Nick Knouf

Week 3

The two papers (along with the supplementary paper by Pascoe, Ryan, and Morse) dealt with various issues of context-aware computing, most of them technical. This focus on technical issues, in my opinion, left out the reasons why we want to consider context-aware computing. On the other hand, Lamming and Flynn, in the paper about Forget-me-not, gave a well-written conceptual rationale for pursuing context-aware research. This rationale is sorely lacking in the other papers about context-aware computing.

For example, forget-me-not has the potential to be quite useful because it taps into human episodic memory: prior interactions with objects and people can be retrieved given one or two clues about the original context. This way of retrieving information drastically reduces the search space and uses our natural memory mechanisms. The other projects mentioned, however, leave out the connections to humans, e.g., the reasons why "proximate selection", "automatic contextual reconfiguration", "contextual information and commands" and "context-triggered actions" (to take categories from Schilit, Adams, and Want) are useful and will be utilized by users.

Some questions to ponder:

The natural question to ask with context-aware computing is, how is this going to improve our management of data? What happens when everything has a saved context, when we can track our movement throughout spaces to any level of accuracy, when we know exactly who has given a paper to whom? Is this going to be information overload? What ways will we have for retrieving information based on the context? Will the retrieval systems be on par with the remembering systems?

Why do all of the context-aware systems described use only visual clues? While vision is undoubtedly the most widely-considered of our senses, some other modalities provide stronger cues than vision. For example, the smell of a prior event can be a powerful trigger for memory retrieval. As well, we all have experienced the joy or sadness that happens when a favourite song comes on on the radio. In what ways could we use other modalities than vision to provide contextual retrieval clues? For example, consider a device that recorded sound at the time of an encounter with a person or a tagged object. Would the playback of this sound be a useful clue for retrieval of the nature of the encounter? Perhaps so, although this is definitely an empirical question.

Many of the projects gloss over the twin problems of privacy and security. These problems have relatively easily solutions in the analog world, but seem to prove much more difficult in the digital world. I believe this is an area that is ripe for both theoretical and technical advances. Are there metaphors from the analog world that we can transfer to the digital world to help solve the problem of privacy in context-aware systems? Are there natural limits to people's privacy that we can use when designing these systems?