",
}

@inproceedings{COM91,
author = "P. Compton, W. Yang, M. Lee and B. Jansen",
title = "Cornerstone cases in a dictionary approach to rule maintenance",
booktitle = "IJCAI'91 Workshop on Software Engineering for Knowledge-Based Systems",
year = "1991",
pages = "24-40",
month = "August 24",
}

@inproceedings{COM92,
author = "P. Compton",
title = "Insight and knowledge",
booktitle = "AAAI'92 Workshop on Cognitive Aspects of Knowledge Acquisition, Stanford, CA",
year = "1992",
pages = "57-63",
month = "March ",
}

@inproceedings{CON91,
author = "L. Console, L. Portinale & D. Theseider Dupré",
title = "Focusing abductive diagnosis",
booktitle = "Eleventh International Conference Expert Systems & Their Applications",
year = "1991",
volume = "2",
pages = "231-242",
editor = "EC2",
month = "May 27-31",
}

@article{CON94,
author = "Conien B & Jacopin E",
title = "Action située et cognition. Le savoir en place.",
journal = "Sociologie du travail",
year = "1994",
volume = "4",
pages = "475-500",

note = "coopération, contexte, situated cognition,",
comments = "
• Cet article présente deux interprétations de la notion d'action située en montrant comment chacune définit des programmes de recherche distincts. La première met l'accent sur la compréhension de l'action et la communication sociale. Elle oriente les recherche sur les machines “interactives” et la coopération assistée par ordinateur. La deuxième met l'accent sur la perception et l'organisation spatiale et oriente les travaux sur la cognition ordinaire et les automates situés. En indiquant les limites de ces deux interprétations, les auteurs soulignent le rôle informationel joué par la technologie et les artefacts dans la construction de l'environnement..",
}

@article{COO88,
author = "M.J. Coombs and R.T. Hartley",
title = "Explaining novel events in process control through model generative reasoning",
journal = "International Journal of Expert Systems",
year = "1988",
volume = "1",
number = "2",
pages = "87 - 109",
}

@book{DAV88,
title = "Memory in Context: Context in Memory",
publisher = "John Wiley & Sons",
year = "1988",
editor = "Davies G.M. & Thomson D.M. (eds.)",
note = "contexte, explication, ",
}

@inproceedings{DAV99,
author = "Davies N., Cheverst K., Mitchell K. and Friday A.",
title = "'Cache in the Air': Disseminating tourist information in the guide system",
booktitle = "Proc. of the 2nd IEEE Workshop on Mobile Computing Systems and Applications (WMCSA'99), New Orleans, IEEE Press",
year = "1999",
pages = "11-19",
comments = "
• Abstract: This paper describes work caried out as part of the GUIDE project at Lancaster University. The overall aim of the project is to develop a context-sensitive tourist guide for visitors to the city of Lancaster. Visitors are equipped with portable GUIDE units which in turn provide interactive services and dynamically tailored web based information reflecting the visitor's preferences and environmental context. In contrast toexisting tourist systems all information in GUIDE is obtained dynamically using a city-wide wireless network infrastructure. In this paper we focus on the design of the GUIDE information model. The model presented is novel by virtue of the fact that it enables both geographic and contextual information to be captured. The paper also describes our development of an efficient broadcast mechanism which enables visitors' requests for information to be serviced quickly despite the wireless communications infrastructure employed.",
}

@inproceedings{DEA99,

author = "De Angeli A., Romary L. & Wolff F.",
title = "Ecological Interfaces: Extending the pointing paradigm by visual context",
booktitle = "Modeling and Using Context (CPNTEXT'99). Lecture Notes in Artificial Intelligence, N° 1688, P. Bouquet et al. (Eds.), Springer Verlag",
year = "1999",
pages = "91-104",
comments = "
• Abstract: Following the ecological approach to visual perception, this paper presents an innovative framework for the design of multimodal systems. The proposal emphasises the role of the visual context context on gestural communication. It is aimed at extending the concept of affordances to explain referring gesture variability. The validity of the approach is confirmed by results of a simulation experiment. A discussion of practical implications of our findings for software architecture design is presented.",
}

@proceedings{DEL00,
title = "Extended RDF(s) with contextual and definitional knowledge",
year = "2000",
publisher = "trouvé sur le web",
comments = "
Abstract: RDF(S) is the emerging standard for knowledge representation on the Web. In the European IST project CoMMA dedicated to ontology guided information retrieval in a corporate memory, the semantic annotations describing the Intranet documents are represented in RDF(S). In this context, the RDF(S) expressivity appears to be too much limited. Compared to object-oriented representation languages, description logics, or conceptual graphs, RDF(S) does not enable to define classes or properties nor represent axioms inside an ontology. In this paper, we propose an extension of RDF(S) to express this kind of definitional knowledge, and more generally contextual knowledge on the Semantic Web. We hope that DRDF(S) will contribute to the ongoing work of the W3C committee for improving RDFS and meet the needs of the e-business community.o RDF is the emerging Web standard for annotating resources, such as images or documents, with semantic metadata. A RDF description consists in a set of statements; each one specifying a value of a property of a resource. A statement is thus a triple (resource, property, value), a value being either a resource or a literal. A set of statements is viewed as a directed labeled graph: a vertex is either a resource or a literal; an arc between two vertices is labeled by a property. RDF is provided with an XML syntax.o The RDF model provides no way of expressing independent pieces of knowledge. We propose to extend RDF with a notion of context to express the clustering of statements much more easily than RDF containers. ",
}

@article{DES87,
author = "Delisle N.M. and Schwartz M.D.",
title = "Contexts - A partioning concept for hypertext",
journal = "ACM Trans. on Office Information Systems",
year = "1987",
volume = "5",
number = "2",
pages = "168-186",
month = "April",
comments = "

• Abstract: Hypertext systems provide good information management support for a wide variety of documentation efforts. These efforts range from developing software to writing a book. However, existing hypertext systems provide poor support for collaboration among teams of authors. This paper starts by briefly describing properties of several exisitng hypertext systems. Then several models for forming partitions in a hypertext database are examined and contexts, apartioning scheme that supports multiperson cooperative efforts, are introduced. The semantic issues involved in defining contexts are explored in detail. ",
}

@inproceedings{DES91,
author = "M. Desvignes, M. Revenu and C. Porquet",
title = "The use of context in image sequences interpretation.",
booktitle = "8e Congrès AFCET-RFIA",
year = "1991",
pages = "55-61",
month = "November 25-29",
}

@inproceedings{DES97),
author = "Descles J.-M., Cartier E., Jackiewicz A. and Minel J.-M.",
title = "Textual processing and contextual exploration method",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: For several years, there has been a research effort at LALIC aimed at describing how to use context to identify semantic information. From our point of view, all signs occurring in a text that we call textual context, must be taken into account to determine whether a specific semantic information is present in a sentence. We have developped a method called contextual exploration method which provides a framework for identifying specific semantic information among parts of the text. In this paper, we lay the emphasis on internal contexts and give some examples of operational systems using contextual knowledge. We have developed the SECAT system which captures the aspectual value of a sentence in order to understand it and to infer other information that may ensue, and SERAPHIN and SAFIR to capture specific semantic information in texts. We succintly describe the conceptual model and the general software architecture of a contextual exploration system. ",
}

@inproceedings{DEV96,
author = "Devaney M. & Ram A.",
title = "Dynamically adjusting concepts to accommodate changing contexts",
booktitle = "Proc. of the ICML'96 Workshop on Learning in Context-Sensitive Domains",
year = "1996",
note = "context, ML, ",
comments = "
• Abstract: In concept learning, objects in a domain are grouped together based on similarity as determined by the attributes used to describe them. Existing concept learners require that this set of attributes be known in advnce and presented in entirety before learning begins. Additionally, most systems do not possess mechanisms for altering the attribute set after concepts have been learned. Consequently, a veridical attribute set relevant to the task for which the concepts are to be used must be supplied at the onset of learning, and in turn, the usefulness of the concepts is limited to the

task for which the attributes were originally selected. In order to efficiently accomodate changing contexts, a concept learner must be able to alter the set of descriptors without discarding its prior knowledge of the domain. We introduce the notion of attribute-incrementation, the dynamic modification of the attribute set used to describe instances in a problem domain. We have implemented the capability in a concept learning system that has been evaluated along several dimensions using an existing concept formation system for comparison",
}

@inproceedings{DEY00,
author = "Dey A.K. & Abowd G.D.",
title = "CybreMinder: A context-aware system for supporting reminders",
booktitle = "Proc. of the 2nd International Symposium on Handheld and Ubiquitous Computing (HUC 2000), Bristol, UK.",
year = "2000",
pages = "172-186",
month = "September",
comments = "
• Current tools do not provide adequate support to users for handling reminders. The main reason for this is the lack of use of rich context that specifies when a reminder should be presented to its recipient. We describre Cybreminder, a prototype context-aware tool that supports users in sending and receiving reminders that can be associated to richly described situations involving tie, place and more sophisticated pieces of context. These situations better defined when reminders should be delivered, enhancing our ability to deal with them more effectively. We describe how the tool is used and how it was developed using our previous Context Toolkit infrastructure for context-aware computing. ",
}

@inproceedings{DEY00,
author = "Dey A.K.",
title = "Enabling the use of context in interactive applications",
booktitle = "Proceedings of CHI'2000",
year = "2000",
pages = "79-80",
comments = "
• Contetx is an important, yet poorly understood and poorly utilized source of information in interactive computing. It will be of particular importance in the new millenium as users move away from their desktops, and into settings where their contexts are chaging rapidly. Context is difficult because, unlike other forms of user input, there is no common, reusable way to handle it. As a result, context-aware applications have been built in an ad hoc manner, making it difficult to build new applications or evolve existing ones. In this research, we are examining the requirements of context-aware applications, building a toolkit, which enable s the use of context and fulfills these requirements, and testing the usability of this toolkit for application designers. ",
}

@article{DEY00,
author = "Dey A. ",
title = "Understanding and using context",
journal = "Personnal Technologies",
year = "2000",
volume = "5",

number = "1",
comments = "
• Abstract: Context is a poorly used source of information in our computing environments. As a result, we have an impoverished understanding of what context is and how it can be used. In this paper, we provide an operational definition of context and discuss the different ways that context can be used by context-aware applications. We also present the Context Toolkit, an architecture that supports the building of these context-aware applications. We discuss the features and abstractions in the toolkit that make the task of building applications easier. Finally, we intriduce a new abstraction, a situation, which we beleive will provide additional support to application designers. ",
}

@unpublished{DEY1998?,
author = "Dey A.K. & Abowd G.D.",
title = "A conceptual framework and a toolkit for supporting the rapid prototyping of context-aware applications",
year = "1998?",
comments = "
• Abstract: Computing devices and applications are now used beyond the desktop, in diverse environments, and this trend toward ubiquitous computing is accelerating. One challenge thatremains in this emerging research field is the ability to enhance the behavior of any application by informing it of the context of its use. By context, we refer to any information thatcharacterizes a situation related to the interaction between humans, applications and the surrounding environment. Context-aware applications promise richer and easier interaction, but the current state of research in this field is still far removed from that vision. This is due to threemain problems: (1) the notion of context is still ill defined; (2) there is a lack of conceptual models and methods to help drive the design of context-aware applications; and (3) no tools areavailable to jump-start the development of context-aware applications. In this paper, we address these three problems in turn. We first define context, identify categories of contextual information, and characterize context-aware application behavior. Though the full impact of context-aware computing requires understanding very subtle and high-level notions of context, we are focusing our efforts on the pieces of context that can be inferred automatically from sensors in a physical environment. We then present a conceptual framework that separates the acquisition and representation of context from the delivery and reaction to context by a context-aware application. We have built a toolkit, the Context Toolkit, that instantiates this conceptual framework and supports the rapid development of a rich space of context-aware applications. We illustrate the usefulness of the conceptual framework by describing a number of context-aware applications that have been prototyped using the Context Toolkit. We also demonstrate how such a framework can support the investigation of important research challenges in the areaof context-aware computing.,
}

@inproceedings{DIC99
author = "Dichev C.",
title = "Importing context",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
note = "context, cf AAAI99 WS on context",
comments = "
• Abstract:This paper tackles the problem of understanding when and how a reasoning component of a distributed reasoning system is affected by the other components, and how it affects them. A

number of relevant concepts which have a precise intuition in terms of cooperative reasoning systems are proposed thus providing a ground for defining a particular class of contexts, importing contexts. The notion of importing context refers to those contexts of a MCS satisfying the property that only correct with respect to the other contexts formulas are derivable from them. A number of properties of the importing contexts are presented and discussed in a framework of cooperative reasoning systems.",
}

@book{DIM92,
	title = "Creating a Context for Change.",
	publisher = "SEDL Catalog",
	year = "1992",
	author = " K. Victoria Dimock.",
}

@inproceedings{DiM93,
	author = "Di Manzo M. & E. Giunchiglia",
	title = "Multi-context systems as a tool to model temporal evolution",
	booktitle = "Methodologies for Intelligent Systems, ISMIS'93, Norway",
	year = "1993",
	pages = "548-557",
	month = "June",
	comments = "
Abstract. Contexts are defined as axiomatic formal systems. More than one context can be defined, each one modeling/solving (part of) the problem; The (global) model/solution of the problem is obtained making contexts communicate via bridge rules. Bridge rules and contexts are the components of Multi-Context systems. In this paper, we want to study the applicability of multi-context systems to reason about temporal evolution. The basic idea is to associated a context to each temporal interval in which the “model” of the problem does not change (corresponding to a state of the system). Switch among contexts (corresponding to modifications in the model) are controlled via a meta-theoric context responsible to keep track of the temporral evolution. In this way (i) we keep a clear distinction between the theory describing the particular system at hand and the theory necessary for predicting the temporal evolution (ii) we have simple object level models of the system states and (iii) the theorem prover can faster analyze and answer to queries about a particular state.",
}

@inproceedings{DOJ95,
	author = "Dojat M. & Pachet F.",
	title = "Yhree compatible mechanisms for representing medical context implicitly",
	booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
	year = "1995",
	pages = "69-77",
	month = "August",
	note = "context, representation",
	comments = "
• An important aspect of context in medical reasoning is the notion of “variation” of a chunk of knowledge according to various contingencies, such as course of patient's disease, response to therapies, or team specificity. Our position is to represent these variations implicitly, by proposing

mechanisms to factor knowledgeand refine it. We propose three mutually compatible mechanisms that effectively contribute to represent slight variations of knowledge in a representation framework integrating object-oriented programming and rule-based programming. We illustrate them with examples extracted from various knowledge bases for the management of mechanical ventilation.,
}

@article{DOM95,
author = "Domingos P.",
title = "Context-sensitive feature selection for lazy learners",
journal = "AI Review",
year = "1995(?)",
comments = "
• Abstract: High sensitivity to irrelevant features is arguably the main shortcoming of simple lazy learners. In response to it, many feature selection methods have been proposed, including forward sequential selection (FSS) and backward sequential selection (BSS). Although they produce substential improvements in accuracy, these methods select the same set of relevant features everywhere in the instance space, and thus represent only a partial solution to the problem. In general, some features will berelevant only in some parts of the space; deleting them may hurt accuracy in those parts, but selecting them will have the same effect in parts where they are irrelevant. This article introduces RC, a new feature selection algorithm that uses a clustering-like approach to select sets of locally relevant features (i.e., the features it selects may vary from one instance to another). Experiments in a large number of domains from the UCI repository show that RC almost always improve accuracy with respect to FSS and BSS, often with high significance. A study using artificial domains confirms the hypothesis that this difference in performance is due to RC's context sensitivity, and also suggest conditions where this sensitivity will and will not be an advantage. Another feature of RC is that it is faster than FSS and BSS, often by an order of magnitude or more.",
}

@techreport{DOU00,
title = "Seeking a foundation for context-aware computing",
author = "Dourish P.",
institution = "Dpt of Information and CS, U. of California Irvine, Irvine CA 92697-3425",
year = "2000",
type = "document pdf trouvé sur le web",
comments = "
• Abstract: Context-aware computing is generally associated with elements of the Ubiquitous Computing program, and the opportunity to distribute computation and interaction through the environment rather than concentrating it at the desktop computer. However, issues of context have also been important in other areas of HCI research. I argue that the scope of context-based computing should be extended to include not only Ubiquitous Computing, but also recent trends in tangible interfaces as well as work on sociological investigations of the organization of interactive behavior. By taking a view of contextaware computing that integrates these different perspectives, we can begin to understand the foundational relationships that tie them all together, and that provide a framework for understanding the basic principles behind these various forms of embodied interaction. In particular, I point to phenomenology as a basis for the development of a new framework for design and evaluation of context-aware technologies. ",
}

@inbook{ECO89,

title = "Lector in fabula. Le rôle du lecteur",
publisher = "Livre de Poche",
year = "1989",
author = "Umberto Eco",
editor = "Grasset",
}

@inproceedings{EDL95,
author = "Edlund C., Weise C. & Lewis M.",
title = "Context engineering for human problem solving",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
year = "1995",
pages = "79-88",
month = "August",
note = "contexte, ",
comments = "
• Aiding problem solving through engineering problem representations to select between alternative problem contexts opens new possibilities for integrating HCI and AI tehcniques. A Situation Theoretic model for representing dynamic problem solving tasks is presented. A methodology which translates the statement of the initial problem through a series of reformulations is proposed. The reformulations represent different problem contexts for the presentation of the problem situation. This methodology is focused on guiding the reformulation to a representation which is streamlined not for computational efficiency, as most AI systems do, but for the cognitive efficiency of a human problem solver. This form of representational aiding is mechanized based on three tenets derived from the situation theoretic model. These are: the reduction of instructional complexity with respect to the perceptual/cognitive operations necessary to enforce the instructions within the presentation context; the shifting of problem complexity from explicit rules of the abstract problem to implicit features of the alternative representation, and thus the presentation context; and the use of temporal translations between states of the presentation context to stand for logical transitions between states of the abstract problem. ",
}

@inproceedings{EDM01,
author = "Edmonds B.",
title = "What if all truth is context-dependent?",
booktitle = "Proc. of the CONTEXT-01, Dundee, UK",
year = "2001",
comments = "
• Abstract: This paper argues that truth is by nature context-dependent--that no truth can be applied regardless of context. I call this “strong contextualism”. Some objections to this are considered and rejected, principally: that there are universal truths given to us by physics, logic, and mathematics; and that claiming “no truths are universal” is self-defeating. Two “models” of truth are suggested to indicate that strong contextualism is coherent. It is suggested that some of th eutility of the “universal framework” can be recovered via a more limited “third person viewpoint”. ",
}

@inproceedings{EDM93
author = "Edmondson W.H. and J.F. Meech",
title = "A model of context for human-computer interaction",

booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”",
year = "1993",
publisher = "Rapport de Recherche du LAFORIA",
month = "August 29",
}

@article{EDM94,
author = "Edmonson W. & Meech J.",
title = "Putting task analysis into context",
journal = "SIGCHI Bulletin",
year = "1994",
volume = "26",
number = "4",
pages = "59-63",
month = "October",
comments = "• We argue that the concept of context is most profitably understood as the process of contextualization and a framework is presented which shows how the process of contextualization operates in different interaction styles to serves the user's needs. Further, it is shown how understanding of contextualization enables the designer to reduce the complexity of an interface. ",
}

@inproceedings{EDM97,
author = "Edmonds B.",
title = "A simple-minded network model with context-like objects",
booktitle = "Proc. of the 2nd European Conference on Cognitive Science, Manchester, UK, April, ",
year = "1997",
pages = "181-184",
month = "April",
comments = "
• Abstract: Asimple extension of semantic nets is described. Thre are labelled nodes with directed arcs, but the directed arcs can lead to other arcss as well as nodes. In this model contexts are not differentiated as special objects, but rather that some nodes to a greater or lesser extent have roles as enoders of contextual information. This formluation can apture several aspects of context. It is no claimed that this is a model of any type of context found in human activity. ",
}

@article{EDM97
author = "Edmondson W.H.",
title = "Context and contextualization",
journal = "Special Issue on Modeling and Using Context of the International Journal on Human-Computer Studies",
year = "1997",
note = "context, contextualization, ",
comments = "
• Abstract:This paper argues that the conventional emphasis on context and its elaboration is misplaced. Context is often discussed in relation to linguistic interaction and is thought to set the scene for presumably simple processes of reference to context; so if one can refine and extend theoretical elaboration of context one brings about a more comprehensive account of its role in

interaction. The view expressed here, however, is that it is wrong to elaborate context; rahter, one should strive for a more sophisticaded notion of contextualization. The conception of contextualization advocated here focuses on the processes of relating data to each other - whether in the external world as environmental or discourse data, or internal data derived from prior experience. It is suggested that certain generic properties of contextualization make it possible to design for human interaction with machines in a way which promotes support for contextualization. This will, it is conjectured, bring benefits for work in AI and HCI, as well as enhanced understanding of how context is used in linguistic interaction. ",
}

@inproceedings{EDM99(#54),
	author = "Edmonds B.",
	title = "The pragmatic roots of context",
	booktitle = "Proceedings of CONTEXT-99",
	year = "1999",
}

@inproceedings{EKL89,
	author = "P. Eklund",
	title = "Prospects for conceptual graphs in acquisition interfaces",
	booktitle = "EKAW89, Paris, France,",
	year = "1989",
	pages = "169-179",
	month = "July",
}

@inproceedings{ELL97,
	author = "Ellis R.",
	title = "An exemplar-based recognition and recall system using an interpretation process. ",
	booktitle = "Proc. of the 2nd European Conference on Cognitive Science, Manchester, UK, April, ",
	year = "1997",
	pages = "97-102",
	month = "April",
	comments = "
• Abstract: This paper describes a memory model that uses a process of Interpretation in a central and multi-function role. Interpretation i defined as a process of allowing associated memories to alter incoming information, which is in turn iteratively re-associated with memory. Iterative re-association allows prior stored memoies to interact in their implement some aspects of this process. Design from three of these models are combined to implement the interpretation process in a new model called TeSME, to be used to explore the emergent properties of interpretation, since it exhibits a range of recognition, recall, categorization and association chaining effects. ",
}

