



For each excerpt, identify the source of the ambiguity: (1) improper syntax (word order), (2) missing comma, (3) unclear pronoun reference, or (4) grouping of conflicting words.

- 1) With the lid off the reactor core was exposed, allowing radioactive isotopes to escape.
- 2) We propose to provide the above engineering services hourly based on the following estimates.
- 3) Compared with the pollution of the average coal-fired plant, the thermal pollution of a nuclear power plant is less than 2 percent more.
- 4) Reductions up to 80% in heat and mass transfer coefficients were measured due to outgassing.
- 5) As airplane designs change the anti-ice systems also have to change.
- 6) Most people are diagnosed with phenylketonuria at birth.
- 7) The use of the thermal storage unit is limited to supplying low-pressure auxiliary steam because of insufficient excess energy from the undersized collector.
- 8) At this time, the Department of Energy is only considering Yucca Mountain as a possible storage site for nuclear waste. Other possible sites are excluded from discussion.
- 9) If the airplane waits too long to take off the de-ice fluid can dissipate.

Fill in the gaps in the introduction to an academic article with the correct term

environments, sensors, perception, been, robots, introduction, world, account, dynamic, autonomously, emphasis, traditional,

Introduction

The metaphor of a (software) agent is nowadays widely used for programs that act _____ in software environments, in computer networks, and mostly known in the internet. Agent Oriented Techniques have _____ developed for programming such agents and for modeling complex software problems with the help of the agent paradigm.

Similar to autonomous agents, autonomous _____ have to act in their _____ by their own means. But the environment of robots is the real _____. This is much more challenging than the virtual reality of computer networks. _____ software technology is based on the trust, that the system will behave exactly as specified. This is not longer true if the physical world is inside the loop. The Cyberphysical systems initiative [8] looks for new developments in software technology which can take related effects into _____.



This paper discusses some possibilities to consider a robot control as a control by an agent with inputs and outputs that are derived from the real world via _____ and actuators. We start with a short _____ to Agent Oriented Techniques. Then we discuss the possibilities to use related techniques for robots. It turns out, that reactive basic skills for robots need much more _____ than related skills of agents. More deliberative tasks like planning can benefit from techniques developed for agents. Since real environments are highly _____, classical planning techniques are not flexible enough, but there exist more sophisticated techniques for agents which are useful for robotics as well. Good algorithms for _____ in the real world are a key problem for robot programming with many (still unsolved) challenges.

LINKING PARAGRAPHS

The following is an excerpt from an essay. Notice how the essay creates links between paragraphs by using repetition and restatement (circled), transitional expressions (boxed) and transitional sentences (annotated).

Adapted from Fowler, Henry Ramsey; Aaron, Jane E., and Janice Okoomian. *The Little, Brown Handbook*. 10th ed. New York: Longman. 2007.

Introduction establishing subject and stating thesis

A hyperactive committee member can contribute to efficiency. A hyperactive salesperson can contribute to profits. When children are hyperactive, though, people—even parents—may wish they had never been born. A collage of those who must cope with hyperactivity in children is a picture of frustration, anger, and loss.

Thesis statement

Transitional topic sentence relating to thesis statement

The first part of the collage is the doctors. In their terminology, the word hyperactivity has been replaced by ADHD, attention-deficit hyperactivity disorder. They apply the term to children who are abnormally or excessively busy. . . .

Transitional topic sentence relating to thesis statement

As the mother of an ADHD child, I can say what the disorder means to the parents who form the second part of the collage. . . .

Transitional sentence

Topic sentence relating to thesis statement

The weight of ADHD, however, does not rest on the doctors and parents. The darkest part of the collage belongs to the children. . . .

Transitional sentence into conclusion, restating thesis statement

The collage is complete, and it is dark and somber. ADHD, as applied to children, is a term with uncertain, unattractive, and bitter associations. The picture does have one bright spot, however, for inside every ADHD child is a lovely, trusting, calm person waiting to be recognized.

Guidelines on computer science writing:

(adapted from Justin Zobel. *Writing for Computer Science: The Art of Effective Communication*. Singapore: Springer, 2000.)