@techreport{EUZ89,
	title = "Le système de maintenance de la vérité à propagation de contextes",
	author = "Euzenat J.",
	institution = "Lab. Artemis/IMAG, BP 53X, 38041 Grenoble Cedex",
	year = "1989",
	number = "RR 779-I",

month = "mai",
}

@article{EZH89,
author = "Ezhkova I.",
title = "Knowledge formation through context formalization",
journal = "Computers and Artificial Intelligence",
year = "1989",
volume = "8",
number = "4",
pages = "305-322",
}

@misc{FAR95,
title = "Integrating information sources using context logic",
author = "Farquhar A., Dappert ., Fikes R., Pratt W.",
howpublished = "www.ksl.stanford.edu, Report KSL-95-12",
year = "1995",
month = "January",
comments = "
• Abstract: It is essential to reduce the cost of integrating information sources and to provide a path that allows for incremental integration that can be responsive to users' demands. This paper presents an approach to integrating disparate heterageneous information sources that uses context logic. Our use of context logic reduces the up-front cost of integration path, and allow semantic conflicts within a single information sources or between information sources to be expressed and resolved. ",
}

@inproceedings{FAY01,
author = "Fayard A.L. and Henderson A.",
title = "Looking at “situated” technology: Differences in pattern of interaction reflect differences in context",
booktitle = "Proceeding of CONTEXT-01",
year = "2001",
comments = "
• Abstract: Technology cannot be considered as a stand-alone element; it is always situated in a spatial and organizational context. To understand technology usage, we must focus on the context in which this usage takes place. We conducted two field studies of everyday interactions with and around copier machines. This paper describes these two studies and the interaction patterns that we observed. We found some variations in these interaction patterns. These variations can be interpreted as reflecting differences in contexts - both spatial and organizational. ",
}

@inproceedings{FIT00,
author = "Fitzpatrick G. & Bruza P.",
title = "Views on Context in the Enterprise",
booktitle = "Position paper at the CHI 2000 Workshop, ACM Conference on Human Factors in Computing Systems",
year = "2000",
pages = "22-24",

}

@article{FRE99,
author = "French R.M. & Anselme P.",
title = "Interactively converging on context-sensitive representations: a solution to the frame problem",
journal = "Revue Internationale de Philosophie",
year = "1999",
volume = "3",
pages = "365-385",
comments = "
• Abstract: While we agree that the frame problem, as initially stated by McCarthy and Hayes (1969), is a problem that arises because of the use of representations, we do not accept the anti-representationalist position that the way around the problem is to eliminate representations. We beleive that internal representations of the external world are a necessary, perhaps even a defining feature, of higher cognition. We explore the notion of dynamically created context-dependent representations that emerge from a continual interaction between working memory, external input, and long term memory. We claim that only this kind of representation, necessary for higher cognitive abilities such as counterfactualization, will allow the combinatorial explosion inherent in the frame problem to be avoided.",
}

@inproceedings{FUN97,
author = "Funk H.B. and Miller C.A.",
title = "“Context sensitive” interface design",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Context sensitivity has long been a goal of interface design. We argue that three elements must exist to support effective context sensitive interfaces: 1) the ability to accurately sense context, 2) the ability to modify the control and display configuration accordingly, and 3) the ability to effect (at least some of) the configuration changes autonomously. We discuss the aspects of context which are necessary to perform interface adaptation, and contrast these aspects with context subsets which have traditionally been used for this purpose. We furhter present some of the fallacies which may result from using the traditional context subsets in isolation. We provide a framework and supporting rationale for representation of these context characteristics using a vocabulary based on tasks and goals as the foundation of context representation and tracking. Finally, we present a motivating example of this approach to context sensitive interface design as an implemented system in the aviation domain, and address the resultant payoffs. ",
}

@article{G0093,
author = "Goodnow J.J. & Warton P.M.",
title = "Chapter 9 Contexts and cognitions: taking a pluralist view",
journal = "In: Context and Cognition: Ways of Learning and Knowing, Light P. & Butterworth G. (Eds.), Lawrence Erlbaum Associates, Hillsdale",
year = "1993",
pages = "pp. 157-177",
}

@inproceedings{GAB97,
author = "Gabbay D.M. and Nossum R.T.",
title = "Structured contexts with fibred semantics",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Fibred semantics is used as a formal basis for contextual reasoning with arbitrary structure in the terms that describe context. Formal semantics is given for the informal reading of ist (c, p) as “p is true in the context described by c”. Fibred models are first illustrated in a logic without explicit context names. Then, a stronger context logic with explicit context names is presented , and a class of fibred models called rectified models is introduced. Formal semantics for these logics is given and some of their properties stated. A metathoery of fibred models of context is developed through self fibring of predicate logics. This covers both propositional and quantificational logics. Some previously proposed logics of context occur naturally in this framework. We exemplify this by obtaining, as a special case, a close variant of Buvac quantificational logic of context.",
}

@inproceedings{GAL97,
author = "Galliker M. and Weimer D.",
title = "The use of context in constituting implicit meaning",
booktitle = "Proc. of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: The concept of implicit meaning is discussed giving examples of verbal discriminations. Implicit meaning of an utterance cannot be inferred directly from its content or from the meanings of individial words within that utterance. Rahter, it can be understood from the context in which that utterance is made. verbal and non-verbal cues often indicate to the recipient that context is relevant for the comprehension of the utterance in question. From time to time, implicit meaning of an utterance becomes manifested in explicit meaning of another utterance. The relations between explicit and implicit meanings are important both for the theory and the method of discourse analysis. ",
}

@inproceedings{GEL97,
author = "Geldof S. & Van de Velde W. ",
title = "Context-sensitive hypertext generation",
booktitle = "Proc. of the AAAI'97 Spring Qymposium Workshop on Natural Language Processing for the Web",
year = "1997",
comments = "
• Anstract: This paper claims that the role of NLP in a hyper-media information system is to provide, at each moment, a context-sensitive navigation point, i.e. a hypertext node in which the relevance of hyperlinks is justified with respect to the context of the interaction. It acts as the primary entry point fortheuser to the various pages that constitute an information service. We call context the collection of features that determine the desirable content and form of the information. We describe an experiment based on an existing information server showing how to capture contextual parameters and how to render them in a context-sensitive entry point to information. The key to our approach is a model of competition for attention between software agents, the outcome of which is reflected in a weighted topic structure, annotated with text templates. The annotated

topic structure is the basis for generating a context-sensitive navigation node by a process of template expansion and aggregation. ",
}

@article{GHO97,
author = "Ghosh B.C. and Wuwongse V.",
title = "Computational situation theory in conceptual graph language",
journal = "www.cs.ait.ac.th",
year = "1997?",
comments = "
• Abstract: In this paper, we develop a computational formulation of situation theory using the conceptual graph language CGL. Situation theory has been developed as a mathematical theory of meaning that has been applied to various problems in the study of natural language, logic, information, phiosophy, and the mind. A computational framework for situation theory will be usefull in having a practically implementable system incorporating situation theoretic constructs that could be applied in clarifying and problem solving in many areas of natural language semantic and artificial intelligence. On the other hand, CGL offers many computational constructs that are very closely related to most of the features of situation theory from a computational perspective. Some of the properties of CGL useful for situation theoretic programming include partitioning and nesting information, parameterized abstractions, access to nested and partitioned information, and constraint specification and satisfaction. Based on these observations, in this paper, we develop a specific computational framework in CGL called GiSIT, that can be used for situation theoretic programming and computations. ",
}

@article{GIL89,
author = "N. Gilbert",
title = "Explanation and dialogue",
journal = "The Knowledge Engineering Review",
year = "1989",
volume = "21/12/90",
number = "3",
pages = "235-247",
}

@article{GIU88,
author = "Giunchiglia F. and Weyhrauch R.W.",
title = "A multi-context monotonic axiomatization of inessential non-monotonicity. ",
journal = "In: D. Nardi and P. Maes (eds.), Meta-Level Architectures and Reflection, North Holland",
year = "1988",
pages = "271-285",
comments = "
• The main premise of this paper is that certain kinds of non-monotonic reasoning can be solved within first order logic in a simple monotonic way by formulating problem in a suitable environment. Any problem is formalized as a set of contexts, where a context is a (first order) formalization of a piece of the problem. Reasoning comes out as a result of deduction in different contexts. The claim is that proofs built in this way are clearer and better resemble the kind of explanation that humans give when describing some phenomenon. This thesis is articulated discussing the example about non-monotonic reasoning reported elsewhere.",

}

@article{GIU93,
	author = "Giunchiglia F",
	title = "Contextual reasoning",
	journal = "Epistemologia, Special Issue on I Linguaggi e le Macchine",
	year = "1993",
	volume = "XVI",
	pages = "345-364",
}

@inproceedings{GIU93,
	author = "Giunchiglia F.",
	title = "Contextual reasoning",
	booktitle = "IJCAI-93 Workshop on “Using Knowledge in its Context”, Chambéry, France",
	year = "1993",
	month = "August",
}

@inproceedings{GIU97,
	author = "Giunchiglia F. and Ghidini C.",
	title = "A local models semantics for propositional attitudes",
	booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
	year = "1997",
	comments = "
• Abstract: Our starting point is a formulation of modal logics, described in previous papers, defined in terms of a hierarchy of distinct (that is, not amalgamated) metatheories. These logics, called Hierarchical Multilanguage Belief (HMB) systems formalize the current practice in the implementation of propositional attitudes, and in particular belief, inside complex reasoning systems. Our goal is to definea new semantics for HMB systems, called local models semantics, which captures their underlying intuitions. In local models semantics, each (meta)theory defines a set of first order models, called “local models”; beliefs is a unary predicate; and the extension of the belief predicate is computed by enforcing constraints among sets of local models. ",
}

@misc{GOH95,
	title = "Ontologies, contexts, and mediation: Representing and reasoning about semantic conflicts in heterogeneous and autonomous systems",
	author = "Goh G.H., Madnick S.E., Siegel M.D.",
	howpublished = "http://context.mit.edu",
	year = "1995",
	comments = "
• Abstract: The Context Interchange (CI) strategy has been proposed as an approach for achieving interoperability among heterogeneous and autonomous data sources and receivers. We have suggestd that this strategy has many advantages over traditional loose- and tght-coupling approaches. In this paper, we present an underlying theory describing how those features can be realized by showing (1) how domain and context specific knowledge can b represented and organized for maximal sharing; and (2) how these bodies of knowledge can be used to facilitate the detection and the resolution of semantic conflicts between different systems. Within this framework, ontologies exist as conceptualizations of particular domains and contexts as

“idiosyncratic” constraints on these shared conceptualizations. In adopting a clausal representation for ontologies and contexts, we show that these have an elegant logical interpretation which provides a unifying framework for context mediation: i.e., the detection and resolution of semantic conflicts. The practicability of this approach is exemplified through a description of a prototype implementation of a context interchange system which takes advantage of an existing information infrastructure (WWW) for achieving integration among multiple autonomous data sources. ",
}

@misc{GOH95,
	title = "Context interchange: Overcoming the challenges of large-scale interoperable database systems in a dynamic environment",
	author = "Goh C.H., Madnick S.E., and Siegel M.D.",
	howpublished = "via le web",
	year = "1995?",
	comments = "
• Abstract: ... As an alternative to the integration approaches in the literature, we propose a strategy base on the notion of context interchange. In the context interchange framework, assumptions underlying the interpretations attributed to data are explicitly represented in the form of data contexts with respect to a shared ontology. Data exchange in this framework is accompanied by context mediation whereby data originating from multiple source contexts is automatically transformed to comply with the receiver context. The focus on data contexts giving rise to data heterogeneity (as opposed to focusing on data conflicts exclusivly) has a number of advantages over classical integration approaches, providing interoperating agents with greater flexibility as well as a framework for graceful evolution and efficient implementation of large-scale interoperable database systems. ",
}

@article{GON01,
	author = "Gonzalez A.J. & Saeki S. ",
	title = "Using contexts competition to model tactical human behavior in a simulation",
	journal = "Proc. of CONTEXT-01, LNCS, Springer Verlag",
	year = "2001",
	comments = "
• Abstract: This article describes an innovative approach for representing tactical decision-maing in Computer Generated Forces (CGF). CGF's are software agents in military training simulations that can simulate the behavior of opposing as well as friendly forces. They serve to increase the realism of the simulated exercise and reduce the auxiliary staff supporting the exercise. We shall refer to a single element of a CGF as an Automous Intelligent Platform, or AIP. The Competing Context Concept, is associated with the Context-Based Reasoning (CxBR) modeling paradigm, and represents an improvment thereof. CxBR uses as its basis an intuitive structure called a Context. Onbe specific context is always in control of the AIP, and it contains all the ionformation required to control that AIP when in that situation. When the situation changes, a new context must be found that properly addresses the new situation. Upon finding such a new context, it becomes activated, and th eold context deactivates itself. An AIP therefore, can be controlled intelligently through a sequence of transitions among various (pre-existing) contexts. The Competing Context Concept introduces a means to control the transition process without the need to pre-determine the next contexts. This paper briefly describes the CxBR paradigm and the competing context concept extension. Results from prototype testing will also be discussed. ",
}

@inproceedings{GON01,
author = "Gonzalez A.J.",
title = "Using contexts competition to model tactical human behavior in a simulation",
booktitle = "Proc. of CONTEXT-01",
year = "2001",
comments = "
• Abstract: This article describes an innovative approach for representing tactical decision-making in Computer Generated Forces (CGF). CGF's are software agents in military training simulations that can simulate the behavior of opposing as well as friendly forces. They serve to increase the realism of the simulated exercise and reduce the auxiliary staff supporting the exercise. We shall refer to a single element of a CGF as an Automous Intelligent Platform, or AIP. The Competing Context Concept, is associated with the Context-Based Reasoning (CxBR) modeling paradigm, and represents an improvment thereof. CxBR uses as its basis an intuitive structure call a Context. One specific context is always in control of the AIP, and it contains all the information required to control that AIP when in that situation. When the situation changes, a new context must be found that properly addresses the new situation. Upon finding such a new context, it becomes activated , and the old context deactivates itself. An AIP, therefore, can be controlled intelligently through a sequence of transition among various (pre-existing) contexts. The Competing Context Concept introduces a means to control the transition process without the need to pre-determine the next contexts. This paperbriefly describes the CxBR paradgim and the competing context concept extension. Results from prototype testing will also be discussed. ",
}

@inproceedings{GON93,
author = "Gonzalez A.J. & Ahlers R.H.",
title = "A context-based representation of tactical knowledge for use in simulation-based autonomous intelligent platforms",
booktitle = "Proceedings of the Interservice/Industry Training Systems Conference, Orlando, FL, USA, December",
year = "1993",
comments = "
• Abstract: The focus of the investigation described in this paper is the development of a concise, yet rich knowledge representation paradigm that could be effectively and efficiently used to model the intelligent behavior of simulated agents in a simulator-based tactical trainer. The behavior of these agents would be similar to that of an adversary who would react to a student's action in a manner representative of enemy tactics. The availability of this feature would be of significant utility to the training process for two reasons: (1) the student would face a realistic enemy who is knowledgeable about tactics in the domain of interest and (2) the instructor would not have to be burdened with playing the part of the enemy in those training systems where this is commonly done. The hypothesis presented is that whereas tactical knowledge is highly dependent upon the context (i.e., the situation being faced), a combination of script-like structures and pattern-matching rules in an object-oriented environment could serve as a concise means of representing the knowledge involved, as well as an efficient means of reasoning with that knowledge. This hypothesis was tested through the development of a prototype system that implemented the knowledge of a submarine tactical officer on a patrol mission. The prototype was implemented in CLIPS 5.1, a rule and object-based expert system shell developed by NASA. The results of the prototype show that the combination of scripts and rules in an object-oriented environment promises to meet the requirements described above.
}

@inproceedings{GON95,
author = "Gonzalez A.J. and Ahlers R.",
title = "Context-based representation of intelligent behavior in simulated opponents. ",
booktitle = "Proceedings of the Computer Generated Forces & Behavioral Representation Conference, Orlando",
year = "1995",
month = "May",
comments = "
• Abstract: This article describes and evaluates a concise, yet rich representation paradigm that could effectively and efficiently be used to model the intelligence behavior of opponents in a simulation-based tactical training system. This feature would be quite useful in the training process for two reasons: (1) the trainee would face a realistic ennemy who is knowledgeable about tactics in the domain of interest, and (2) the instructor would not be burdened with playing the part of the enemy in those training systems where this is commonly done. The representation paradigm proposed is based on the idea that the applicable tactical knowledge is highly dependent upon the situation being faced by the decision maker (i.e., the context). A combination of script-like structures and pattern-matching rules in an object-oriented environment could serve to hold all knowledge pertinent to the context present at a specific time. This paradigm has been preliminary tested in a prototype system that incorporates the knowledge of a submarine tactical officer on a patrol mission. Evaluation of the prototype shows that the context-based paradigm promises to meet the desired levels of conciseness and effectiveness required for the task. ",
}

@article{GON97,
author = "Gonzalez A.J. and Ahlers R.",
title = "Context-based representation of intelligent behavior in training simulations. ",
journal = "Transactions",
year = "1997",
volume = "15",
number = "4",
pages = "153-166",
comments = "
• Abstract: This paper presents, describes and evaluates a novel behavior representation paradigm that can effectively and efficiently by used to model the behavior of intelligent entities in a simulation. Called Context-based reasoning (CxBR), this paradigm is designed to be applicable whenever simulation of human behavior is required. However, it is especially well suited to representing tactical behavior of opponents and teammates in simulation-based tactical training systems. Representing human behavior in a simulation is a complex and difficult task that generally requires significant investment in human effort as well as in computing resources. Conciseness and simplicity of representation and efficiency of computation, therefore, are important issues when developing models of intelligent opponents. We beleive that this paradigm is an improvement over the rule-based approach, currently a common technique used in representing human behavior. We have preliminary tested CxBR in two different prototype systems. Evaluation of the prototype shows that the context-based paradigm promises to meet the desired levels of simplicity, conciseness and efficiency required for the task. ",
}

@inproceedings{GRA92,
author = "Grant S.",
title = "A context model needed for complex tasks",

booktitle = "Proc. of the Second Interdisciplinary Workshop on Mental Models",
year = "1992",
pages = "94-102",
month = "March",
comments = "
• Abstract: It is interesting to have models of cognition in everyday activities, but also important to have models of task activity, because it can inform the design of tasks, or tools and interfaces for the tasks. Previous models do account for the structuring of the long-term memory in terms of frames, scripts, MOPs (mental organization packets), schemata, or similar concepts; but they do not account for other observed characteristics of human complex task performance, and in particular for the way in which humans move between contexts. Evidence from the study of complex tasks is here reviewed and discussed in support of these points. The model presented in outline here uses the term “context” for the conceptual entity that some features in common with scripts, frames, or schemata, but goes beyons these previous models in suggesting that the knowledge necessary for context changing is contained in the context itself, along with the knowlege that is applied directly in the task, rather than being controlled by some separate process. This model has the virtue of pointing towards a reason why humans' task skill is contextual, explained in terms of the cognitive demands of performing a task ",
}

@inproceedings{GRA92,
author = "Grant A. S.",
title = "Mental models and everyday activities",
booktitle = "2nd Interdisciplinary Workshop on Mental Models, Cambridge, UK",
year = "1992",
pages = "94-102",
month = "March",
comments = "
• Abstract: It is interesting to have models of cognition in everyday activities, but also important to have models of task activity, because it can inform the design of tasks, or tools and interfaces for the tasks. Previous models do account for the struturing of long-term memory in terms of frames, scripts, MOPs (mental organization packets), schemata, or similar concepts; but they do not account for other observed characteristics of humn complex task performance , and in particular for the way in which humans move betweens contexts. Evidence from the study of complex tasks is here reviewed and discussed in support of these points. The model presented in outline here uses the term 'context' for the conceptual entity that some features in common with scripts, frames or schemata, but goes beyond these previous models in suggesting that the knowledge necessary for context changing is contained in the context itself, along with the knowledge that is applied direclty in the task , rather than being controlled by some separate process. This model has the virtue of pointing towards a reason why humans' task skill is contextual, explained in terms of the cognitive demands of performing a task. ",
}

@unpublished{GRA94,
author = "Grant S.",
title = "The contextual modularity of complex cognition",
note = "at http://www.csc.liv.ac.uk/~simon/pubs/aisbw94/text.html#contextual",
year = "1994",
comments = "

• Abstract: Modularity in models of complex cognition can be achieved through either functional or contextual differentiation. Complementing Cooper's approaches to functional modularity, here contextual modularity is examined. The threads in cognitive science about contextual modularity have to varying degrees, on the one hand, clearly defined cognitve modules, and on the othe rhand, clearly defined means of coordinating or articulating those modules. The present paper argues that the two have not been successfully integrated, and proposes a model embodying that integration. It recapitulates empirical study with a view of cognition as having a clearly contextually modular structure, where at any time the user or operator is in one or other of the contextual modules. Each module has specific rules governing decisions or actions, a specific cognitive representation of the relevant variables in the context, and specific sources of information which are used in the derivation of the relevant variables. How are these contextual cognitive modules corrdinated? Here, the hypothesis is that there are two radically different kinds of transition from one module to another, namely, a learned, context-dependent mechanism, and a n associative mechanism dealing with situations that have not often been met before. This being a new approach, it is shown how it may deal with some of the outstanding problems in earlier work. A computational model of these processes is under construction, using the language SCEPTIC, already widely used for cognitive modeling. ",
}

@inproceedings{GRA94,
author = "Grant S.",
title = "Modeling complex cognition: contextual modularity and transitions",
booktitle = "Proc. of the Fourth Int. Conf. on User Modeling, Hyannis, USA",
year = "1994",
publisher = "The MITRE Corp.",
pages = "157-162",
month = "August",
comments = "
• Abstract: Effective design of interfaces for, e.g., operators engaged in process control tasks, or other complex tasks, requires some kind of model of their cognition. Models of cognition require some kind of modularity in order to be psychologically plausible. Ths paper outlines two main approaches to providing modularity: functional and contextual. A few examples of cognitive theories are assessesin these terms. The main thesis proposed here is that for a model to be effective at predicting human behaviour in complex tasks, it must cobine clearly defined modules and the mechanisms necessary for switching between them.An approach to this is suggested, where there are two different kinds of transition between contextual modules: learned, context-specific transistions, and general, associative transitions. Some kind of integrated theory of this kind is vital, on grounds of cognitive plausibility, for major progress in the modeling of complex cognition, and could also give a computational model that was able to scale up to realistic size. Practical implications for user modeling and interface design are discussed. ",
}

@article{GRA98,
author = "Graves M.",
title = "Context in learning",
journal = "Apple Education The Learning Technology Review",
year = "1998",
month = "Winter",
comments = "

• Abstract: Classrooms, textbooks, lectures and training sessions have at least one thing in common. As characteristic of learning opportunities, they take us, lhe learners, out of the context of our everydays tasks and other activities and situations and put us into specialized learning contexts. Traditionnally, this is the way we have learned. But there is another idea, one that promises to complement traditional dedicated learning situations with “contextual learning,” in which learning is a dimension of those everydays tasks, activities and situations. And this alternative approach is becoming all the more attractive in the light of current trends in work and learning , emphasizing continuous and just-in-time learning. ",
}

@inproceedings{GRA98,
author = "Grama C., Pollak E., Brasch R., Wartski J. & Gonzalez A.J.",
title = "Automated generation of plans through the use of context-based reasoning",
booktitle = "Proceedings of FLAIRS-98",
year = "1998",
comments = "
• Abstract: Automated planning within the scope of middle level echelon decision making processes is beginning to receive increased research attention in an attempt to reduce the size of the support staff needed to conduct large scale command and staff training exercises. In order to better understand the issues involved, the requirements for thisdomain will be outlined and current planner technologies will be evaluated with respect to these requirements. The artificial intelligence technique of Context-Based Reasoning will also be discussed as it applies to this domain. ",
}

@article{GRE01,
author = "Greenberg S.",
title = "Context as a dynamic cosntruct",
journal = "International Journal on Human-Computer Interaction",
year = "2001",
volume = "16",
comments = "
• Abstract: Context is a dynamic construct. While some contextual situations are fairly stable, discernable and predictable, there are many others that are not. Similar-looking contextual situations may actually differ dramatically, due perhaps to people's previous episodes of use, the state of their social interactions, their changing internal goals, and the nuance of local influences. The consequence is that, for all but simple cases, the designer of a context-aware applicaétion may find it difficult or even impossible to: enumerate the set of contextual states that may exist; toknow whatinformation could accurately determine a contextual state within that set; and to state what appropriate action shold be taken from a particular state. ",
}

@article{GRI97,
author = "Grimshaw D.J., Mott P.L. & Roberts S.A. ",
title = "The role of context in decision making: some implications for databse design",
journal = "European Journal of Information System",
year = "1997",
volume = "5",
number = "4",
pages = "113-122",
comments = "

• Abstract: With increasing integration of computer systems through local and wide area communication networks, there exists the capability in many organizations to retrieve information from databases to support ad hoc decision making by many different users. The idea that information is a corporate resource is now something more than business school hype. But the implications of sharing data are only just dawning on the corporate mind. How do managers interpret data? Where decision making is carried out by several people, perhaps in several different locations for different purposes the same data is used in multiple decision contexts. This paper explores the role of context as a way of adding value to information from databases.Two types of context are defined and discussed in relation to some examples ofdecisions where the role of context is vital. These examples are taken from someempirical research conducted with users of spatial decision support systems. Herethe use of background information on maps, for example roads, add context to maps which otherwise simply display statistical data. The paper concludes by suggesting a model of context based on the notion that context acts as a filter between user and database.",
}

@article{GRI97,
author = "Grimshaw D.J., Mott P.L. and Roberts S.A.",
title = "The role of context in decision making: some implications for database design",
journal = "European Journal of Information Systems",
year = "1997",
volume = "6",
pages = "122, 128",
comments = "
• Abstract: With increasing integration of computer systems through local and wide area communication networks, there exists the capability in many organizations to retrieve information from databases to support ad hoc decision making by many different users. The idea that information is a corporate resource is now something more than business school hype. But the implications of sharing data are only just dawning on the corporate mind. How do managers interpret data? Where decision making is carried out by several people, perhaps in several different locations for different purposes the same data is used in multiple decision contexts. This paper explores the role of context as a way of adding value to information from databases. Two types of context are defined and discussed in relation to some examples of decisions where the role of context is vital. These examples are taken from some empirical research conducted with users of spatial decision support systems. Here the use of background information on maps, for example roads, add context to maps which otherwise simply display statistical data. The paper concludes by suggesting a model of context based on the notion that context acts as a filter between user and database. ",
}

@article{GRU01,
author = "Grudin J.",
title = "Desituating action: digital representation of context",
journal = "Int. J. HCI (to appear, 16,1?)",
year = "2001",
comments = "
Abstract: Many psychological studies have shown that when we act and especially when we interact, we consciously and unconsciously attend to context of many types. Sensors can pick up some but not all context that is acquired through our senses. Some context is lost, some is added, and captured context is presented in new ways. Digital aggregators and interpreters do not

aggregate and interpret the same way we do. Missing or altered context disrupts our processing of information in ways that we may not recognize. To address the disruption we may use additional sensors to capture and deliver some of the missing context. Learning to handle these new conduits is then a further source of disruption, and on it can go.With greater knowledge of context, we can work and interact more efficiently, assuming that we can take learn to take advantage of the information without being overwhelmed. However, converting contextual information to a digital format changes it in specific ways. Transient information becomes more permanent, local information is made available globally, and information that once spread slowly can spread much more quickly. The information can enable us to work more efficiently, but these changes in its nature have profound indirect effects. The potential loss of privacy is widely discussed, but other effects may be more significant. In particular, the loss of confinement and transience of information creates an environment that is fundamentally unnatural, in conflict with the one we evolved to live in. ",
}

@article{GRU91,
author = "T. Gruber",
title = "Justification-based knowledge acquisition",
journal = "In: Knowledge Acquisition for Knowledge-Based Systems",
year = "1991",
comments = "
• The general approach illustrated in this paper is called justification-based knowledge acquisition. The key source of power for the approach is how it divides the load in knowledge acquisition between a cooperative user/teacher and elicitation program. The machine provides the computational medium, including the knowledge representation and the context of use, such that every thing that is acquired from the user can be assimilated into the computational model. ",
}

@inproceedings{GRU95,
author = "Grusenmeyer C.",
title = "Les dialogues coopératifs en phase de relève de poste: Roôle dans la sureté des systèmes de production",
booktitle = "Proc. du XXX° Congrès de la SELF “L'homme dans les nouvelles organisations”, Biarritz",
year = "1995",
month = "septembre",
comments = "
• Abstract:Les communications fonctionnelles constituent un moyen essentiel pour les opérateurs de se coordonner, de coopérer, d'ajuster leurs connaissances et représentations. Cette dernière fonctions des échanges verbaux parait cruciale en phase de relève de poste. Les dialogues lors de cette phase de travail doivent permettre à l'opérateur montant d'avoir la même compréhension, la même représentation de la situation que son prédécesseur, c'est-à-dire une représentation opérationnelle. Une étude des échanges verbaux à cette période a été menée dans deux entreprises (une papeterie et une chaufferie nucléaire). Elle visait d'une part à analyser le contenu des échanges verbaux à cette période et leurs variations éventuelles en fonction de la situation, d'autre part à évaluer, grâce à une analyse dynamique de ces échanges, dans quelle mesure ils permettent aux opérateurs d'ajuster leurs représentations. L'application d'une telle analyse à un échange permet de montrer que les deux opérateurs se sont construits une représentation fonctionnelle partagée du dysfonctionnement évoqué et l'importance de ces échanges pour le maintien de l'expertise des opérateurs, et par conséquent, pour la fiabilité des systèmes. ",

}

@techreport{GUH91,
	title = "Contexts: a formalization and some applications",
	author = "Guha R.V.",
	institution = "MCC",
	year = "1991",
	type = "MCC Technical Report",
	number = "ACT-CYC-423-91",
	month = "December",
}

@inproceedings{GWI00,
	author = "Gwizdka J. ",
	title = "What's in the Context?",
	booktitle = "Position paper for CHI 2000 Workshop 11. The What, Who, Where, When, Why and How of Context-Awareness",
	year = "2000",
	note = "context, ",
	comments = "
• Context in relation to th euser is internal or external. Internal context describes state of the user. It can be composed of work context (e.g. current projects and their status, status of to-dos, project team), personal events (i.e. events experienced by user. These events are internalized external events), communication context (i.e. state of interpersonal email communication), emotional state of the user. External context describes state of the environment. It can be composed of location, proximity to other objects (both people and devices), and temporal context. ‡ contextes externe et interne sont proche de contextualized knowledge and proceduralized context, ici en référnce à l'utilisateur (le système semblant être un observateur), nous à une étape d'un pb solving. o Internal context is more difficult to sense than external context, in some cases it can only be inferred from external information. Perhaps due to these difficulties, internal context seems to be somewhat neglected in research efforts up-to-date. However, both internal and external contexts can be an important addition to user input, especially in mobile devices with limited user interface.o Internal context does not necessarily belong to a user, it is not synonymous with user model. Similarly, external context can belong to a user, for example, a model of handling communication based on location can be user-specific.",
}

@book{HAR99,
	title = "Extracting Hidden Context",
	publisher = "Kluwer Academic Publishers, Boston",
	year = "1999",
	author = "Harries M.B., Sammut C. & Horn K.",
	comments = "
• Concept drift due to hidden changes in context complicates learning in many domains including financial prediction, medical diagnosis, and communication network performance. Existing machine learning approaches to this problem use an incremental learning, on-line paradigm. Batch on-line learners tend to be ineffective in domains with hidden changes in context as they assume that the training set is homogeneous. An oof-line, meta-learning approach for the identification of hidden context is presented. The new approach uses an existing batch learner and the process of contextua clustering to identify stable hidden contexts and the associated context specific, locally

stable concepts. The approach is broadly applicable to the extraction of context reflected in time and spatial attributes. Several algorithms for the approch are presented and evaluated. A successful application of the approach to a complex flight simulator control task is also presented. ",
}

@article{HAT93,
	author = "Hatano G. & Inagaki K.",
	title = "Desituating cognition through the construction of conceptual Knowledge",
	journal = "In: Context and Cognition: Ways of Learning and Knowing, Light P. & Butterworth G. (Eds.), Lawrence Erlbaum Associates, Hillsdale",
	year = "1993",
	pages = "115-133",
}

@inproceedings{HEA95,
	author = "Heath C.C., Luff P. & Nicholls G.M.",
	title = "The collaborative production of thed ocument: context, genre and the bordeline in design",
	booktitle = "Proceedings of the International Workshop on the Design of Cooperative Systems, Juan-Les-Pins, France",
	year = "1995",
	pages = "203-218",
	month = "January",
}

@article{HIR94,
	author = "Hirsh H. & Noordewier M.",
	title = "Using background knowledge to imporoe inductive learning. A case study in molecular biology",
	journal = "IEEE Expert",
	year = "1994",
	pages = "3-6",
	month = "October",
}

@article{HOF83,
	author = "Hoffman R.R. & Nead J.M.",
	title = "General Contextualism, ecological science and cognitive research",
	journal = "The Journal of Mind and Behavior",
	year = "1983",
	pages = "507-560",
	month = "Autumn",
	comments = "
• Abstract:The present paper is an attempt at specifying some principles of a new research-oriented movement which appears to be taking place in experimental psychology, a movement toward contextualist, ecological, and functionalist views. In order to analyze various “world views”, we rely on the theory of S.C. Pepper. Our focus is on cognitive science, which includes the experiemental psychology of cognition and the studty of artificial intelligence. Since a major concern of cognitive science is the issue of “mental representation,” a main concern of the present paper is with philosophies and theories of mental representations. Analysis of of the metaphors that

are relied upon in discussions about the claim tharepresentations must be analyzed primarily in terms of their computational efficiency. Our analysis of the contextualist view focuses on research examples taken from Gibsonian ecological psychology and the recent research on event cognition by Jenkins and his colleagues. This research includes studies on expert knowledge, prose comprehension, event perception, motion perception, face perception, and speech perception. Contextualism entails a reinterpretation of the purposes and goals of cognitive psychology. Not only does contextualism define itself through contrasts with the prevalent information processing views, but more fundamentally , ecological research on perception and recent research on event cognition rely on a common set of positive contextualist principles. ",
}

@article{HOF94,
author = "Hoffman R.R. & Dietrich E.",
title = "Expertise in context: Report on the Third International Workshop on Human and Machine Cognition",
journal = "AI Magazine",
year = "1994",
pages = "67-68",
month = "Winter",
}

@techreport{HUN99,
title = "Context-dependent reasoning with lexical knowledge",
author = "Hunter A.",
institution = "Univ. College London",
year = "1999",
type = "trouvé sur le web; a.hunter@cs.ucl.ac.uk",
comments = "
• Abstract: Lexical knowledge is increasingly important in information systems--for example, in indexing documents using keywords, or dismabiguating words in a query to an information retrieval system, or a natural langauge interface. However, it is a difficult kind of knowledge to represent and reason with. Existing approahces to formalizing lexical knowledge have used languages, with limited expressibility, such as those based on inheritance hirarchies, and in particular, they have not adequately addressed the context-dependent nature of lexical knowledge. Here, we present a framework based on default logic, called the dex framework, for capturing context-dependent reasoning with lexical knowledge. Default logic is a first-order logic offering a more expressive formalisation than inheritance hierarchies: (1) Fist-order formulae capturing lexical knowledge about words can be inferred; (2) Preferences over formulae can be pased on specificity, reasoning about exceptions, or explicit priorities; (3) information about contexts can be reasoned with as first-order formulae; and (4) information about contexts can be derived as default inferences. In the dex framework, a word for which lexical knowledge is sought is called a query word. The context for a query word is derived from further words, such as words in the same sentence as the query word. These further words are used with a form of decision tree called a context classification tree to identify which contexts hold for the query word. We show how we canuse these contexts in default logic to identify lexical knowledge about the query word such as synonyms, antonyms, specializations, meronyms, and more sophisticated first-order semantic knowledge. We also show how we canuse a standard machine learning algorithm to generate context classification trees. ",
}

@inproceedings{HUU92,
author = "P. Huuskonen and A. Korteniemi",
title = "Explanation based on contexts",
booktitle = "8th Conference on Artificial Intelligence for Applications, Monterey, CA",
year = "1992",
pages = "179-185",
month = "March 2-6",
}

@inproceedings{INT95,
author = "Intille S.S. and Bobick A.F.",
title = "Close-world tracking",
booktitle = "Proc. of the Fifth International Conference on Computer Vision",
year = "1995",
pages = "672-678",
month = "June",
comments = "
• Abstract: A new approcazh to tracking weakly modeled objects in a semanticaly rich domain is presented. We define a close-world as a space-time region of an image sequence in which the coplete taxonomy of objects is known, and in which each pixel should be explained as belonging to one of those objects. Given contextual object information, context-specific features can be dynamically selected as the basis for the tracking. A context-specific feature is one that has been chosen based upon the context to maximize the chance of successful tracking between frames. Our work is motivated by the goal of video annotation-the semi-automatic generation of symbolic descriptions of action taking place in a contextually-rich dynamic scene. We describe how contextual knoledge in the “football domain” can be applied to closed-world foorball player tracking and present the details of our implementation. We include tracking results based on hundreds of images that demonstrate the wide range of tracking situations the algorithm will successfully handle as well as a few examples of where the algorithm fails. ",
}

@techreport{JAN90,
title = "The knowledge dictionary: Representing contextual information",
author = "Jansen B. and Grosz G.",
institution = "CSIRO DIT, Sidney, Australia",
year = "1990",
type = "Technical Report",
number = "TR-FD-90-04",
comments = "
• Abstract: This paper iscusses the Knowledge Dictionary as a tool for managing knowledge in knowledge-basedsystems. We discussed the existing conceptual model and schema underlying the KD, and the facilities provided for the manipulation and browsing of the stored data representation of the knowledge. We introduce the idea of context, that is contextual property associated with acquired knowledge, a property that we hypothesize is necessary for the intelligent use of knowledge in a knowledge-based system. We discuss the representation of the contextual property, using a new formalism called ripple-down rules, and show the deficiencies in the existing KD schema, deficiencies ensuring the KD is currently unable to cater for the full richness and flexibility of knowledge context. The discussion about context leads to the idea of K_Lines, as espoused by Minsky, and we show that an enhanced KD may be a suitable environment for prototyping these ideas. The discussion concludes with a suggested new schema for KD type tools. ",

}

@misc{JAN90,
	title = "Of the necessity of context, some solutions",
	author = "Jansen B., Compton P & Grosz G.",
	howpublished = "http://
mac145.syd.dit.csiro.au/BobJ_HTML_Documents/RMCAI90.html",
	comments = "
• Abstract: This paper discusses the importance of the contextual nature of acquired knowedge. We describe a knowledge representation formalism, Ripple-Down Rules, and show how this formalism is abl to represent a simple contextual property of knowledge in a maintenance envionment and how this facilitates simple contextual processing. We relate this work to that described in the psychological literature regarding the functions of human memory. We extend this simple context by introducing a data model for the static representation of more complex contexts within a repository or information resource dictionary system (IRDS) environment. ",
}

@techreport{JAN90,
	title = "The knowledge dictionary: representing contextual information",
	author = "B. Jansen and G. Grosz",
	institution = "CSIRO Division of Information Technology ",
	year = "1990",
	type = "Technical Report",
	number = "TR-FD-90-4",
	month = "January",
	address = "PO Box 1599, North Ryde, NSW, Australia",
}

@techreport{JAN91,
	title = "Formal and narrative knowledge representation for explanations and justifications in knowledge-based systems",
	author = "B. Jansen",
	institution = "CSIRO, Division of Information Technology,",
	year = "1991",
	type = "Technical Report",
	number = "TR-FD-91-02",
	month = "May",
}

@inproceedings{JAN93,
	author = "Jansen B.",
	title = "Context: A real prblem for large and sharable knowledge bases",
	booktitle = "Proc. of the 1st Int. Conf. on Building and Sharing of Very Large-Scale Knowledge Bases (KB&KS'93), Tokyo",
	year = "1993",
	pages = "177-183",
	comments = "
• Abstract: Existing large shareable repositories of knowledge, e.g., libraries, are dependent on the notion of context for their structure and efficient use. Books are classified and catalogued into subject areas, authors, keyword areas, etc. Each of these arrangements facilitate the appropriate

access to, and hence use of, relevant parts of the repository. This paper argues that the notion of context, although complex and little understood in the AI community, must be one of the intrinsic parameters of any large and shareable knowledge-base system. It introduces some details of context as found in the literature to highlight its complexity and how little understood the notion of context is. Electronic document systems s suggested as a most promising area for researching into context applicable within large and shareable knowledge-base systems. ",
}

@inproceedings{JAN93,
	author = "Jansen B and G. Bray",
	title = "Context, knowledge types vs serendipity",
	booktitle = "Avignon-93",
	year = "1993",
}

@misc{JAN95,
	title = "Context in context",
	author = "Jansen B.",
	howpublished = "http:// mac145.syd.dit.csiro.au/Context/context.html",
	comments = "
• Abstract: This paper explores existing notions of context as found in the literature to see what has been learned about its nature, definition and behaviour. McCarthy in his paper at IJCAI'93 stated that a study of this sort will not result in a unique conclusion about what context is. It is to be hoped, however, that it will result in a better understanding of the nature of context and so provide a sounder basis for the development of a general theory embracing context. Guha's PhD thesis states “In the formula ist(NaiveMoneyMt A1), the context denoted by the symbol “NaiveMoneyMt” is suppose to capture everything that is not in A1 that is required to make A1 a meaningful statement representing what is intending to state”. In this paper we attemt to flesh out the sorts of things denoted by the context symbol and thus supplement the study of the use of context within AI. We discuss a number of views of context as found in the literature ranging from a typical dictionary definition to result of more careful research into the problem of context. The views range from simplistic entity/relationship models to more complex models incorporating types of context and some notions of functionality or effect of context in situations. Each view, regardless of the source, eventually introduces the notion of situation in some form or another, indicating that this is most probable the area where a unified notion is likely to emerge. ",
}

@inproceedings{JOU94,
	author = "Jouis c.",
	title = "Contextual approach: SEEK, a linguistic and computational tool for use in knowledge acquisition",
	booktitle = "First European Conference on Cognitive Science in Industry",
	year = "1994",
	pages = "259-274",
	month = "September",
}

@article{JUR00,
	author = "Jurisica I., Glascow J. & Mylopoulos J.",

title = "Incremental iterative retrieval and browsing for efficient conversasional CBR systems",
journal = "Applied Intelligence",
year = "2000",
volume = "12",
pages = "251-268",
comments = "
• Abstract: A case base is a repository of past experiences that can beused for problem solving. Giving a new problem, expressed in the form of a query, the case base is browsed in search of “similar” or “relevant” cases. Conversational CBR systemes generally support user interaction during case retrieval and adaptation. Here we focus on case retrieval where users initiate a problem solving by entering a partial problem description. During an interactive CBR session, a user may submit additional queries to provide a “focus of attention”. These queries may be obtained by relaxing or restricting the constraints specified for a prior query. Thus, case retrieval involves the iterative evaluation of a series of queries against the case base, where each query in the series is obtained by restricting or relaxing the preceding query.This paper considers alternitve approaches for implementing iterative browsing in conversational CBR systems. First, we discuss a naive algorithm, which evaluates each query independent of earlier evaluations. Second, we introduce an incremental algorithm, which reuses the results of past query evaluations to minimize the computation required for subsequent queries. In particular, the paper proposes an efficient algorithm for case base browsing and retrieval using databse techniques for incrmental view maintenance. In addotion, the paper evaluates scalability of the proposed algorithm using its performance model. The model is created using algorithmic complexity and experimental evaluation of the system performance. ",
}

@inproceedings{JUR94,
author = "Jurisica I.",
title = "Context-based similarity applied to retrieval of relevant cases",
booktitle = "Proceedings of AAAI Fall Symposium Series on Relevance. New Orleans, Louisiana, November 4-6.",
year = "1994",
comments = "
• Abstract: Retreiving relevant cases is a crucial component of case-based reasoning systems. The task is to use user-defined query to retrieve useful information, i.e. exact matches or partial matches which are close to query-defined request according to certain measures. The difficulty stems from the fact that it may not be easy (or it may be even impossible) to specify query requests precisely and completely - resulting in a situation known as a fuzzy-querying. It is usually not a problem for small domains, but for a large repository which store various information (multifunctional information bases or a federated databases), a request specification becomes a bottleneck. Thus, a flexible retrieval algorithm is required, allowing for imprecise query specification and for changing the viewpoint. Efficient database techniques exist for locating exact matches. Finding relevant partial matches might be a problem. This document proposes a context-based similarity as a basis for flexible retrieval. Historical background on research in similarity assessment is presented and is used as a motivation for formal definition of context-based similarity. We also describe a similarity-based retrieval system for multifunctional information bases. ",
}