1) Economy

The volume of information has been rapidly increasing in the past few decades. While computer technology has played a significant role in encouraging the information growth, the latter has also had a great impact on the evolution of computer technology in processing data throughout the years. Historically, many different kinds of databases have been developed to handle information, including the early hierarchical and network models, the relational model, as well as the latest object-oriented and deductive databases. However, no matter how much these databases have improved, they still have their deficiencies. Much information is in textual format. This unstructured style of data, in contrast to the old structured record format data, cannot be managed properly by the traditional database models. Furthermore, since so much information is available, storage and indexing are not the only problems. We need to ensure that relevant information can be obtained upon querying the database.

Do not compress texts too much!

Bit-stream interpretation requires external description of stored structures. Stored descriptions are encoded, not external.

Vs.

Interpretation of bit-streams requires external information such as description of stored structures. Such descriptions are themselves data, and if stored with the bit-stream they become part of it so that further external information is required.

2) Clarity

The results show that, for the given data, less memory is likely to be required by the new structure, depending on the magnitude of the numbers to be stored and the access pattern.

Vs.

The results show that less memory was required by the new structure. Whether this result holds for other data sets will depend on the magnitude of the numbers and the access pattern, but we expect that the new structure will usually require less memory than the old.

3) Style

As each value is passed to the server, the “heart” of the system, it is checked to see whether it is in the appropriate range.

Vs.

Each value passed to the central server is checked to see whether it is in the appropriate range.



Go through the a portion of the introduction of a dissertation we started reading in the previous class. Focus on the way the paragraphs are linked together – highlight the ways in which the text connects its ideas together.

(Adapted from: Carl Gutwin and Saul Greenberg. *A Framework of Awareness for Small Groups in Shared-Workspace Groupware*
<https://pdfs.semanticscholar.org/4fed/79303706b4b92b2fc533c1b457cd7ea0a708.pdf>)

Real-time distributed groupware systems are computer applications that allow people to work together at the same time, but from different places. These systems are becoming more common as network connectivity increases and organizations move towards mobile computing, telecommuting, and distributed work teams. Unfortunately, groupware has usability problems: when compared with working face-to-face, collaboration through groupware seems clumsy, stilted, and artificial. When people use a groupware system, they often cannot interact in the ways that they do in front of a whiteboard or over a table. Even simple things like pointing to an object or watching another person work are often difficult or impossible in groupware.

One of the problems with current groupware systems is that they make it hard for people to stay aware of one another. It is a simple fact that awareness is an important part of collaboration. One has only to watch a group activity to see people checking up, taking notice, and keeping track of others, whether over a jigsaw puzzle, in front of a chalkboard, or on a basketball court. Awareness is taken for granted in everyday face-to-face environments, but when the setting changes to distributed groupware, many of the normal cues and information sources that people use to maintain awareness are gone. Groupware systems provide only a fraction of the information about other people that is available in a face-to-face situation, and as a result, interactions and behaviours that were once effortless can become stilted and formal.

I believe that helping people maintain awareness of one another can improve the usability of groupware. In this research, I explore one kind of awareness called workspace awareness, and investigate techniques for supporting it in groupware interfaces. My perspectives are those of the computer scientist and the system designer: I am interested in the problem of groupware usability, and awareness is a potential design requirement that can improve multi-user systems. My goals are to show that the concept of workspace awareness can be framed in a sufficiently operational form to be useful to groupware designers, and to show that support techniques drawn from that framework can improve groupware usability in a variety of ways.



The remainder of this chapter will provide some background on the computer science context into which the research fits, introduce the idea of workspace awareness, state the problem and goals of the research in more detail, and outline what is to come in the rest of the dissertation.

1.1 Setting the scene

This research falls within the field of computer-supported cooperative work (CSCW), an area in the study of human-computer interaction that attempts to understand and provide technological support for group activity (e.g. Baecker 1993; Greenberg 1991). CSCW is a wide-ranging field, containing research into the behavioural foundations of group activity (e.g. McGrath 1984; Galegher, Kraut, and Egidio 1990), group interaction in natural settings (e.g. Tang 1991; Heath and Luff 1992), asynchronous communication and electronic mail (e.g. Malone et al. 1987; Borenstein and Thyberg 1988), synchronous communication through audio and video (e.g. Harrison and Minneman 1990; Abel 1990), support for electronic meetings (e.g. Pinsonneault and Kraemer 1990), and multi-user interfaces (e.g. Stefik et al. 1987a).

What other subsections do you think were contained in the introduction?