@article{JUR97,
author = "Jurisica I. & Glascow J.",

title = "Improving performance of case-based classification using context-based relevance",
journal = "International Journal of Artificial Intelligence Tools",
year = "1997",
volume = "6",
number = "3-4",
comments = "
• Abstract: Classification involves associating instances with particular classes by maximizing intra-class similarities and minimizing inter-class similarities. Thus, the way similarity among instances is measured is crucial for the success of the system. In case-based reasoning, it is assumed that similar problems have similar solutions. The case-based approach to classification is founde on retrieving cases from the case base that are similar to a given problem, and associating the problem with the class containing the most similar cases. Similarity-based retrieval tools can advantageously be used in building flexible retrieval and classification systems. Case-based classification uses previously classified instances to label unknown instances with proper classes. Classification accuracy is affected by the retrieval processes--the more relevant the instances used for the classification, the greater the accuracy. The paper presents a novel approach to case-based classification. The algorithm is based on a notion of similarity assessment and was developed for supporting flexible retrieval of relevant information. Case similarity is assessed with respect to a given context that defines constraints for matching. Context relexation and restriction is used for controlling the classification accuracy. The validity of the proposed approach is tested on real-world domains, and the system's performance, in terms of accuracy and scability, is compared to that of other matching learning algorithm. ",
}

@inproceedings{JUR98,
author = "Jurisica I. & Glasgow J.",
title = "An efficient approach to terative browsing and retrieval for case-based reasoning",
booktitle = "Proc. of the 11th IEA-98-AIE, Tasks and Methods in Applied Artificial Intelligence",
year = "1998",
publisher = "Springer Verlag",
volume = "II",
pages = "535-546",
editor = "A.P. del Pobil, J. Mira & M. Ali",
comments = "
• Abstract: A case base is a repository of past experiences that can be used for problem solving. Given a new problem, expressed in the form of a query, the case base is browsed in search of “similar” or “relevant” cases. One way to perform this search involves the iterative evaluation of a series of queries against the case base, where each query in the series is obtained by restricting or relaxing the preceding query. The paper considers alternative approaches for implemeting iterative browsing in case-based reasoning systems, including a naive algorithm, which evaluates each query independent of earlier evaluations, and an incremental algorithm, which reuses the results of past query evaluations to minimize the computation required for subsequent queries. In particular, the paper proposes an efficient algorithm for case base browsing and retrieval using database techniques for view maintenance. In addition, the paper evaluates the performance of the proposed agorithm with respect to alternative approaches considering two perspectives: (i) experiental efficiency evaluation using diverse application domains, and (ii) scalabilty evaluation using the performance model of the proposed system. ",
}

@inproceedings{KAL,
author = "Kalantzis G.D. & Edmondson W.H.",
title = "An integrated schema model for story text understanding",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Abstract: This paper presents an integrated schema model for story text understanding purposes. Existing story understanding systems (..) use knowledge-dependent structures, such as scripts and MOPs, to guide the understanding of a story text have serious limitations in terms of memory, time efficiency, flexibility, and intentionality. The propsed integrated schema model provides some solutions to the problems mentioned previously and can be considered as a solid grounding for a computational theory that specifies human understanding of story texts.",
}

@inproceedings{KAN93,
author = "Kang B. and P. Compton",
title = "Taking knowledge in context out of its context",
booktitle = "IJCAI-93 Workshop on “Using Knowledge in its Context”, Chambery, France",
year = "1993",
month = "August",
}

@inproceedings{KAN95,
author = "Kanellos I. & Zaldivar-Carrillo V.H.",
title = "Non-extensional identity: A formal cornerstone for “context-centered” approach in knowledge representation",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
year = "1995",
month = "August",
comments = "
• In this paper, we present some main ideass which seems to be the necessary formal preliminaries for a general characterization of the notion of context in knowledge representation systems. In the first part we analyze the theoretical need for a context-centered approach; we elucidate its epistemological content in AI developments and define the generic aspects of a program aiming at operationalizing the notion of context. In the second part we suggest a plausible formalism for the fist step of such a program; it consists in defining non-extensional structures in knowledge representation and enlighting the notion of identity between representational units. The refinement of the classical notion of identity in order to take into account non-extensional exigencies, occupies the main place in this part; for this purpose, we define several classes of non-extensional equalities between basic representational units and discuss some potential features of suc a conception. In the last part we make a rough synthesis in the perspective of a formal definition of the notion of context in such a general knowledge representation frameworlk. ",
}

@inproceedings{KAR92,
author = "L. Karsenty and P. Falzon",
title = "Spontaneous explanations in cooperative dialogues",
booktitle = "ECAI'92 Workshop on Improving the Use of KBS with Explanation, Vienna, Austria",

year = "1992",
month = "August",
}

@phdthesis{KAR94,
author = "Karsenty L.",
title = "L'explication d'une solution dans les dialogues de conception",
school = "Université Paris 8",
year = "1994",
month = "juillet",
type = "Thèse d'Université",
}

@article{KAS98,
author = "Kashyap V. & Sheth A.",
title = "Semantic heterogeneity in global information systems: The role of metadata, context and ontologies",
journal = "In: Cooperative Information Systems: Current Trends and Directions. M. Papazoglou & G. Schlageter (Eds.)",
year = "1996",
comments = "
• Abstract: Semantic heterogeneity has been identified as one of the most important and toughest problems when dealing with interoperability and cooperation among multiple databases. It was earlier studied in the context of exchanging sharing and integrating data, especially during the schema/view analysis phase of schema or view integration, or when writing a view or query using a multidatabase language. With the advent of global interconnectivity, we now need to deal with more heterogeneous information resources consisting of a variety of digital data, and the scale of the problem has changed from a few databases to millions of information resources, thus making it more important than ever to address this problem. It is also recognized that the problem has only become harder and that simplistic solutions involving only representational or structural components of data will not work beyond a very restricted set of cases. In this chapter, we explore approaches to tackle the semantic heterogeneity problem in the context of Global Information Systems which are systems geared to handle information requests on the Global Information Infrastructure. These approaches are based on the capture and representation fo metadata, contexts and ontologies. In order to handle information overload, it would be advantageous to abstract out the representational details of the underlying data and capture the information content by using domain specific metadata. The next important step is that of understanding the context of the query, using metadata to construct the context and identifying the relevant data in that context. Another critical issue that arises here is that of different vocabularies used to characterize similar information. We present an approach to deal with this problem at the metadata/context level by using terms from domain specific ontologies to construct metadata/context. We deal with semantic heterogeneity at this level and propose an approach using terminological relationships to achieve semantic interoperability. ",
}

@phdthesis{KEL87,
author = "Keller R. M.",
title = "The role of explicit contextual knowledge in learning concepts to imporve performance. ",
school = "Rutgers, The State University of New Jersey",

year = "1987",
type = "Ph.D. Dissertation",
comments = "
• Abstract: This disseration addresses some of the difficulties encountered when using artificial intelligence-based, inductive concept learning methods to improve an existing system's performance. The underlying problem is that inductive methods are insensitive to changes in the system being improved by learning. this insensitivity is due to the manner in which contextual knowledge is represented in an inductive system. Contextual knowledge consists of knowledge about the context in which concept learning takes place, including knowledge about the desired form and content of concepts desriptions to be learned (target concept knowledge), and knowledge about the system to be improved by learning and the type of improvement desired (performance system knowledge). A considerable amount of contextual knowledge is “compiled” by inductive system's designers into its data structures and procedures. Unfortunately, in this compiled form, it is difficult for the learning system to modify its contextual knowledge to accomodate changes in the learning context over time. This research investigates the advantages of making contextual knowledge explicit in a concept learning system by representing that knowledge directly, in terms of express declarative structures. The thesis of this research is that aside from facilitating adaptation to change, explicit contextual knowledge can support two additional capabilities not supported in most existing inductive systems. First, using explicit contextual knowledge, a system can learn approximate concept descriptions when necessary or desirable in order to improve performance. Second, with explicit contetual knowledge, a learning systel can generate its own concept learning tasks. To investigate the thesis, this study introduces an alternative concept learning framework",
}

@inproceedings{KHA95,
author = "Khardon R., Roth D.",
title = "Default-reasoning with models",
booktitle = "Proc. of IJCAI-95, Montreal, Canada",
year = "1995",
volume = "1",
pages = "319-325",
comments = "
• Abstract: Reasoning with model-based representations is an intuitive paradigm, which has been shown to be theoretically sound and to possess some computational advantages over reasoning with formula-based representations of knowledge. In this paper we present more evidence to the utility of such representations.In real life situations, one normally completes a lot of missing “context” information when answering queries. We model this situation by augmenting the available knowledge about the world with context-specific information; we show that reasoning with model-based representations can be done efficiently in the presence of varying context information. We then consider the task of default reasoning. We then consider the task of default reasoning. We show that default reasoning is a generalization of reasoning within context, in which the reasoning has many “context” rules, which may be conflicting. We characterize the cases in which model-based reasoning supports efficient default reasoning and develop algorithms that handle efficiently fragments of Reiter's default logic. In particular, this includes cases in which performing the default reasoning task with the traditional, formula-based, representations is intractable. Further, we argue that these results support an incremental view of reasoning in a natural way. ",
}

@inproceedings{KOC92,
author = "S. Kocabas",

title = "Functional categorization of knowledge",
booktitle = "AAAI'92 Workshop on Propositional Knowledge Representation, Stanford, CA",
year = "1992",
pages = "83-92",
month = "March",

@inproceedings{KOK95,
author = "Kokinov B.",
title = "A dynamic approach to context modeling",
booktitle = "Proc. of the IJCAI-95 Workshop on Modeling Context in Knowledge Representation and Reasoning",
year = "1995",
pages = "199-209",
month = "AUgust",
comments = "
• This paper presents the issues of dealing with context from the perspective of cognitive modeling. A dynamic theory of context is propsoed which considers context as the set of all entities that influence human cognitive behavior on a particular occasion. As a consequence context is thought of as the dynamic fuzzy set of all associatively relevant memory elements at a particular instant of time. These memory elements might be both mental representations and operations. Some experimental ??? about the influence of the perceptible environment as well as of the previous memory state on human problem solving are briefly presented. The dynamic nature of context influence on behavior is emphasized.A general cognitive architecture, DUAL, is presented which consist of many small agents running autonomously in parallel with variable speeds depending on their current associative relevance. A model of problem solving, AMBR, based on DUAL is discussed where problem solving emerges from the collective behavior of the agents. The possibilities of AMBR for modeling context and priming effects are considered and some simulation results are presented.• results coming from psychological experiments. ",
}

@inproceedings{KOK97,
author = "Kokinov B.",
title = "A dynamic theory of implicit context",
booktitle = "Proc. of the 2nd European Conference on Cognitive Science, Manchester, UK, April, ",
year = "1997",
pages = "252-255",
month = "April",
comments = "
• Abstract: Several distinctions between various concepts of context are discussed: internal vs. external, intrinsic vs. model-based, and implicit vs. explicit. Finally, a dynamic of implicit, intrinsic, internal context is briefly discussed and its application to a context-sensitive geneal cognitive architecture DUAL and a context-sensitive model of human reasoning, AMBR, are briefly outlined.",
}

@inproceedings{KOR00,
author = "Korkea-aho M.",
title = "Context-aware applications survey",

booktitle = "Internetworking Seminar (Tik-110.551), Spring 2000, Helsinki University of Technology",
year = "2000",
publisher = "http://www.hut.fi/~mkorkeaa/doc/context-aware.html",
comments = "
• Computer cannot as easily as humans make use of context information (e.g. location, time, temperature, and other persons nearby) in interaction and adapt to the situation. It is not easy for them to capture, represent, and process context information. However, with help of such information computer systems and applications could be made more user-friendly, flexible, and adaptable. This is especially important in mobile computing where the context and thus also the user needs change frequently and rapidly. This paper presents a survey of existing mobile context-aware applications. The survey shows that most applications still use only a few types ot context information, mainly identity, time and location. The paper discusses also how and what kind of context information could be used in ad hoc networks. In ad hoc networks, context information can be used in establishing the network in paper discusses also how and what kind of context information could be used in ad hoc networks. ",
}

@inproceedings{KRA97,
author = "Krahmer E. and Piwek P.",
title = "Exploiting context for filling presuppositional gaps",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Even though it is generally agrred that resupposition is a context-dependent phenomenon, there is very little formal work in this area. Even Van der Sandt's presuppositions-as-anaphora framework, which is the theory which makes the best empirical predictions about presupposition projection, fails to give a formal account of the interaction between context and presupposition projection. In this paper, we present a theory of presupposition, based on Van der Sandt's presuppositions-as-anaphora approach, which employs a deductive system, Constructive Type Theory (CTT), to get a formal handle on the way context influences presuppositional behavior. In CTT, proofs for expressions are explicitly represented as objects. We show that these proff-objects are very useful when dealing with presuppositional phenomena which require context/world-knowledge (like Clarke's brifging examples). ",
}

@inproceedings{KRI63,
author = "Kripke S.A.",
title = "Semantical considerations on modal logic",
booktitle = "Acta Philosophico Femica, Proc. of the Colloquium on Modal and Multi Valued Logics, Helsinki",
year = "1963",
}

@inproceedings{KUH98,
author = "Kuhlthau C.C.",
title = "Investigating patterns in information seeking: concepts in context.",
booktitle = "Proceedings of ISIC'98",
year = "1998",
month = "August",

comments = "
• Abstract: Considers a number of fundamental concepts from information science and raises the issue of developing continuity in the conceptual framework for information seeking in context that not only addresses the situation at hand but the larger conceptual questions of information . Suggests that these larger conceptual questions require a consideration of process, uncertainty, complexity and the concept of 'enough' and that the fuller exploration of these concepts calls for further research and development in contextual studies. ",
}

@inproceedings{KUM95,
author = "Kumar A",
title = "Accounting for context-sensitivity of function",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "211-221",
month = "August",
}

@article{LAI87,
author = "J.E. Laird and A. Newell and P.S. Rosenbloom",
title = "SOAR: an architecture for general intelligence",
journal = "Artificial Intelligence",
year = "1987",
volume = "33",
pages = "1-64",
}

@article{LAL82,
author = "Lalljee M., Watson M. & White P.",
title = "Explanations, attributions and the social context of unexpected behaviour. ",
journal = "European Journal of Social Psychology",
year = "1982",
volume = "12",
pages = "pp. 17-29",
comments = "
• Abstract: The study investigated the effect of expectancies a perceiver holds about the occurence of a particular behaviour and his or her familiarity with the situation in which the behaviour occurs, for the way in which an event is explained. Subjects were presented with brief descriptions of hypothetical events which varied in terms of the familiarity of the situation. Dependent variables included ratings of causality to personal and situational causes as well as open-ended exlanations which were content analysed to distinguish between four types of persons and four types different types of situation elements. The results show that explanations for unexpected behaviour are more complex than for expected behaviour; that if the situation is familiar to the subject, unexpected behaviour is explained by introducing more person elements while if it is unfamiliar, unexpected behaviour is explained by introducing more situation elements; and that the distribution of different types of person and situation elements is affected by familiarity and expectancy. ",
}

@inproceedings{LAM94,

author = "Lamming M & Flynn M",
title = "“Forget-Me-Not”, Intimate computing in support human memory",
booktitle = "Proc. of FRIEND21, Int.l Symposium on Next Generation Human Interface, Japan",
year = "1994",
month = "February",
}

@article{LAN98,
author = "Landau T.",
title = " Magazine Column. Placing It in the Right Context. Contextual Menus Make Routine Tasks Faster and More Convenient. ",
journal = "MacWorld",
year = "1998",
month = "March",
note = "http://macworld.zdnet.com/pages/march.98/Column.4204.html",
}

@inproceedings{LAV97,
author = "Lavid J.",
title = "Bridging the generation gap: contextual constraints on the thematic selection",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: This paper addresses two important issues for generating pragmatically adequate texts: First, it investigates the ionfluence of factors from the communicative context on the thematic structure of texts. We claim that thematic selection is controlled by contextual factors such as the discourse purpose and its subject matter. This claim is empirically validated through corpus analysis where statistically these correlations as inter-stratal constraints in a multistratal text generation architecture which can recognize and sustain the complexity of linguistic resources needed for the production of pragmatically-motivated text.",
}

@inproceedings{LEN93,
author = "Lenat D.",
title = "Context dependence of representations in CYC",
booktitle = "Colloque ICO'93, Montréal, ",
year = "1993",
month = "May",
}

@inproceedings{LEO93,
author = "T.-Y. Leong",
title = "Context-sensitive representation of categorical and uncertain knowledge",
booktitle = "IJCAI-93 Workshop on “Using Knowledge in its Context”, Chambéry, France",
year = "1993",
month = "August 29",
}

@techreport{LES91,

title = "Generating context-sensitive explanations in interactive knowledge-based systems",
author = "J.C. Lester and B.W. Porter",
year = "1991",
month = "May",
}

@inproceedings{LES91,
author = "J.C. Lester and B.W. Porter",
title = "An architecture for planning multi-paragraph pedagogical explanations",
booktitle = "AAAI'91 Workshop on Comparative Analysis of Explanation Planning Architectures",
year = "1991",
pages = "27-41",
month = "July 14",
}

@inproceedings{LES93
author = "Lespérance Y.",
title = "An approach to modeling indexicality in action and communication",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August 29",
}

@misc{LIE00,
title = "Out of context: Computer systems that adapt to, and learn from, context",
author = "Lieberman H. & Selker T. ",
year = "2000?",
comments = "
• Abstract: A growing realization is that computer systems will increasingly need to be sensitive to their context. Traditionally, hardware and software were conceptualized as input-output systems: systems that took input explicitly given to them by a human, and acted upon that input alone to produce an explicit output. Now, this view is being seen as being too restrictive. Smart computers, intelligent agent software, and digital devices of the future will have to operate on data that is not explicitly given to them, data that they observe or gather for themselves. These operations may be dependent on time, place, weather, user preferences, or the history of interaction. In other words, context.But what exactly is context? We'll look at perspectives from software agents, sensors and embedded devices, and also contrast traditional mathematical and formal approaches. We'll see how each treats the problem of context, and discuss the implications for design of context-sensitive hardware and software. ",
}

@book{LOC88,
title = "Chapter 15: Conceptual specificity in thinking and remembering, IN: Memory in Context: Context in Memory, pp. 319-331",
publisher = "John Wiley & Sons Ltd.",
year = "1988",
author = "Lockhart R.S.",
editor = "G.M. Davies and D.M. Thomson",

}

@misc{MAC00,
	title = "Organisational memory: a knowledge modelling approach",
	author = "Mach M., Dzbor M., Furdik K., & Paralic J.",
	howpublished = "web",
	year = "2000",
	comments = "
• Abstract: ... In this paper KnowWeb, European Commission funded research project, is briefly introduced. The project focuses on the storage of knowledge in a corporate organisational memory and retrieval of relevant knowledge chnks from this memory. The retreval is based on company-specific conceptual terms instead of traditional keywords. The employed knowledge-based approach enables searching not only in the physical document space but also in the document context space. The paper consists of three main parts. In the first one the project goals are identified, in the following sections generic architecture and functionality of the KnowWeb toolkit are introduced. In the concluding part of the paper we discuss pilot applications and feasibility of projects like KnowWeb. ",
}

@inproceedings{MAL97,
	author = "Mallen C.",
	title = "Using design to provide context in an intelligent help system",
	booktitle = "Proc. of CONTEXT-97, Rio de Janeiro, Brasil, February ",
	year = "1997",
	comments = "
• Abstract: As information processing systems (IPS) become more prevalent in the workplace there is an ever expanding community that needs to be instructed in their use. Designers of intelligent help systems try and address this need through computer-based systems that are responsive to the user. This goal places extra constraints on the IPS which must now be capable of taking account of both the user's goals and the workings of the system if it is to be able to tune help adaptively to the context-of-use. This paper will show how these requirements can be met by a methodology that links the two processes of the design and construction of an IPS through an effects language. An e-mail application was built that demonstrate how the use of a design description (based on Jackson System Development) and an effects language can provide for context based help. The paper provides an example to illustrate how the approach can improve the help provided by previous intelligent help systems. ",
}

@article{MAN96,
	author = "Mantovani G.",
	title = "Social context in HCI: A new framework for mental models, cooperation, and communication",
	journal = "Cognitive Science",
	year = "1996",
	volume = "20",
	pages = "237-269",
	comments = "
• Abstract: This article considers current research in CSCW, CMC and DAI. These areas need an articulated model of social context to bridge the persisting gap between social and technological dimensions in computer system design and use. A conceptual model of context is presented to

account for both cooperation-conflict and communication-negotiation processes. The model conceives of contexts as including not only physical objects and other people but also social norms which influence both individuals and organizations. It assumes that computer system use occurs in social scenarios in which the features cannot be reduced to any type of input or data in the world that designers and users can process along with other information coming from the current task. The model is built on three levels: from social contexts as normative order (level 1), to specific and intrinsically complex situations (level 2), and to person-computer interactions for the performance of particular tasks (level 3). The model has three mains implications. First, HCI studies--especially scenario-based design--may profit from a fresh top-down approach to designer's and users' mental models taking into account normative social processes which have been neglected in previous research. Second, CSCW may realize how deeply discrepant perspectives affect multi-agent environment and why in real working life negotiation is intertwined with cooperation. Designers may use this insight to design systems allowing more place for negotiation among actors. Third, we should dismiss that view that CMC lacks adequate social cues and fosters impulsive behavior. Cognitive processes such as categorization, stereotype construction, and social identification can make electronic environments even more strongly sensible to social norms than face-to-face communication. Context, according to our model, is not restricted to the physical copresence of other people but consist mainly of processes providing situations with socially recognizable meaning.",
}

@inproceedings{MAN97,
author = "Manara L.H.B. and De Roeck A.",
title = "Context as beliefs, and the pragmatic modelling of presuppositions",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: During the last decade, increased activity around the semantic-pragmatics boundary has re-emphasised the need to address the role of context in the interpretation process of human language. This trend has been driven mainly by attempts to develop formal approaches dealing with typically pragmatic phenomena. In particular for presupposition, the pragmatic phenomenon par excellence, several accounts have given firm evidence of the impact of context. Invariably, traditional contextual models run into severe problems caused by the consequences of Possible Worlds based notions of propositionhood, which prevents the formulation of partial, revisable information states. Starting from a notion of proposition developed in Property Theory, we develop a formal model of contexts as partial beliefs entertained by agents, who do not necessarily hold compatible views. We show how this model can be exploited in the treatment of the projection problem for conditionals. We demonstrate that a model along these lines does not suffer from the usual disadvantages.",
}

@inproceedings{MAO97,
author = "Mao J.-Y. and Benbasat I.",
title = "Contextualized access to knowledge in knowledge-based systems: A process-tracing case study",
booktitle = "Proceedings of ECIS'97",
year = "1997",
volume = "1",
comments = "

• Abstract: This research investigates the extent to which hypertext-based explanations can make problem-solving knowledge available to users of KBS in a contextualized and convenient manner, and the importance of such access for understanding KBS output by both novices and experienced professionals. A case study approach is taken by focusing on some highly illustrative verbal protocols. Results show that contextualized access to domain knowledge can be critical for understanding KBS output, and that lack of it can cause comprehension difficulties. Contextualized access is highly effective in encouraging access to knowledge, because it greatly reduces the motivational 'cost' of learning and facilitates contextualized learning. ",
}

@inproceedings{MAR89,
author = "J. Martin",
title = "Focusing attention for observational learning: the importance of context",
booktitle = "Proc. of the 11th IJCAI-89, Detroit, MI, USA",
year = "1989",
volume = "1",
pages = "562-567",
month = "August",
}

@inproceedings{MAR97,
author = "Martini Bigolin N. and Brezillon P.",
title = "An experience using context in translation from system's requirements to conceptual model.",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: In this paper we use context to simplify the translation from system's requirements expressed in natural language to conceptual model (Entity-Relationship Model). This translation is made by a tool called Designer Assistant. The goal of the system is to identify entities, attributes and relationships in natural language (Portuguese Language in our case). For example, post-graduation evaluation has several entities as notes, student, discipline, etc. The entity student has attributes as Department. However, in another application as university's organization, Department is an entity, because in this context it is a relevant information, i.e., the same object can be an attribute or an entity depending of the context. In our system, we distinguish the nature of such an attribute (contextual and contextualized knowledge respectively in the example above) in an application. The contextual information are stored in dictionaries with the words of Portuguese language. ",
}

@article{MAS92a,
author = "H. Maskery and J. Meads",
title = "Context: in the eyes of users and in computer systems",
journal = "SIGCHI Bulletin",
year = "1992",
volume = "24",
number = "2",
pages = "12-21",
month = "April",
}

@article{MAS92b,
	author = "H. Maskery, G. Hopkins, and T. Dudley",
	title = "Context: what does it mean to application desing",
	journal = "SIGCHI Bulletin",
	year = "1992",
	volume = "24",
	number = "2",
	pages = "22-30",
	month = "April",
}

@inproceedings{MAS95,
	author = "Massacci F.",
	title = "A bridge between modal logics and contextual reasoning",
	booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge representation and reasoning",
	year = "1995",
	pages = "89-98",
	month = "August",
	comments = "
• The goal of this paper is to present and discuss the features a simple and rather effective tableau calculus combines deduction for the modal logics of knowledge and belief with contextual reasoning. The system is made by a multiple combination. For modal proofs, it labels formulae as prefixed tableaux but uses message (knowledge) passing rules similar to those of sequent-like tableaux. For contextual deduction, it merges the metalevel information of the labelling system used by Multicontextual Languages with that used by Labelled Deductive Systems. Its semantics is also simple and intuitively based on a property of Kripke models.The resulting calculus is effective for automated proffs, applicable to a wide range of modal logics, and adaptable to many search heuristics. It is also easy to use for proof presentation since its rule have intuitive epistemic interpretation (how knowledge and belief can be inherited up and down possible worlds). It is weak enough to satisfy a KB where two different consistent modal statements may globally contradict each other (in classical logic), but strong enough to rule out an inconsistent statement. ",
}

@inproceedings{MAT96,
	author = "Matwin S. ad Kubat M.",
	title = "The role of context in concept learning",
	booktitle = "Proc. of the ICML'96 Workshop on Learning in Context-Sensitive Domains, Barry, Italy",
	year = "1996",
	pages = "1-5",
	month = "July",
	comments = "
• Abstract:Many practical, real-world applications of concept learning are impossible to address without taking into consideration the background of the concept, its frame of reference, and the particular situation and circumstances of its occurence, shortly its context. Even though the phenomenon of context has been treated by philosophers and cognitive scientists, it deserves more attention in the machine-learning community. ",
}

@article{MAT,
	author = "Matwin S. & Kubat M.",
	title = "The role of context in concept learning",
	comments = "
• Abstract: Many practical, real-life applications of concept learning are impossible to address without taking into consideration the background of the concept, its frame of reference, and the particular situation and circumstances of its occurence, shortly its context. Even though the phenomenon of context has been treated by philosophers and cognitive science, it deserves more attention in the machine-learning community. ",
}

@inproceedings{MCA93,
	author = "McCarthy J.",
	title = "Notes on formalizing context",
	booktitle = "Proc. of the 13th IJCAI, Chambéry, France",
	year = "1993",
	volume = "1",
	pages = "555-560",
	month = "September",
}

@misc{MCC96,
	title = "A logical AI approach to context",
	author = "McCarthy J.",
	howpublished = "http://www-formal.stanford.edu/jmc",
	year = "1996",
	month = "February 6th",
	note = "context",
	comments = "
• Abstract: Logical AI develops computer programs that represents what they know about the world primarily by logical formulas and decide what to do primarily by logical reasoning--including nonmonotonic logical reasoning. It is convenient to use logical sentences and terms whose meaning depends on context. The reasons for this are similar to what causes human language to use context dependent meanings. This note gives elements of some of the formalisms to which we have been led. Fuller treatment are in [McC93, Guh91, MB94] and the references cited in the Web page [Buv95]. The first main idea is to make contexts first class objects in the logic and use the formula ist(c, p) to assert that the proposition p is true in the context c. A second idea is to formalize how propositions true in one context transform when they are moved to different but related contexts. An ability to transcend the outermost context is needed to give computer programs the ability to reason about the totality of all they have thought about so far [McC96]. ",
}

@inproceedings{McG97,
	author = "McGough M.P.",
	title = "Inside auction talk: a different turn taking system",
	booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
	year = "1997",
	comments = "

• Abstract: This study presents a conversation analysis of auction talk. Turn-taking practices used in auction talk, a form of institutional talk, are a modification of those used in everyday conversation. The sequential patterning of the discourse suggests that one way to conceive context in terms of turn-type pre-allocation. The bidding sequence consists of three chained actions: the bid, bid register, and call for new bids. The bid, a nonverbal turn construction unit, is a first pair part that initiates the sequence. The sale, a terminal move, occurs when no more bids are offered from the floor. The sale is analyzed as a conversational closing that is systematically delayed. It is hoped that this analysis will generate discussion regarding the utility of conceiving turn-type pre-allocation as an application of the very complex notion of context. Due to space constraints, the reader is assumed to be familiar with the terminology and methods of CA. Typically, several examples are provided in support of each claim. Again for reasons, of space, these are kept to a minimum. The complete transcript is availabel upon request.",
}

@inproceedings{MEE95,
author = "Meech J.F.",
title = "Modelling context for intelligent human-computer interaction",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "187-188",
month = "August",
}

@inproceedings{MEN96,
author = "Menzies T.",
title = "Assessing responses to situated cognition",
booktitle = "Proc. of the Banff Knowledge Acquisition Workshop",
year = "1996",
publisher = "http://www.cse.edu.au/~timm/pub/docs/papersonly.html",
comments = "
• Abstract: Situated cognition (SC) claims that knowledge is mostly context-dependent and that symbolic descriptions elicited prior to direct experience are less important that functional units developed via direct experience with the currnt problem. If this were true, then we would need to modify the knowledge modeling approaches of KA which assume that re-using old symbolic descriptions are a productivity tool for new applications. There are numerous tools which, if added to conventional knowledge modeling, could be said to handle SC (e.g., machine learning, abduction, verification & validation tools, repertory grids, certain frameworks for decision support systems, expert critiquing systems, and ripple-down rules). However, we require an experiment to assess the effectiveness of these tools as a response to SC. ",
}

@article{MEN99,
author = "Menzel C.",
title = "The objective conception of context and its logic",
journal = "Minds and Macines",
year = "1999",
volume = "9",
pages = "29-56",
comments = "

• Abstract: In this paper, an “objective” conception of contexts based loosely upon situation theory is developed and formalized. Unlike “subjective” conceptions, which takes contexts to be something like sets of beliefs, contexts on the objective conception are taken to be complex , sturctured pieces of the world that (in general) contain individuals, other contexts, and propositions about them. An extended first-order language for this account is developed. The language contains complex terms for propositions, and the standard predicate “ist” that expresses the relation that holds between a context and a proposition just in case the latter is true in the former. The logic for the objective conception features a “global” classical predicate calculus, a “local” logic for reasoning within contexts, and axioms for propositions. The specter of paradox is banished from the logic by allowing “ist” to be nonbivalent in problematic cases: it is not in general the case , for any context c and proposition p, that either ist(c, p) or ist(c, non-p). An important representional capability of the logic is illustrated by proving an appropriately modified version of an illustrative theorem from McCarthy's classic Blocks World Example.",
}

@inproceedings{MIA99,
author = "Miao Y., Fleschutz J.M. & Zentel P. ",
title = "Enriching learning contexts to support communities of practice",
booktitle = "Proc. of Computer Support for Collaborative Learning",
year = "1999",
pages = "391-397",
comments = "
• Abstract: The theory of situated learning emphasizes the importance of authentic learning contexts and the central role of social interaction. In the light of this theory and based on our previous experience, we propose an approach for the development of context-based virtual learning environments. These are virtual worlds, which the learners themselves can create and modify. They therefore provide a customized learning context in which all learning processes and communications between learners can be situated. The characteristics of our approach are: the use of perceptual metaphors, the flexible combination of these metaphors within the learning environment, and the support for awareness of the context and the social interaction within it. Collaborative hypermedia technology is used to construct and to represent places and information in the environment and then to navigate within it. The prototype system provides rich and flexible learning contexts and supports various forms of social interaction for communities of practice. ",
}

@inproceedings{MIT93
author = "Mittal V.O. and C.L. Paris",
title = "Context: identifying its elements from the communication point of view",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August 29",
}

@article{MIT94,
author = "Mittal V.O. & Paris C.L.",
title = "Generating explanations in context: The system perspective",
journal = "International Journal of Expert Systems with Applications",
year = "1995",
volume = "8",

number = "4",
pages = "491-503",
comments = "
• Abstract: Explanations for expert systems are best provided in context, and, recently, many systems have used some notion of context in different ways in their explanation module. For example, some explanation systems take into account a user model. Others generate abn explanation depending on the preceding and current discourse. In this article, we bring together these differnt notions of context as elements of a global picture that might be taken into account by an explanation module, depending of the needs of the application and the user. We characterize each of these elements, describe the constraints they place on communication, and present examples to illustrate the points being made. We discuss the implications of these different aspects of context on design of explanation facilities. Finally, we describe and illustrate with examples, an implemented intention-based planning framework for explanation that can take into account the different apects of context discussed above.
}

@inproceedings{MOO90a,
author = "J.D. Moore and W.R. Swartout",
title = "Pointing: a way toward explanation dialogue",
booktitle = "AAAI-90, Proc. of the Eight National Conference on Artificial Intelligence",
year = "1990",
volume = "1",
pages = "457-464",
editor = "AAAI Press / The MIT Press",
month = "July 29/August 3",
}

@article{MOR01,
author = "Morineau T. ",
title = "Context effect on problem solving during a first immersion in a virutal environment",
journal = "Current Psychology of Cognition (to appear)",
year = "2001",
comments = "
• Abstract: Virutal reality is a technology supporting new forms of Human-Computer Interaction. Direct manipulation of virtual objects may angage the user in a “visuo-centered” context where nperceptual information creates multiple affordances, and physical laws can be modified. The research reported here tests the hypothesis that this new type of context would effect the cognitive processes of an immersed subject. Problem-solving situations have been arranged to trap subjects fail o find a correct response to an elementary problem usually proposed for children, in which a visual trap is involved. The second experiment supported this result for elementary trapping problems presented in the auditory modality. These findings show a dependency of reasoning as a function of the context in which it occurs. ",
}

@article{MOR01,
author = "Moran T. & Dourish P. (Guests Editors)",
title = "Special Issue on Context-Aware Computing",
journal = "International Journal on Human-Computer Interaction (to appear)",

year = "2001",
volume = "16",
note = "context, ",
comments = "
• Abstract: This special issue is base don an “anchor” article plus accompanying essays. The anchor article, describing a software architecture for developing context-aware computing applications, is summarized below. The special issue editors view the anchor article as a state-of-the-art snapshot of the technological drive that is making computing more embedded throughout our physical environment in a variety of devices, from small pezrsonal, mobile tools to large, public displays. Presumably, this embedded computing must be context-aware to be truly effective-- it must be aware of where we are, who and what else is there, what we know and what we need. The anchor article focuses on software-engineering issues. Clearly, this is not the whole story of context-aware computing. A broad view of the nature of context will be provided by the essays. The editors have invited a broad range of different kinds of people to contribute essays, not just and HCI people, but people in various branches of design, people with social perspectives, people with technical expertise in context-aware systems, and people who are interestingly unclassifiable. The essays will thus contribute to diverse perspectives. The editors will shape the set of essays to be a survey of our current intellectual grasp of a fast-moving technology. ",
}

@article{MOR94,
author = "Morgan G.",
title = "The change page: Managing in the new world economy.",
journal = "The Global and Mail Canadian National Newspaper",
year = "1994",
month = "November 29",
note = "http://www.imaginiz.com/context.html",
}

@inproceedings{MOR99(#63),
author = "Morishima Y.",
title = "Effects of discourse context on inference computation during comprehension",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Abstract:A reader constructs a situation model as he or she comprehends a text. The situation model is a representation of a microworld of agents, objects, and events associated with what the text explicitly asserts. This study investigages the question of how context represented by the situation model influences inference computation during comprehension. The primary question is how strongly the reader infers a high-probability instrument (e.g., a pump for inflating a tire) while reading a brief text embedded in different contexts. The experiments showed that instrument inferences are highly affected by the context; such inferences are not computed unless the context provides information that strongly supports the inferences (e.g., “John grabbed the pump in the garage.”). When the context is compatible with such inferences but weak (e.g., “John found the pump in the garage.”), the reader does not routinely draw the inference. However, he/she does generate the inference when he/she is motivated to elaborate during comprehension. A simulation model was developed based on Construction-Integration theory (Kintsch, 1988) to provide a more explicit account for the inference process. The model constructs a situation model of a text, integrating information stored in its knowledge base. The extent to which the integration is performed depends on the information contained in the text and a parameter that determines the

level of elaboration. Simulation runs successfully generated patterns of results that are qualitatively in agreement with the experimental results. The simulations illustrated that on-line inference processes are affected by the trade-off between construction of a rich situation model and the limited capacity of the cognitive system. While the reader tries to maximize knowledge integration to construct a highly elaborated situation model, the limited cognitive capacity only enables the reader to allow a limited amount of resources for the on-line inference processes.",
}

@article{MOT95,
author = "Motschnig-Pitrik R.",
title = "An integrating view on the viewing abstraction: Contexts and perspectives in software development, AI, and databases",
journal = "Journal of Systems Integration",
year = "1995",
volume = "5",
pages = "23-60",
comments = "
• Abstract: Viewing entities from different situations and representing and processing them in different contexts constitutes a fundamental concern in various disciplines of computer science. Not suprisingly, the viwing abstraction is supported by many languages and techniques employed either for programming or “world modelling”. This paper presents an overview on various manifestations of viewing mechanisms in formal notations including software development techniques, knowledge representation languages, and data models. The concepts of context and perspective are introduced in form of a language-independent framework in order to capture and systematically discuss features that characterize viewing mechanisms, such as the relationship between the two, the relation between different perspectives on the same conceptual entity, or operations supporting effective construction of contexts. In additions, it is argued that the full power of viewing can be exploited by supporting both notions: contexts as well as perspectives. In order to achieve this support, any formal notation has to fulfll a number of general requirements which are stated as a result of the investigation and the survey. ",
}

@article{MOU97,
author = "Moulin B.",
title = "Temporal contexts for discourse representation: An extension of the conceptual graph approach",
journal = "Applied Intelligence",
year = "1997",
volume = "7",
pages = "227-255",
comments = "
• Abstract: A discourse is composed of a sequence of sentences that must be interpreted with respect to the context in which they are uttered and to the actions that produce them: locutors' speech acts. The analysis of discourse content must be based on a pragmatic approach to the study of language in use. Some of the most obvious linguistic elements that require contextual information for their representation are deictic forms such as here, now, I, you, this, and verb tens. Several authors have recognized a need for introducing contextual structures in knowledge representation models such as semantic networks. Sowa's Conceptual Graph Theory is a powerful approach to conceptually represent knowledge contained in discourses. However, it must be extended in order to represent several semantic and pragmatic mechanisms related to the expression

of time in natural language. In this paper we present such an extension as a framework for modeling temporal knowledge in discourses integrating several features borrowed from speech act theory. First, we introduce the notions of time interval, temporal object, temporal situation, and temporal relation. Then, we discuss the importance of explicitly introducing the concept of time coordinate system in a discourse representation and we present different kinds of temporal contexts: narrator's perspective, agent's perspective and temporal localization. We show how this conceptual framework can be used to represent various referential mechanisms in discourse such as anaphoras, indexicals, direct and indirect styles. We also discuss how to model several linguistic phenomena such as speech act characteristics and the specification of performative and attitude utterances. Finally, we briefly discuss how verb tenses can be determined in a discourse on the basis of this temporal approach. ",
}

@inproceedings{MOU97,
author = "Moulin B.",
title = "An agent centered approach to conversational context",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Characterizing the context of a conversation is a complex endeavor. In this paper we present some of the key element that sustain the conversational context. We suggest that a conversation can be viewed as a negotiation game in which participants negotiate on several levels: some of these levels are used to manage the communication (communication channel, information transfer, turn taking) while others (negotiation and environmental sub-contexts) are used to transfer concepts or mental states relative to various spatio-temporal situations between agents. The social and reasoning sub-contexts also play an important role in the characterization of the conversational context. We concentrate on the elements of the negotiation and environmental sub-contexts which make up a chore model for the conversational context. We present the key ingredients of those sub-contexts: the agent's perspective that characterizes an agent's temporal position when uttering a sentence; the agent's positioning that specifies the action applies to mental states when an agent plays a move in the negotiation game; mental states and their relations with temporal situations evoked in agents' utterances. We show that all those knowledge structures are temporally situated with respect to a temporal frame of reference whose maintain reference points are specified relative to agent's perspectives or deictically specified. We emphasize th role of deictic phenomena in the characterization of agents' orientations within the conversational context and thus, the importance of accounting for them in a model of context. ",
}

@inproceedings{MOU98,
author = "Allen Moulton A., Madnick S. and Siegel M",
title = "Context Mediation on Wall Street",
booktitle = "CoopIs98",
year = "1998",
note = "context, ",
comments = "
• Abstract: This paper reports on efforts to construct a practical implementation of a context mediator for the fixed income securities industry. We describe industry circumstances and the DCS mediator product that was built in the early 1990s. The mediator was designed as an interpretive engine controlled by a static declarative knowledge structure and client preference data. In addition to heterogeneous, autonomous data sources, the mediator integrated autonomously developed local

and remote procedural components. Client access to both data and computational resources were provided through an active conceptual model. Structural and semantic context conversions were used to integrate disparate components and to support varying client needs. Lessons learned from the implementation and usage of this mediator provide insight into the requirements for a successful context mediator. ",
}

@article{MYL90,
	author = "J. Mylopoulos, A. Bordiga, M. Jarke and M. Koubarakis",
	title = "Telos: representing knowledge about information system",
	journal = "ACM Trans. on Information systems",
	year = "1990",
	volume = "8",
	number = "4",
	pages = "325-362",
	month = "October",
}

@article{NAP91,
	author = "Napoli D.S.",
	title = "Historic preservation in Point Arena: A model for context-based planning",
	journal = "Small Town",
	year = "1991",
	pages = "4-9",
	month = "March-April",
	comments = "
• Abstract: Point Arena, California, the states sixth smallest incorporated city, is the subject of a recently completed historic preservation planning project that could serve as a model for other small towns around the country. The project generated three documents: an inventory of historic properties, a complete set of nominations to the National Register of Historic Places and an element for the community's comprehensive plan in order to guide preservation activity in the future. The work was designed not only to meet the needs of Point Arena's citizens but also to test federal preservation planning guidelines that had not previously been applied to small towns in California.,
}

@inproceedings{NAR91,
	author = "N. H. Narayanan and B. Chandrasekaran",
	title = "Reasoning visually about spatial interactions",
	booktitle = "Proc. of the Twelfth Int'l Conf. on Artificial Intellienge-IJCAI91",
	year = "1991",
	volume = "1",
	pages = "360-365",
	address = "Sidney, Australia",
	month = "August 24-30",
}

@inproceedings{NAR92,
	author = "B.A. Nardi",
	title = "Studying context: a comparison of activity theory, situated action models, and distributed cognition",

```
	booktitle = "East-West International Conference on Human-Computer Interaction, St Petersburg, Russia, August 1992",
	year = "1992",
	volume = "II",
	pages = "352-359",
	month = "August",
}

@inproceedings{NEW91,
	author = "Newan W, Eldridge M & Lamming M",
	title = "Pepys: Generating autobiographies by automatic tracking",
	booktitle = "Prc. of the 2nd European Conference on Computer Suported Cooperative Work, Amsterdam, Kluwer Academic Publishers",
	year = "1991",
	comments = "
• This paper presents one part of a broad research project entitled 'Activity-Based Information' (AIR) which is being carried out at EuroPARC. The basic hypothesis of this project is that if contextual data about human activities can be automatically captured and later presented as recognisable descriptions of past episodes, then human memory of those past episodes can be improved. This paper describes and application called PEPYS, designed to yield descriptions of episodes based on automatically collected location data. The program pays particular attention to meetings and other episodes involving two or more people. The episodes are presented to the user as diary generated at the end of each day and distributed by electronic mail. The paper also discusses the methods used to assess the accuracy of the descriptions generated by the recogniser. ",
}


@article{ODE93,
	author = "Odersky M",
	title = "Defining context-dependent syntax without using contexts",
	journal = "ACM Trans. on Programming Languages and Systems",
	year = "1993",
	volume = "15",
	number = "3",
	pages = "535-562",
	month = "July",
}

@book{OGD46,
	title = "The Meaning of Meaning",
	publisher = "Routledge & Kegan Paul LTD",
	year = "1946",
	author = "C.K. Ogden and I.A. Richards",
	address = "Broadway House, 68-74 Carter Lane, London, E.C.4",
	edition = "8th",
}

@unpublished{ONE94,
	author = "O'Neil J. and Clothier J.",
	title = "Using agents to represent organizational context",
```

year = "1994",
}

@inproceedings{ONE95,
author = "O'Neill J.",
title = "Types of contextual knowledge required for organisational reasoning",
booktitle = " Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
year = "1995",
pages = "99-108",
month = "August",
comments = "
• Organisational problem domains are dynamic, open-ended problem environments. “Learning organizations” provide the organisational flexibility required to cope with these types of environments. Knowledge workers solving problems in learning organisations require contextual knowledge to determine what needs to be done, and how to do it. This contextual knowledge is represented using conceptual graphs. Four types of contextual knowledge are required in organisational problem domains: organisational ontologies, knowledge workers, situational frameworks, and interaction framework. ",
}

@article{Oya93,
author = "Oyama S.",
title = "Penser l'évolution : l'intégration du contexte dans l'étude de la phylogenèse, de l'ontogenèse et de la cognition",
journal = "Intellectica",
year = "1993",
volume = "1",
number = "16",
pages = "133-150",
}

@article{OZT97,
author = "Ozturk P. and Aamodt A.",
title = "A context model for knowledge-intensive case-based reasoning",
journal = "Special Issue on Using Context in Applications. International Journal on Human-Computer Studies.",
year = "1998",
comments = "
• Abstract: Decision-support systems that help solving problems in open and weak theory domains, i.e. hard problems, need imporved methods to ground their models in real world situations. Models that attempt to capture domain knowledge in terms of, e.g. rules or deeper relational networks, tend either to become to abstract to be efficient, or too brittle to handle new problems. In our research we study how the incorporation of case-specific, episodic, knowledge enables such systems to become more robust and to adapt to a changing environment by continously retaining new problem solving cases as they occur during normal system operation. The research reported in this paper describes an extension that incorporates additional knowledge of the problem solving context into the architecture. The components of this context model is described, and related to the roles the components play in an abductive diagnosis process. Background studies are summarized, the

context model is explained, and an example shows its integration into an existing knowledge-intensive CBR system.
}

@inproceedings{OZT97),
author = "Ozturk P. and Aamodt A.",
title = "Towards a model of context for case-based diagnostic problem solving",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: This paper presents a model of context based on the roles and elements of various context types. Two important roles of context are related to the notions of relevance and focus. The former is important for the quality of the results reached by a problem solving or learning task, while the latter is important for the performance efficiency of the task. Problem solving can be viewed as search in a large problem space where search for different entities invoked at different stages. Context has a pruning effect on search, increasing proportionally to the incompletness of the information at hand. Depending on the type of memory structure to be searched for, different types of context that facilitate memory access and utilization for different types of tasks. The criteria for distinguishing between several types of context elements are presented, and a context ontology based on these criteria is suggested. We then show how this account is integrated with a case-based approach to clinical problem solving. ",
}

@inproceedings{OZT98
author = "Ozturk P.",
title = "A context-sensitive, iterative approach to diagnostic problem solving",
booktitle = "11th International Conference on IEA-AIE-98, Benicassim, Spain, June",
year = "1998",
comments = "
• Abstract: In domain where knowledge is not represented by strong theories or where the problems are to be solved with incomplete information, problem solving needs to be a context-sensitive process. This paper presents a task-centered methodology that we used when modelling the context in a diagnostic process. We identify two aspects of the notion of context as important: its role and its elements. We argue that a systematic investigation of the notion of context needs to be organised along these two aspects. Regarding the role that the context plays we distinguis between two basic issues. These are related to its role in shifting the focus of attention, and in capturing the focus of attention. We discuss a diagnostic problem solving model, which we call context-sensitive, iterative diagnosis (ConSID) approch which is particularly appropriate for open and weak domains. We present an aimplementation of this approach as a hybrid case-based and explanation-based reasoning system.
}

@misc{PAN96,
title = "Automated model selection using context-dependent behaviors",
author = "Pandurang P., Joskowicz L. and Addanki Sanjaya",
howpublished = "trouvé sur le Web",
year = "1996?",
comments = "
• Abstract: Effective reasoning about complex engineered devices requires device models that are both adequte for the task and computationally efficient. This paper presents a method for

constructing simple and adequate device models by selecting appropriate models for each of the device's components. Appropriate component models are determine by the context in which the device operates. We introduce context-dependent behaviors (CDBs), a component behavior model representation for encapsulating contextual modeling constraints. We show how CDBs are used in the model selection process by exploiting constraints from three sources: the structural and behavioral contexts of the components, and the expected behavior of the device. We described an implemented program for selecting a simplest adequate model. The inputs are the structure of the device, the expected device behavior, and a library of CDBs. The output is a set of component CDBs forming a structurally and behaviorally consistent device model that achieves the expected behavior. ",
}

@article{PAT98,
author = "Patel A., Russell D., Kinshuk, Oppermann R. and Rashev R. ",
title = "An initial framework of contexts for designing usable intelligent tutoring systems",
journal = "Information Service and Use",
year = "1998",
volume = "18",
number = "1-2",
pages = "65-76",
comments = "
• Abstract: The notion of context has been an issue of research in various apsects of intelligent systems such as nowledge mamangement, natural language processing, reasoning and so on. This paper focuses on the various contexts surrounding the design and use of ITS and propose an initial framework of contexts by classifying them into three major groupings: interactional, environmental and objectival context. Interactional contexts ar eused by the system, environmental contexts surround its design and use while objectival contexts refer to the objectives of an educational system as exhibited by its “teaching” and assessment practices. A better understanding of these contexts is essential for designing better and more usable ITSs.",
}

@article{PAT98,
author = "Patel A. & Russell D.",
title = "An initial framework of contexts for designing usable intelligent tutoring systems",
journal = "Informtation Services",
year = "1998",
volume = "18",
number = "1-2",
pages = "65-76",
comments = "
• Abstract: The notion of context has been an issue of research in various aspects of intelligent systems such as knowledge management, natural language processing, reasoning, and so on. This paper focuses on the various aspects of intelligent systems such as knowqledge design and use of Intelligent Tutoring Systems (ITS) and proposes an initial framework of contextsby classifying them into three major grouping: interactional, environmental and objectival contexts. Interactional contexts are used by the system, environmental contexts surround its design and use while objectival contexts refer to the objectives of an educational system as exhibited by its “teaching” and “assessment” practices. A better understanding of these contexts is essential for designing better and more usable intelligent tutoring systems. ",
}

@inproceedings{PER00,
author = "Perussel L.",
title = "Raisonnement contextuel: une logique pour la révision",
booktitle = "Actes de RFIA'2000",
year = "2000",
volume = "I",
pages = "167-174",
comments = "
• Abstract: The aim of this article is to propose an extension of the contextual logic such that it expresses revision of contextual theories. Contextual reasoning is based on the following principle: generally, a formula is not true in an absolute way. In previous work, we have proposed a multi-modal logic which enables to link assertions and their contexts. Our objective is to express contextual sentences as following: after a sequence of operation O executed in a context c, an assertion phi is holding. In this article, we consider two operations: expanding or contracting a contextual theory. Using inference rules, we represent the principles of minimal change and maximal consistency, which are wellknown principles in the belief revision area.",
}

@article{PER91,
author = "Pereira F.C.N. and Pollack M.E.",
title = "Incremental interpretation",
journal = "Artificial Intelligence",
year = "1991",
volume = "50",
number = "1",
pages = "37-82",
comments = "
• Abstract: We present a system for the incremental interpretation of natural-language utterances in context. The main goal of the work is to account for the influences of context on interpretation, while preserving compositionality to the extent possible. To achieve this goal, we introduce a representational device, conditional interpretations, and a rule system for constructing them. Conditional interpretations represent the potential contributions of phrases to the interpretation of an utterance. The rules specify how phrase interpretations are combined and how they are elaborated with respect to context. The control structure defined by the rules determines the points in the interpretation process at which sifficient information become available to carry out specific interential interpretation steps, such as determining the plausibility of particular referential connections or modifier attachments. We have implemented these ideas in Candide, a system for interactive acquisition of procedural knowledge. ",
}

@inproceedings{PIN95,
author = "Pinto N., Stephens L. & Bonnell R.",
title = "Organizing domain theories for geographical reasoning using contexts",
booktitle = "Proc. of the IJCAI-95 Workshop on Modeling Contex in Knowledge Representation and Reasoning",
year = "1995",
pages = "110-120",
month = "August",
}

@article{POL91,
	author = "G. Politzer",
	title = "Introduction du numéro spécial “Pragmatique et Psychologie du Raisonnement”",
	journal = "Intellicta",
	year = "1991",
	volume = "1",
	pages = "7-13",
}

@article{POL91b,
	author = "G. Politzer",
	title = "L'informativité des énoncés: contraintes sur le jugement et le raisonnement",
	journal = "Intellectica",
	year = "1991",
	volume = "1",
	pages = "111-147",
	comments = "
• La pertinence se définit par raport à un contexte. Un contexte est un ensemble de propositions ayant diverses origines (discours qui précède, contenu en mémoire, observation, inférence, etc.). Lorsqu'en joignant une proposition P à un contexte, il est possible d'en dériver une nouvelle proposition I sans que cela soit possible à partir de P seul ou du contexte seul, I est appelé une implication contextuelle de P. Dans ces conditions, une proposition est pertinente lorsque (i) elle a au moins une implication contextuelle, ou bien (ii) elle tend à confirmer ou à infirmer certaines propositions du contexte. L'idée est donc qu'une information pertinente permet d'effectuer des inférences dans un contexte. ",
}

@inproceedings{POL97,
	author = "Polya T. and Tarnay L.",
	title = "Is context really a problem?",
	booktitle = "Proc. of the 2nd European Conference on Cognitive Science, Manchester, UK, April, ",
	year = "1997",
	pages = "199-202",
	month = "April",
	comments = "
• Abstract: In this paper we argue context as such cannot be defined; rather it is its role one can attempt to describe. We distinguish between the selectionist and connectionist approaches and argue for a middle position. We focus on relevance theory and mapping functions. We formulate the principle of an evolutionary stable correlational ability to retrieve basic meanings with environmental changes. Contexts can only be represented in terms of such a corelational ability. No clear-cut difference could be made between the representation of contexts and of other features of objects. We give some examples how “contetual” interpretation is construed. ",
}

@inproceedings{POO00,
	author = "Pook S., Lecolinet E., Vaysseix G. and Barillot E.",
	title = "Cpntext and interaction in Zoomable User Interfaces",

booktitle = "AVI 2000 Conference Proceedings (ACM Press), pages 227-231 & 317, 23-26. http://www.infobiogen.fr/services/zomit/avi2000/ ",
year = "2000",
comments = "
ABSTRACT: Zoomable User Interfaces (ZUIs) are difficult to use on large information spaces in part because they provide insufficient context. Even after a short period of navigation users no longer know where they are in the information space nor where to find the information they are looking for. We propose a temporary in-place context aid that helps users position themselves in ZUIs. This context layer is a transparent view of the context that is drawn over the users' focus of attention. A second temporary in-place aid is proposed that can be used to view already visited regions of the information space. This history layer is an overlapping transparent layer that adds a history mechanism to ZUIs. We complete these orientation aids with an additional window, a hierarchy tree, that shows users the structure of the information space and their current position within it. Context layers show users their position, history layers show them how they got there, and hierarchy trees show what information is available and where it is. ZUIs, especially those that include these new orientation aids, are difficult to use with standard interaction techniques. They provide a large number of commands which must be used frequently and on a changing image. The mouse and its buttons cannot provide a rapid access to all these commands without new interaction techniques. We propose a new type of menu, a control menu, that facilitates the use of ZUIs and which we feel can also be useful in other types of applications. o In ZUIs users can only see one view at a time: the focus. Users often cannot understand where the focus fits into the information space because it only shows a limited region of this space and ignores the surrounding context. o (similar to the onion metaphor) Fisheye views [6] are one way of integrating the context and focus into a single view. Some of the information surrounding the focus is shown following the rule: the greater the distance of the information from the focus the more interesting it must be for it to be shown. ",
}

@inproceedings{PRI99,
author = "Prié Y., Mille A. & Pinon J.-M.",
title = "A context-based audiovisual representation model for audiovisual information systems",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Abstract:In this paper we present a contextual representation model of audiovisual (AV) documents for audiovisual information systems. In the first part, we study AV medium, and show that AV intra-document context is always related to a user task seen as a general description task. We then present the AI-Strata model for AV description: audiovisual units (pieces of AV documents) are annotated with annotation elements described in a knowledge base. The annotation elements are connected at the document level. The whole system being considered as a unique graph, we define a context of one element as extremitates from graph-paths starting with this element. In order to control contextual paths, we define the notion of potential graphs as graph-patterns that instantiate in the general graph. Finally, we show how these grpahs are used in the main task of AV information systems: navigation, indexation and search. ",
}

@article{PUR97,
author = "Purcell G.P., Rennels G.D. &Shortliffe E.H.",

title = "Development and evaluation of a context-based document representation for searching the medical literature. ",
journal = "Int. J. Digital Libraries",
year = "1997",
volume = "1",
pages = "288-296",
comments = "
• Abstract: Conventional full-text systems represent documents as sets of index terms, and queries to these systems often retrieve irrelevant material when search terms occur in inappropriate contexts. We have developed document representations that capture the semantic contexts in which text words occur. Many bodies of literature contain stereotypic categories of information. For example, articles describing medical research consistently discuss interventions and outcomes. These semantic themes provide context for terms in the text, and thus, can facilitate precise full-text searches. We have used a contextual model of clinical research articles, case reports, and review articles as the basis for a document representation in a full-text retrieval system. In this paper, we describe the creatin of context models for meduical publications and the evaluation of these models using interindexer consistency. We demonstrate that such models are easily understood and employed by readers of the literature (and thus, the searchers). Accordingly, these models may constitute a powerful representation for information retrieval. We discuss the suitability of this technique for other domains. ",
}

@inproceedings{RAH00,
author = "Rahlff O.-W., Rolfsen R.K. and Herstad J.",
title = "Using personal traces in context space- Towards consciousness technology",
booktitle = "Proc. of the CHI-2000 Workshop on “The What, Who, Where, When and How of Context-Awareness",
year = "2000",
comments = "
• Abstract: Wearables are often described wit ha focus on providing the user with wearable information access and communication means. The contextual information retrieval aspectis however an essential feature of such systems, as in e.g. the Rembrance Agent where manually entrered search-terms are used for presenting relevant situational information, or as in different location-based systems. In this position paper we outline a general framework of contextually aware wearable systems, and suggest how such mechanisms collecting massive traces of the user context may lead to several other interesting uses in what we will call consciousness tehcnology. ",
}

@article{RAI95,
author = "Rainis N. and Tiberghien G.",
title = "Mémoire et psychologie légale : Effets de contexte et transfert inconscient dans l'identification des visages",
journal = "Psychologie Française",
year = "1995",
volume = "40",
number = "3",
pages = "245-254",
comments = "
• Abstract: In 1982, Klee, Leseaux, Malai and Tiberghien put forward new visual context effects on unfamiliar face recognition. A test context which is different but semantically related to the study

context clearly leads to an increase in the correct recognition rate without, however, increasing at the same time the percentage of false alarms. When a replication of the already mentioned experiment was done, the results obtained partly work against the unconscious transference phenomenon (William, 1955) which appears when the encoding and retrieving contexts are the same. ",
}

@inproceedings{RAS96,
author = "Rastier F.",
title = "Le problème épistémologique du contexte et le statut de l'interprétation dans les sciences du langage",
booktitle = "Proc. of CES, Rome, Italy",
year = "1996",
comments = "
• Abstract: Dans les sciences du langage, le recul graduel de l'objectivisme a été marqué par l'usage croissant du concept de contexte, notamment en sémantique et en pragmatique. Il a eu un effet de problématisation, d'une part en marquant de fait une rupture avec le principe positiviste de compositionalité, d'autre part en introduisant la question de la situation. Aussi la réflexion sur le problème du contexte permet de distinguer, voire d'opposer la tradition logico-grammaticale, centrée sur le signe et la tradition réthorico-herméneutique, gagée sur le texte. ",
}

@article{RAS98,
author = "Rastier F.",
title = "Le problème épistémologique du contexte et le statut de l'interprétation dans les sciences du langages",
journal = "Revue Langages",
year = "1998",
number = "129",
pages = "97-111",
month = "Mars",
}

@article{REC92,
author = "F. Récanati",
title = "La pragmatique linguistique",
journal = "Le Courrier du CNRS, Numéro Spécial “Sciences Cognitives”",
year = "1992",
number = "79",
pages = "21",
}

@article{RED94,
author = "Reder L. & Klatzky R.L.",
title = "The effect of context on training: Is learning situated?",
journal = "Human-Computer Interaction Institute Technical report CMU-HCII-94-108",
year = "1994",
comments = "
• Abstract: This paper addresses issues associated with transfer of training; in particular, the importance ofmimicking the contexts of application during training: When will a skill transfer from

one situation of application to another, and what aspects of training affect a learner's ability to transfer the learning to new situations? Although there exist many examples of failure to show good transfer of training, the failures are more surprising and tend to mask the successes. With appropriate training there is generalization to a variety of contexts. Such training should include variable contexts during instruction, concrete examples, and abstract rules and procedures. Claims made by proponents of Situated Learning Theory suggest that training must be done in the context of the situation of application. We agree that learning is unlikely to transfer if taught in only one context with no examples from other contexts; however, because it is difficult to anticipate all future contexts of application, trainers are advised not to so constrain instruction. Although training and transfer should have identical elements, there is evidence that part-whole training is often the appropriate method of instruction. This argues against apprenticeship learning during early stages of acquisition for many skills. Further, too much fidelity in simulation may lack cost effectiveness and may even be detrimental to the early acquisition process. ",
}

@book{REI85,
	title = "Getting computers to talk like you and me. Discourse context, focus, and semantics",
	publisher = "A Bradford Book, The MIT Press, Cambridge, MA",
	year = "1985",
	author = "Reichman R.",
}

@article{RES98
	author = "Ress D.A. and Young R.E.",
	title = "Identifying contexts in a distributed fuzzy constraint satisfaction system for design and manufacturing",
	journal = "Special Issue “Using Context in Applications”. International Journal on Human-Computer Studies.",
	year = "1998",
	comments = "
• Abstract: This paper presents a fuzzy constraint satisfaction system which can be used in a distributive environment and, though an example, identifies contexts which exist within the constraint satisfaction system. The fuzzy constraint satisfaction system utilizes value propagation on constraints through the use of formal logic and theorem proving. The system has been designed to work in a distributive environment such that large problems can be broken down into smaller constraint networks for easier processing. Context-based reasoning is identified both within and among constraint networks. The paper begins with the motivation behind this research, followed by a description of the fuzzy constraint satisfaction system FuzCon. It concludes by identifying three mappings of the context-based reasoning 'ist' operator to fuzzy constraints and by showing an example of designing a printed wiring board. ",
}

@inproceedings{RIC01,
	author = "Richards D. ",
	title = "Combining cases and rules to provide contextualised knowledge based systems",
	booktitle = "Proc. of CONTEXT-01",
	year = "2001",
	comments = "
• Abstract: The issue of context has been recognized as an important factor in the reuse and sharing of knowledge. However, the success of many approaches largely depends on specifying the

appropriate contexts in which the knowledge applies. This is difficult and time-consuming. This paper describes the Ripple Down Rules (RDR) konwledge acquisition and representation technique which does not attempt to define up front the possible context/s. Instead cases and the exception structure provide the context and rules provide the index by which to retrieve the case/s. KA is incremental. The domain expert locally patches rules as new cases are seen. Thus, RDR is a hybrid case)based and rule-based approach. Recently we have incorporated ideas from Formal Concept Analysis (FCA) which strengthens our emphasis on the role of cases and context. The RDR performance system is translated into a formal context and used to uncover an explanation system in the form of an abstraction hierarchy. This paper describes how the user is able to capture, validate, apply, manipulate and explore contextualised knowledge through the combined use of rules and cases. ",
}

@inproceedings{RIE91,
author = "D. Rieu, G.T. Nguyen, A. Culet, J. Escamilla and C. Djeraba",
title = "Représentations multiples d'objets évolutifs",
booktitle = "8e Congrès AFCET-RFIA, Lyon, France",
year = "1991",
volume = "1",
pages = "209-219",
month = "novembre",
}

@inproceedings{ROD98,
author = "Rodden T., Chervest K., Davies N. and Dix A.",
title = "Exploiting Context in HCI Design for Mobile Systems",
booktitle = "Johnson C. (1998) Proceedings of the First Workshop on Human Computer Interaction with Mobile Devices. GIST Technical Report G98-1.",
year = "1998",
comments = "
• This paper considers a second critical issue in the design and development of cooperative mobile systems, the context sensitive nature of mobile devices. the importance of this is clear in the recent research in ubiquitous computing, wearable computers and augmented reality. o Context can help us tailor standard applications for mobile devices, for example when a sales rep visits a company, the spreadsheet can have a default files menu which includes the recent ordering history for the company. Such tailoring is not just an added extra, limited screen displays mean that highly adaptive, contextual interfaces become necessary for acceptable interaction. ",
}

@techreport{ROL99,
title = "Contextual awareness: Survey and proposed research agenda",
author = "Rolfsen R.K., Jorgensen H.D. and Carlsen S.",
institution = "SINTEF Telecom and Informatics",
year = "1999",
comments = "
• Abstract: Central aspects in technological collaboration environments are sharing, organising and coordinating information and activities. Awareness mechanisms generally provide information about what other people are currently doing or have done in the past. This focus on people is common in synchronous groupware. Our research agenda for asynchronous environments focuses more on tasks and artefacts. We target asynchro-nous systems because most collaborative work is

distributed in time as well as space. Primary objectives of awareness services are to support coordination and sustain inter-subjective comprehension in the collaboration over a period of time. Awareness mecha-nisms can be analysed as a form of communication mechanisms. We discuss common classification schemes for awareness mechanisms from this starting point, proposing a taxonomy with two main dimensions: degree of personalisability and contextuality of awareness information. We align our work with coordination theory, to gain better under-standing of what contextual awareness information is needed to support coordination. We finally indicate how awareness services integrated with adaptive workflow can support coordination through mutual adjustment in a setting where the awareness service also supports the actors in sharing responsibility for the enactment of highly dynamic emergent workflows",
}

@inproceedings{SAL97,
author = "Sala M.",
title = "Importance of context to improve knowledge discovery",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: In the framework of scientific discovery, the scientist has beliefs which define the model of his scientific field, and he works according to the model-experiment-revise cycle. At this stage, he uses experimental data coming from experiments from his laboratory, experiments from his colleagues and results from computing of visualization tools. He does not necessarily know the context of the previous experimentation or the context wihtin which the tools have been used. In this respect, we have built SIGALE (Sequence-IG Alignment Learning Environment), a system dedicated to the classification of ummunoglobulin nucleic sequences. In this paer, we propose an environment that assists a scientist working in an experimental field to take decisions to revise his knowledge by giving him contextual explanations. These explanations come from data banks or computing tools.",
}

@inproceedings{SAL99,
author = "Salber D., Dey A.K. and Abowd G.D.",
title = "The context toolkit: Aiding the development of context-enabled applications",
booktitle = "Proc. of CHI'99, Pittsburgh, ACM Press",
year = "1999",
month = "May",
comments = "
• ABSTRACT
Context-enabled applications are just emerging and promise richer interaction by taking environmental context into account. However, they are difficult to build due to theirdistributed nature and the use of unconventional sensors. The concepts of toolkits and widget libraries in graphical user interfaces has been tremendously successful, allowingprogrammers to leverage off existing building blocks to build interactive systems more easily. We introduce the concept of context widgets that mediate between the environmentand the application in the same way graphical widgets mediate between the user and the application. We illustrate the concept of context widgets with the beginnings of a widgetlibrary we have developed for sensing presence, identity and activity of people and things. We assess the success of our approach with two example context-enabled applicationswe have built and an existing application to which we have added context-sensing capabilities.",
date = "10/05/01"

}

@inproceedings{SAN91,
	author = "J. Sandberg and B. Wielinga",
	title = "How situated is cognition?",
	booktitle = "Proc. of the Twelfth IJCAI'91",
	year = "1991",
	volume = "1",
	pages = "341-346",
	address = "Sydney, Australia",
	month = "August 24-30",
}

@inproceedings{SCH95,
	author = "Schmidt C.T.",
	title = "Information processing, context creation, setting minds in public arenas: investigative techniques for client/automaton dialogue design",
	booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
	year = "1995",
	pages = "121-131",
	month = "August",
	comments = "
• Software implementation often presupposes the desire to humanise the device in question. Non-initiated users are exponentially gaining access to interface, attribute intelligence to entities which do not possess such talents. ... An initial first-person ethnographical stance is adopted to illustrate aspects common to cognition situated in front of automatic dispensers. Studying interface not as some sort of communicative novelty but as a barrier to communication sheds light upon two opposing poles in the design community. Whereas more instructions displayed in an explicit manner by the machine often entails that less know-how need be contained in user memory, the relevance of a device's functionality to its location is a factor which may be adjusted to better exploit user pragmatics. But just how much of the information required to operate the machine should be built into context?... Client/service dialogue is taken as an example in developing a third-person experimental approach, genuinely enquiring in nature, for evaluating user' performance when confronted with interface prototypes. Much of the literature in AI addresses the how-to-do-it issues of advanced, inside-the-machine intelligence; the present article enquires into the where and in what measure it is gainful to employ machine intelligence in order to complement that of Man. ",
}

@inproceedings{SCH98,
	author = "Schmidt A., Beigl M. and Gellersen H.-W.",
	title = "There is more to context than location",
	booktitle = "Proceedings of the International Workshop on Interactive Applications of Mobile Computing (IMC98), Rostock, Germany",
	year = "1998",
	comments = "
• Abstract: Context is a key issue in interaction between human and computer, describing the surrounding fact that add meaning. In mobile computing research published the parameter location in most often used to approximate context and to implepement context-aware applications. We propose that ultra-mobile computing, characterized by devices that are are operational and operated

while on the move (eg PDAs, mobile phones, wearable computers), can significantly benefit for a wider notion of context. To structure the filed we introduce a working model for context, discuss mechanism to acquire context beyond location, and application of context-awareness in ultra-mobile computing. We investigate the utility of sensors for context-awareness and present two prototypical implementations-- alight sensitive display and an orientation aware PDA interface. The concept is then extended to a model an experiment is described and the feasibility of the approach is demonstrated. Further we explore fusion of sensors for acquisition of information on more sophisticated contexts. ",
}

@inproceedings{SCH99,
author = "Schmidt A., Aidoo K.A., Takaluoma A., Tuomela U., Van Laerhoven K. and Van de Velde W.",
title = "Advance d nteraction in context",
booktitle = "Proc. of the First International Sympoosium on Handheld and Ubiquitous Computing (HUC'99), September, Springer verlag, ",
year = "1999",
pages = "89-101",
comments = "
• Abstract: Mobiel information appliances are increasingly used in numerous different situations and locations, setting new requirements to their interaction methods. When the user's situation, palce or activity changes, the functionality of the device should adapt to these changes. In this work we propose a layered real-time architecture for this kind of context-aware adaptation based on redundant collections of low-level sensors. Two kinds of sensors ar distinguished: physical and logical sensors, which give cues from environment parameters and host information. A prototype board that consists of eight sensors was built for experimentation. The contexts are derived from cuers using real-time recognition software, which was constructed after experiments with Kohonen's sSelf-Organizing Maps and its variants. A pezrsonal digital assistant (PDA) and a mobile phone were used with the prototype to demonstrate situational awareness. On the pDA font size and backlight were changed depending on the demonstrated contexts while in mobile phone the active user profile was changed. The experiments have shown that it is feasible to recognize contexts using sensors and that context information can be used to create new interaction metaphors. ",
}

@misc{SEL96,
title = "Who controls the context? Search engines & the fate of carefully constructued WEB sites.",
author = "Seltzer R, B&R Samizdat Express,",
howpublished = "www.samizdat.com/context.html",
year = "1996",
}

@inproceedings{SER97,
author = "Serafini L. and Ghidini C.",
title = "Context-based semantics for federated databases",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "

• Abstract: In this paper, we describe an application of contexts to distributed database modeling. In many applications, which use a large amount of information, knowledge is partitioned and represented in a set of databases (DB) integrated in a federated database (FDB). A FDB is a collection of distributed, partial, redundant and partially autonomous DBs. Distribution, redundancy, partiality, and autonomy generate many problems such as semantic heterogeneity, update propagation, inter-schema dependencies, and query distribution. A formal treatment of these problems is necessary to define FDB management systems with correct behavior. Several approaches have been proposed in the past. However, they all fail to represent all these issues in a uniform way. This failure, from our perspective, is due to the fact that these approaches do not explicitly treat distribution, redundancy, partiality and autonomy. In this paper we develop a context-based semantics, called local models semantics, for FDB. Local model semantics associates to each DB of the federation a context, formalized as a set of models for the single DB. In this paper, we show how a context-based semantics allows for an explicit representation of distribution, redundancy, partiality and autonomy. We show how semantics of contexts is adequate for the formalization of the logical schema of a federated database by providing the local model semantics for a motivating example.",
}

@misc{SHA01,
	title = "Interaction Issues in Context-Aware Intelligent Environments",
	author = "Shafer S.A.N., Brumitt B., Cadiz J.J.",
	howpublished = "on the web",
	comments = "
Abstract: Context-Aware Intelligent Environments are computing systems embedded within physical spaces. They are equipped with input and output computing devices for users and sensors to provide contextual information to the system. These environments provide new challenges to interface designers due to a number of differences from typical desktop-computing environments, including the lack of a single focal point for the user, a dynamic set of interaction devices, the sensor-rich nature of the environment, the potential of multiple simultaneous users, and the opportunity for diverse interaction modalities. This essay describes these challenges and focuses on issues involving multiple interaction modalities and automatic system behaviors.o Ubiquitous computing has been defined as “invisible, everywhere computing that does not live on a personal device of any sort, but is in the woodwork everywhere” (Weiser, 1996). o Situational information relevant to the interaction between a user and an application is called “context.” (Dey, Salber, and Abowd, 2001 [this special issue]). o A context-aware intelligent environment (or CAIE) is a space in which a ubiquitous computing system has contextual awareness of its users and the ability to maintain consistent, coherent interaction across a number of heterogeneous smart devices.o Context-awareness implies two attributes of a system: the ability to obtain context, and the ability to utilize contextual information.o Specifically, we recognize four primary methods of utilizing context information:- Resolving references- Tailoring lists of options- Triggering automatic behaviors- Tagging information for later retrieval",
}
}

@techreport{SHA95,
	title = "On formalising and reasoning with contexts",
	author = "Sharma N.",
	institution = "Dpt od CS, Univ. of Queensland, Brisbane, Australia",
	year = "1995",
	number = "352",

month = "September",
address = "Brisbane, Queensland 4072, AU",
comments = "
• Abstract: Formalising and reasoning with contexts in a knowledge representation language allows a designer to develop several representations for some domain from different perspectives or levels of detail and to reason between them. Contexts also provide a basis for modularising theories and scoping reasoning. This paper presents a list of desirable properties for contexts in a formal language. Some key approaches to representing context are identified and candidates for defining the semantics for context-based knowledge representations are examined. ",
}

@inproceedings{SHA95,
author = "Shahar Y. & Purcell G.",
title = "The context-sensitive pattern-matching task",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "133-143",
month = "1995",
comments = "• In this paper, we compare the methods for solving two very different tasks that employ explicit models of context: the abstraction of time-oriented data and retrieval of relevant medical text documents. We define formally and compare the task-specific ontologies for each problem-solving method. The mapping between these two problem-solving frameworks provide a basis for defining a more abstract task--context-sensitive pattern matching. We discuss the implications for reuse of the knowledge represented in the ontologies and inference structures, and we suggest similar tasks that might employ the generalized context-sensitive pattern-matching task.
}

@inproceedings{SOW92,
author = "J.F. Sowa",
title = "Representing and reasoning about contexts",
booktitle = "AAAI'92 Workshop on Propositional Knowledge Representation, Stanford, CA",
year = "1992",
pages = "133-142",
month = "March",
}

@inproceedings{SRI91,
author = "A. Srinivasan, P. Compton, R. Malor, G. Edwards and L. Lazarus",
title = "Knowledge acquisition in context for a complex domain",
booktitle = "Pre-print of Proc. of Fifth EKAW91",
year = "1991",
address = "Crieff Hydro, Scotland",
month = "May 20-24",
}

@inproceedings{STA97,
author = "Staff C.",

title = "HyperContext: Using Context in Adaptive Hypertext",
booktitle = "Proc. of CONTEXT-97
year = "1997",
comments = "
• Abstract: HyperContext is a new model for adaptive hypertext. HyperContext achieves adaptation of the information and hyper-links through explicit context. Objects of information in thehypertext obtain their context from their parent objects and in-links. When objects of information are accessed, they are interpreted according to the appropriate context of the parentobject and link pair, prior to being presented to the user. All objects of information have a profile, a set of labels which together comprise a context-free description of the object. Anobject interpretation is a subset of the labels in the profile which comprise a description of the object relevant to the context in which it exists. Labels become links when they areassociated with objects of information in some context. The same label can appear in different interpretations of an object of information, and in each interpretation the same label can be linked to different objects. HyperContext is a three-layer model. The Object Layer is an unstructured collection of object representations. The Structure Layer is a hypertextual representation of interpretations of the objects in the Object Layer. Users interact with HyperContext through the Presentation Layer. Three Information Retrieval methods, which support context-free and context-sensitive search, are also presented. ",
}

@book{STA99,
title = "Context and Content",
publisher = "Oxford Cognitive Science Series",
year = "1999",
author = "Stalnaker R.C.",
}

@inproceedings{STR93,
author = "Strat T.M.",
title = "Employing contextual information in computer vision",
booktitle = "ARPA Image Understanding Workshop, Washington DC, April",
year = "1993",
pages = "217-229",
month = "April",
comments = "
• Abstract: Contextual information is often essential for visual recognition, but the design of image-understanding systems that effectively use context has remained elusive. We describe some of our experiences in attempting to employ contextual information in computer vision systems. By making explicit the built-in assumptions inherent in all computer vision algorithms, an architecture can be designed in which context can influence the recognition process. This paper describes such an architecture for context-based vision (CBV). ",
}

@inproceedings{SUR95,
author = "Surav M. & Akman V.",
title = "Modeling context with situations",
booktitle = "Proc. of the IJCAI-95 Workshop on Modeling Contex in Knowledge Representation and Reasoning",
year = "1995",
pages = "145-156",

month = "August",
comments = "
• In this paper, we will present a preliminary model based on Situation Theory) and give examples to show the use of context in various fields, and the advantages gained by the acceptance of our proposal.
}

@inproceedings{SUT93
author = "Suthers Dan",
title = "Influences of the epistemic context on explanation",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August 29",
}

@inproceedings{TAN95,
author = "Tang M.X.",
title = "Exploring design solution using a context management system",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning",
year = "1995",
pages = "157-166",
month = "August",
comments = "
• Design problems are ill-structured and design decision process is incremental and non-monotonic. In design applications, multiple design solutions or alternative design solutions arise in the presence of under-constrained design variables and parameters. The exploration of these multiple design solutions are context dependent, i.e., design solutions are derived from an environment where deisgn requirements, design methods and design evaluation criteria are subject to frequent change. Exploring and maintaining multiple design solutions is an essential task for a computer-based design support system. ATMB is a Lisp-based software architecture which identifies the necessary components (or sub-systems) of a computer system for intelligent design support, and creates a computational environment within which these components are integrated to provide general design support functions. These functions include the management of a design knowledge base, control of design knowledge sources, the creation and mainttenance of multiple design contexts, and graphical explanation of design results. ATMB is based on the integration of a blackboard control system and an ATMS to support design context exploration. A central component in the ATMB is a design context management system which provides support to exploring, recording and explaining multiple design solutions based on their contexts.In this paper, the issue of modelling context in intelligent design support is discussed in terms of modelling context in design and building software architecture for supporting reasoning with multiple contexts. An important sub-system of the ATMB, ie, its context management system is then described.•,
}

@inproceedings{TAT93
author = "Tattersall C.",
title = "Helping users in their contexts",
booktitle = "IJCAI-93 Workshop on “Using Knowledge in its Context”, Cmabéry, France",
year = "1993",

publisher = "Research Report LAFORIA",
month = "August 29",
}

@inproceedings{TER97,
author = "Terziyan V.Y. and Puuronen S.",
title = "Multilevel context representation using semantic metanetwork",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February",
year = "1997",
note = "knowledge representation, semantic network, context, metacontext, metanetwork",
comments = "
• Abstract: In this paper, a multilevel semantic network is proposed to be used to represent knowledge together with several levels of context. Zero level of representation in semantic network that compiles knowledge about basic domain objects and relations in various contexts. First level uses semantic network to represent knowledge about contexts and their relationships. Relationships among contexts are considered in some other contexts, metacontexts. The second level of representation defines relationships among metacontexts, and the same for each next level. The last level is assumed to include knowledge which is considered to be “truth” in any possible context. Thus semantic metanetwork is the set of semantic networks that put on each other so that relations of previous level are nodes of next level. Goals of such representation include possibilities: to derive knowledge about any relation in any level which is interpreted in the highest level of context; to restore the acquired knowledge about any relation if it is known the context in which this relation has been interpreted and the result of interpretation; to derive knowledge about any unknown context by analyzing its effect to the acquired knowledge. Equations of metasemantic algebra are discussed that can be used as one possible tool to reason with multilevel context.",
}

@article{THE97,
author = "Theodorakis M. & Constanpoulos P.",
title = "Context-based naming in information bases",
journal = "International Journal of Cooperative Information Systems",
year = "1997",
volume = "6",
number = "3&4",
pages = "269-292",
comments = "
• Abstract: In information bases following semantic and object-oriented data models logical names are used for the external indentification of objects. Yet the naming schemes employed are not “natural” enough and several problems often arise: logical names can be ambiguous, excessively long, unrelated to or unable to follow the changes of the environment of the named object. In natural language, similar problems are resolved by the context within which words are used. An approach to introducing a notion of context in an information base is to provide structuring mechanisms for decomposing it into possibly overlapping parts. This paper focuses on developing a context mechanism for an information base and, in particular, exploiting this mechanism for naming purposes. Rules are developed for generating meaningful names for objects by taking their context into account. This context-based naming enhances name readibility, resolves name ambiguities, saves a lot of redundant name substrings, and it localizes and thus facilitates consistency checking, query processing and update operations. In modeling, it supports systematic naming of objects, and thus enhances cooperation between the designers and the end-users in the sense that the contents of the information base are more understandable by both of them.",

}

@inproceedings{THEO98,
author = "Theodorakis M., Analyti A., Constantopoulos P., & Spyratos N.",
title = "Context in information bases",
booktitle = "Proceedings of the Third IFCIS International Conference on Cooperative Information Systems",
year = "1998",
comments = "
• Abstract:Although semantic data models provide expressive conceptual modeling mechanisms, they do not support context, i.e. providing controlled partial information on conceptual entities by viewing them from different viewpoints or in different situations. In this paper, we present a model for representing contexts in information bases along with a set of operationsfor manipulating contexts. These operations support creating, updating, combining, and comparing contexts. Our model contributes to the efficient handling of information, especially in distributed, cooperative environments, as it enables (i) representing (possibly overlapping) partitions of an information base; (ii) partial representations of objects, (iii) flexible naming (e.g. relative names, synonyms and homonyms), (iv) focusing attention, and (v) combining and comparing different partial representations. This work advances towards the development of a formal framework intended to clarify several theoretical and practical issues related to the notion of context. The use of context in a cooperative environment is illustrated through a detailed example.",
}

@techreport{Theo98,
title = "A theory of contexts in information bases",
author = "Theodorakis M., Analyti A., Constanto poulos P. & Spyratos N.",
institution = "Institute of Computer Science Foundation for Research and Technology, Hellas, Greece",
year = "1998",
month = "March",
comments = "
• Abstract: Although semantic data models provide expressive conceptual modeling mechanisms, they do not support context, i.e. providing controlled partial information on conceptual entities by viewing them from different viewpoints or in different situations. In this paper, we present a model for representing contexts in information bases along with a set of operations for manipulating contexts. These operations support creating, updating, combining, and comparing contexts. Our model contributes to the efficient handling of information, especially in distributed, cooperative environments, as it enables (i) representing (possibly overlapping) partitions of an information base; (ii) partial representations of objects; (iii) flexible naming (e.g. relative names, synonyms and homonyms), (iv) focusing attention, and (v) combining and comparing different partial representations. This work advances towards the development of a formal framework intented to clarify several theoretical and practical issues related to the notion of context. The use of context in a cooperative environment is illustrated through a detailed example.",
}

@article{TIB86,
author = "Tiberghien G.",
title = "Context and cognition: Introduction",
journal = "Cahier de Psychologie Cognitive",
year = "1986",

volume = "6",
number = "2",
pages = "105-119",
comments = "
• This special issue of CPC is entirely given over to a concept of context which has been given increasingly explicit application in description and explanation in the field of cognitive psychology. In the space of a single decade (1971-1981), there was a sixfold increase in the number of publications making express reference to the concept of context, most of them from the field of cognitive psychology.
",
}

@inproceedings{TUR01,
author = "Turner R., Turner E., Wagner T.A., Wheeler T.J. & Ogle N.E.",
title = "Using explicit, apriori contextual knowledge in an intelligent web search agent",
booktitle = "3rd Int. Conf. on Modeling and Using Context, LNCS, Springer Verlag.",
year = "2001",
comments = "
• Abstract: The development of intelligent web search agents will become increasingly important as the amount of information on the web continues to grow . Intelligently searching the Web depends on the searcher understanding not only the context of the query, including the personfor whom the search is being done, but also the context of the results, including the information sources and the retrieved information itself. Consequently, intelligent Web search agents will need to have mechanisms for representing and using contextual knowledge. In this paer, we discuss the kinds of contexts and contextual knowledge such an agent will encounter. We use as an example a Web search agent we are beginning to develop, FERRET, that will search for scholarly information about music. We then propose some ways in which explicitly represented, a priori contextual knowledge can be used by the search agent, and we discuss directions for future research.",
}

@inproceedings{TUR01,
author = "Turner E.H. and Turner R.M.",
title = "Representing the graphics context to support understanding plural anaphora in multi-modal interfaces. ",
booktitle = "Proc. of CONTEXT-01",
year = "2001",
note = "context, ",
comments = "
• Abstract: Previous communication provides important context for new communication in an interaction. In natural language interfaces, the discourse context represents and maintains information about what has been said before. When other modes of communication are also used, they must also contribute to the context. In this paper, we describe how information about the graphics can be represented and maintained in the graphics context. We are particularly interested in how the graphics context can be used to support finding referents for plural anaphora. ",
}

@inproceedings{TUR93,
author = "Turney P.D.",
title = "Exploiting context when learning to classify",
booktitle = "IEA/AIE-93, ",

year = "1993",
}

@inproceedings{TUR93,
author = "Turner R.M.",
title = "Context-sensitive reasoning for autonomous agents and cooperative distributed problem solving",
booktitle = "IJCAI-93 Workshop on “Using Knowledge In Its Context”, Chambéry, France",
year = "1993",
month = "August 29",
}

@inproceedings{TUR95,
author = "Turner Roy M.",
title = "Using contextual knowledge in autonomous real-world systems",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "189-196",
month = "August",
}

@inproceedings{TUR96,
author = "Turney P.",
title = "The identification of context-sensitive features: A formal definition of context for concept learning",
booktitle = "Proc. of the ICML'96 Workshop on Learning in Context-Sensitive Domains, Bari, Italy",
year = "1996",
pages = "53-59",
month = "July",
comments = "
• Abstract: large body of research in machine learning is concerned with supervised learning from examples. The examples are typically represented as vectors in a multi-dimensional feature space (also known as attribute-value descriptions). A teacher partitions a set of training examples into a finite numbeof classes. The task of the learnng algorithm is to induce a concept from the training examples. In this paper, we formally distinguish three types of features: primary, contextual and irrelevant. We also formally define what it means for one feature to be context-sensitive to another feature. Context-sensitive features complicate the task of the learner and potentially impair the learner's performance. Our formale definitions make it possible for a learner to automatically identifiy context-sensitive features. After context-sensitive features have been identified, there are several strategies that the learner can employ for managing the features; however, a discussion of these strategies is outside of the scope of this paper. The formal definitions presnted here correct a flaw in previously proposed definitions. We discuss the relationship between our work and a formal definition of relevance",
}

@inproceedings{TUR96,
author = "Turney P.",

title = "The management of context-sensitive features: A review of strategies",
booktitle = "Proc.of the ICML-96 Workshop on Learning in Context-Sensitive Domains",
year = "1996",
comments = "
• Abstract: In this paper, we review five heuristic strategies for handling context-sensitive features in supervised machine learning from examples. We discuss two methods for recovering two lost (implicit) contextual information. We mention some evidnce that hybrid strategies can have a synergetic effect. We then show how the work of several machine learning researchers fit into this framework. While we do not claim that these strategies exhaust the possibilities, it appears that the framework includes all of the techniques that can be found in the published literature on context-sensitive learning. ",
}

@inproceedings{TUR97,
author = "Turner R.M.",
title = "Determining the contet-dependent meaning of fuzzy subsets",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Much progress has been made in the last few years in both the areas of context-sensitive reasoning and fuzzy reasoning. However, little work has addressed the intersection of the two, yet fuzzy knowledge, like other knowledge, is context-dependent. The meaning of a fuzzy “linguistic” value such as “deep”–that is, the shape of its membership function-depends very much on what the current context is. In this paper, we describe a mechanism for determineing the meaning of fuzzy values from the current context. In this approach, a reasoner uses information about the meaning of fuzzy values contained in contextual schemas (c-schemas), which are knowledge structures representing knids of problem-solving situations. The reasoner retrieves appropriate c-schemas from its memory and merges their information to generate the dynamic context knowledge structure. Information from this, when combined with other contextual information, allows the reasoner to determine the context-dependent meaning of fuzzy values of importance to it. The work is part of the Orca project. Orca is a schema-based, context-sensitive reasoner whose domain is intelligent autonomous underwater vehicle control..",
}

@article{TUR98,
author = "Turner R.M.",
title = "Context-mediated behavior for intelligent agents",
journal = "Special Issue “Modeling and Using Context” of the International Journal of Human-Computer Studies",
year = "1998",
comments = "
• Abstract: Humans and other animals are exuisitely attuned to their context. Context affects almost all aspect of behavior, and it does so for the most part automatically, without conscious reasoning effort. Ths would be a very useful property for an artificial agent to have: upon recognizing its contxt, the agent's behavior would automatically adjust to fit it. This paper describes context-mediated behavor (CMB), an approach to context-sensitive behavior we have developed over the past few years for intelligent autonomous agents. In CMB, contexts are represented explicitly as contextual schemas (c-schemas). An agent recognizes its context by finding the c-schemas that match it, then it merges these to form a coherent representation of the current context. This includes not only a description of the context, but also information about how to behave in it. From that

point until the next context chang, knowledge for context-sensitive behavior is available with no additional effort. This is used to influence perception, make preditions about the world, handle unanticipated events, determine the context-dependent meaning of concepts, focus attention, and select actions. CMB is being imlemente in the Orca program, an intelligent controller for autonomous underwater vehicles. ",
}

@inproceedings{TUR98
author = "Turner R.M.",
title = "Context-mediated behavior for AI applications",
booktitle = "11th International Conference on IEA-AIE-98, Benicassim, Spain, June",
year = "1998",
comments = "
• Abstract: AI applications are often faulted for their brittleness and slowness. In this paper, we argue that both of these problems can be ameliorated if the AI program is context-sensitive, making use of knowledge about the context it is in to guide its perception, understanding, and action. We describe an approach to this problem, context-mediated behavior (CMB). CMB uses contextual schemas (c-schemas) to explicitly represent contexts. Features of the context are used to find the appropriate c-schemas, whose knowledge then guides all aspects of behavior. ",
}

@inproceedings{TUR99a,
author = "Turner R.M.",
title = "Context-mediated behavior: An approach to explicitly representing contexts and contextual knowledge for AI applications",
booktitle = "Proceedings of the AAAI-99 Workshop on Modeling and Using contexts in AI Applications, Orlando, USA",
year = "1999",
month = "July",
comments = "
• Abstract: Explicit representation of context and contextual knowledge is critical to AI applications. In this paper, we discuss conclusions drawn from several years of work on representing and using contextual knowledge. We describe our approach to context-sensitive reasoning, called context-mediated behavior (CMB), and discuss our experience related to reasoning in context in AI applications and our ongoing and future work in the area. ",
}

@inproceedings{TUR99,
author = "Turner E.H., Turner R.M. Phelps J., Grunden C., Neale M. & Mailman J.",
title = "Aspects of context for understanding multi-modal communication",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Context is important for AI applications that interact with users. This is true both for natural language interfaces as well as for multi-modal interfaces. In this paper, we consider aspects of context that are important in a multi-modal interface combining natural language and graphical input to describe locations. The descriptions will then be converted into queries to a geographical database system. We have identified several kinds of contexts in our preliinary study. We describe them and consider how each affects the system's interpretation of user input. Plans for future work on the project are also presented, both for implementation and for empirical studies.",

}

@inproceedings{TUR99b,
author = "Turner EH, Turner RM, Grunden C., Mailman J., Neale M., & Phelps J.",
title = "The need for context in multi-modal interfaces",
booktitle = "Proceedings of the AAAI-99 Workshop on Modeling and Using Context in AI Applications",
year = "1999",
comments = "
• Abstract: Context is important for AI applications that interact with users. This is true both for natural language interfaces as well as for multi-modal interfaces. In this paper, we consider the kinds of contexts that are important in a multi-modal interface combining natural language and graphical input to describe locations. The descriptions will then be converted into queries to a geographical database system. We have identified several kinds of contexts in our preliminary study. We describe them and consider how each affects the system's interpretation of user input. Plans for future work on the project are also presented, both for implementation and for empirical studies. ",
}

@inproceedings{TUR99c,
author = "Turner R.M.",
title = "A model of explicit context representation and use for intelligent agents",
booktitle = "Proceedings of CONTEXT-99",
year = "1999",
comments = "
• Abstract:Explicit representation of context and contextual knowledge is critical to intelligent agents. In this paper, we discuss our view on representing and using contextual knowledge. We describe our approach to context-sensitive reasoning, called context-mediated behavior, and discuss our experience related to reasoning in context in AI progrzams and our on going and future work in this area.",
}

@article{TVE93,
author = "Tvesky A. and Simonson I.",
title = "Context-dependent preferences",
journal = "Management Scientce",
year = "1993",
volume = "39",
number = "10",
pages = "1179-1189",
month = "October",
comments = "
• Abstract:The standard theory of choice--based on value maximization--associates wth each option a real value such that, given an offered set, the decision maker chooses the option with the highest value. Despite its simplicity and intuitive appeal, there is a growing body of data that is inconsistent with this theory. In particular, the relative attractiveness of x compared to y often depends on the presence or absence of a third option z, and the “market share” of n option can actually be increased by enlarging the offered set. We review recent empirical findings that are inconsistent with value maximization, and present a context-dependent model that expresses the value of each option as an additive combination of two components: a contingent wrighting process that captures

the effect of the background context, and a binary comparison process that describes the effect of the ocal context. The model accounts for observed violations of the standard theory and provides a framework for analyzing context-dependent preferences. ",
}

@inproceedings{VAN95,
author = "Vanwelkenhuysen J. & Mizoguchi R.",
title = "Adaptation of reusable knowledge for workplace integration",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "167-177",
month = "August",
}

@inproceedings{VAN97,
author = "van Deemter K. and Odijk J.",
title = "Context modeling for language and speech generation",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: This paper discusses the various ways in which the generation of an utterance requires modeling of the linguistic context of the utterance. To illustrate the role of context modeling in monologue generation, the so-called Dial-Your-Disc (DYD) system is presented, which supports browsing through a large database of musical information and generates a spoken monologue once a musical composition has been selected. The paper devotes special attention to the differences between the 'practical' models of context used in language generation system, on the one hand, and a number of 'theoretical' models of context that have been proposed in theoretical linguistics and (declarative) artificial intelligence, in the other. ",
}

@phdthesis{Van99,
author = "Van Laerhoven K.",
title = "On-line adaptive context awareness starting from low-level sensors",
school = "Free University of Brussels",
address = "http://foobar.starlab.net/~kristof/thesis99/thesis99.html",
month = "May 28,",
type = "Ph.D. Thesis",
comments = "
• Abstract: Along with the sales-figures and the popularity of wearable and portable devices, the importance of their usability and functionality is increasing as well. Most of these devices need to change their behavior according to the context they are currently in. Inadequate knowledge about the context results in a lack of user-friendliness. Mobile phones for example don’t know when and how to disturb their users when a call arrives. The solution would be to add various sensors and thus give the host device more knowledge about its context. However, the way humans describe contexts is not by giving the complete inventory of their sensations. Often, either unusual elements (”It’s cold.”) or more abstract properties (”I’m home.”, “I’m in a dark room.”) are noticed and expressed. If the device needs to function in a transparent way for its user or if the user needs to train the device, it needs to recognize contexts in a similar way. This thesis will focus on the transformation of a multitude of sensory information to a short context description, supplied by the

user, in an adaptive and on-line way. The approach is to use an adaptive hybrid system consisting of a connectionist layer, followed by a symbolic layer. Sensor outputs will be periodically sent to a self-organizing artificial neural network architecture, which is responsible for the initial processing and clustering. A symbolic layer, implemented as a Markov chain, provides a predictive component that enables interaction with the user, ensures an enhanced recognition.,
}

@inproceedings{VdT97,
author = "Van der Torre L.W.N. and Tan Y.-H.",
title = "Contextual deontic logic",
booktitle = "Proc. of CONTEXT-97, Rio de Janeiro, Brasil, January, ",
year = "1997",
comments = "
• Abstract: In this article we propose contextual logic. Contextual obligations are written as O(a-b\c), and are to be read as 'a should be the case if b is the case, unless c is the case'. The unless clause is analogous to the justfication in Reiter's default rules. We show how contextual oblgations can be used to solve certain aspects of contrary-to-duty paradox of dyadic deontic logic.",
}

@article{vSA92,
author = "van Santen JPH",
title = "Contextual effects on vowel duration",
journal = "Speech Communication",
year = "1992",
volume = "11",
pages = "513-546",
}

@inproceedings{VTD00,
author = "Do V.-T., Halatchev M. & Neumann D.",
title = "A context based approach to support virtual enterprises",
booktitle = "Proceedings of the 33rd Hawaii International Conference on System Sciences. IEEE",
year = "2000",
comments = "
• Abstract: This paper introduces a novel approach to support processes within generic platforms for virtual enterprises (VEs): the contextbased approach. The main advantage of the approcah lies in its generic capacity, which allows the users to define processes flexibly and to support their own VE. Constructs such as contexts and sub-contexts are used to define processes and can be stored in a context repository. We focus on demonstrating how our approach can be used to steer the cooperation between market players forming and running a VE. In this paper, we also discuss the phenomenon of extra-context logic and propose an application case using this information to support user interactions within virtual enterprises. The extra-context of an application is in particular interesting, when the environment of the application is agile. Extra-context information can be used by a wizard to help integrating supported processes within a PVE with an application beyond it.",
}

@misc{WAL95,

title = "Plug-and play: Construction of task-specific expert-system shells using sharable context ontologies",
author = "Walther E., Eriksson H., and Musen M.A.",
howpublished = "www.stanford.edu, Computer Science Group, KSL",
year = "1995",
comments = "
• Abstract: Previous approaches to the reuse of problem-solving methods have relied on the existence of a global data model to serve as the mediator among individual methods. This hard-coded approach limits the reusability of methods and introduces implicit assumtions into the system architecture that make it difficult to combine reasoning methods in new ways. To overcome these limitations, the PROTEGE-II system associates each method with an ontology that defines the context of that method. All external interaction between a method and the world can be viewed as the mapping of knowledge between the method's context ontology and the ontologies of the methods with which it is interacting.In this paper, we describe a context-definition language call MODEL, and its role in the PROTEGE-II system, a metatool for constructing task-specific expert-system shells. We outline the requirements that gave rise to such a language and argue that sharable ontologies are a fundamental preconditions for reusing knowedge, serving as a means for integrating problem-solving, domain-representation, and knowledge-acquisition modules. We propose an approach based on the KIF intology-sharing language for allowing developers to share knowledge-acquisition editors and problem-solving methods. ",
}

@article{WAT98,
author = "Watson I. & Perera S.",
title = "A hierarchical case representation using context guided retrieval",
journal = "Knowledge Based Systems Journal (forthcoming)",
year = "1998",
volume = "11",
number = "5-6",
pages = "285-292",
comments = "
• Abstract: This paper presents a hierarchical case representation using a context guided retrieval method. The performance of this method is compared to that of a simpler flat file representation using standard nearest neighbour retrieval. The estimation of construction costs of light industrial buildings is used as the test domain. Each case in the system has approximately 400 features. These are structured into a hierarchical case representation that holds more general contextual features at its top and specific building elements at its leaves. Problems are decomposed into sub-problems and solutions recomposed into a final solution. Comparative results show that the context guided retrieval method using the hierarchical case representation is significantly more accurate than the simpler flat file representation using standard nearest neighbour retrieval. ",
}

@inproceedings{WEI95,
author = "Weigel R",
title = "Context in discrete constraint satisfaction problems",
booktitle = "Proc. of the IJCAI-95 Workshop on Modelling Context in Knowledge Representation and Reasoning, Montreal, Canada",
year = "1995",
pages = "197-198",
month = "August",

}

@article{WHI96,
	author = "Whitaker R. ",
	title = "Managing context in enterprise knowledge processes",
	journal = "European Management Journal",
	year = "1996",
	volume = "14",
	number = "4",
	pages = "399-406",
	comments = "
• Because competitive advantage accrues to those enterprises that effectively manage their “knowledge”, researchers are seeking aviable organizational epistemology. This paper addresses one epistemological challenge – the slippery but critical notion of “context” – by presenting and substantiating four claims. First, as “that which imparts meaning”, context is inhenrently important to epistemological enquiry generally and enterprise knowledge processes specifically. Second, context is a key issue in three areas of current enterprise re-engineering and “organizational learning” research: (a) systemic theories, (b) knowledge acquisition tools, and (c) conversation management. thirs, a systemic perspective requires redefining context as a process (contexture) embedded in a system's intrinsic operational 'situaednedd”. Finally, this shift of perspective can be practically implemented though innovative enterprise knowledge acquisition procedures. One such innovative procedure (nichepicking) is illustrated by a case study. ",
}

@misc{WID96,
	title = "Recognition and exploitation of contextual clues via incremental meta-learning (Extended version)",
	author = "Widmer G.",
	howpublished = "ask to “gerhard@ai.univie.ac.at” (récupéré du Web",
	year = "1996",
	comments = "
• Abstract: Daily experience shows that in the real world, the meaning of many concepts heavily depends on some implicit context, and changes in that context can cause more or less radical changes in the cncepts. Incremental concept learning in such domains requires the ability to recognize and adapt to such changes.This paper presents a solution for incremental learning tasks where the domain provides explicit clues as to the current context (e.g., attributes with characteristics values). We present a general two-level learning model, and its realization in a system named METAL(B), that can learn to detect certain types of contextual clues, and can react accordingly when a context change is suspected. The model consists of a base level learner that perfomrs the regular on-line learning and classification task, and a meta-learner that identifies potential contextual clues. Context learning and detection occur during regular on-line learning, without separate training phases for context recognition. Experiments with synthetic domains as well as a 'real-world' problem show that METAL(B) is robust in a variety of dimensions and produces substancial improvement over simple object-level learning in situations with changing contexts.The meta-learning framework is very general, and a number of instantiations and extensions of the model are conceivable. Some of these are briefly discussed
}

@book{WIN86,
	title = "L'intelligence Artificielle en question",

publisher = "Presse Universitaire de France",
year = "1989",
author = "T. Winograd and F. Flores",
editor = "Ablex Publishing Company, 1986",
}

@article{WOB99,
author = "Wobcke W.",
title = "The role of context in the analysis and design of agent programs",
journal = "Modeling and Using Context (CONTEXT-99). Lecture Notes in Artificial Intelligence 1688. Springer Verlag",
year = "1999",
pages = "403-416",
comments = "
• Abstract:We discuss the notion of context as applied to verification of agent programs, and in particluar to the verification of agent programs based on the PRS agent architecture. Agent programs are an interesting domain for theories of context for the following reasons: (i) the context of an agent program has both internal (mental state) and external (embedding in the world) aspects, (ii) a logical theory of agent program verification using context-based reasoning must therefore address both syntactic and semantic issues, and (iii) the context of execution of an agent program is dynamic since agents are situated in a dynamically changing environment. We then consider the development of PRS agent programs from the designer's perspective , and present a logical system of context-based reasoning that enables PRS programs tro be proven correct. The methodology involves the program designer constructing contexts for the various procedures used by the agent, so the variety of contexts relevant to the PRS agent is fixed in advance by the programmer and is highly constrained by the PRS agent architecture. The study of context in agent programs thus raises a wide range of general questions that may be considered in the more controlled settings of particular agent architectures and execution environments. ",
}

@unpublished{WOL96,
author = "Wolf J.S.",
title = "A study of the effect of context and text method in evaluating safety symbols",
note = "context
trouvé sur le Web",
year = "1996",
comments = "
• The study measured the effect of context and text method in evaluating safety symbols. The study consdered of a 2x3 factorial test with context and no context as one independent variable and plausible and poor multiple choice distractors and open ended testing methods as another independent variable. Thirty-three symbols were tested across all six conditions. ",
}

@article{WOO75,
author = "Woods W.A.",
title = "Chapter 11 What's in a link: foundations for semantic network",
journal = "In: Representation and Understanding; Studies in Cognitive Science",
year = "1975",
pages = "216-251",
note = "DG Bobrow & AM Collins eds., Academic Press, New York",

}

@inproceedings{YOU01,
author = "Young R.A.",
title = "Explanation as causal",
booktitle = "3rd International Conference on Modeling and Using Context, LNCS, Springer Verlag",
year = "2001",
comments = "
• Abstract: There is a view that all explanation is contextual. An explanation answers questions that are relevant in a context and that are open to solution in that context. In another context, there might be no such questions, or they might not be open to solution. Van Fraassen has used a contextual account of explanation to argue in favour of what he calls “constructive empiricism” and against what he calls “scientific realism”. On his account, both empiricists and realists search for theories that are empirically adequate. That is to say, they will explain the relevant observable phenomena. However, they differ on the unobservable phenomena, for example quantum states. For the empiricist, the most that we can rationally claim for a scientific theory is empirical adequacy. The realist aspires to a justified claim that the theory has a true account of the unobservables as well. One argument in the realist armoury is the following. The best philosophical explanation of how the best scientific explanation does explain the observables requires that it is true about the unobservables. An empiricist response to this is that all explanation is contextual, so there is no globally best scientific explanation. The present paper explores the empiricism line by reference to formal learning theory and a logic of questions. Whilst van Fraassen refers to a logic of questions, his contextual theory of explanation is not highly developed in respect of logic. Nor does he refer to learning theory. The present paper is a step towards a more developed theory, albeit it differs from van Fraassen in some respects.",
}

@inproceedings{YOU99,
author = "Young R.A.",
title = "Context and supercontext",
booktitle = "Modeling and Using Context (CONTEXT-099). Lecture Notes in Artificial Intelligence, N° 1688. Berlin: Springer Verlag. ",
year = "1999",
editor = "Bouquet P., Serafini L. Brezillon P.& Serafini M.",
note = "context, ",
comments = "
• Abstract: Think of a context as expressed in a language which an agent, at some time, is learning to apply by some finite means to some aspect of the world. Think of that aspect as one among indefinitely many others. Think of the language as having a model or set of models whose domain consists of components of that aspect. Thus the language has a setof local models. The context may be defined in terms of that set of local models. Think of a possibility (as opposed to a possible world) as something that is partial. In contratst, many philosophers discuss semantics as if (inprinciple) there is some complete language of fundamental (base) description for the world and its associated set of scientifically possible worolds. The complete language for describing the base might be identified with the language of a final theory of physics. This paper offers a critique of the view that there is even in principle a final theory of physics. The argumnet is based on a proof in algorithmic information theory. The paper sketches a view, based on possibilities and local models semantics, of how to think semantics in a world in which there is not, even in principle, a complete language of base description. It sketches an ontology fro this world. If there is a supercontext, then

it will not itself be a context. This is because it will not be completely describable using a finitely intelligible language. Each aspect of it will be describable in this way, but it itself will be ineffable.",
}

@inproceedings{ZHA97,
author = "Zhai C.",
title = "Exploiting context to identify lexical atoms. A statistical view of linguistic context",
booktitle = "Proceedings of CONTEXT-97, Rio de Janeiro, Brasil, February, ",
year = "1997",
comments = "
• Abstract: Interpretation of natural language is inherently context-sensitive. Most words in natural language are ambiguous and their meaning is heavily dependent on the linguistic context in which they are used. The study of lexical semantics can not be separated from the notion of context. This paper takes a contextual approach to lexical semantics and studies the linguistic context of lexical atoms, or “sticky” phrases such as “hot dog”. Since such lexical atoms may occur frequently in unrestricted natural language text, recognizing them is crucial for understanding naturally-occuring text. The paper proposes several heuristics approaches to exploiting the linguistic context to identify lexical atoms from arbitrary natural language text. ",
}