Context-Awareness in the Virtual and Real World

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Abstract:

The world is changing faster than we can predict. The concept of ubiquitous computing that was first voiced 30 years ago is now here, with the introduction of location-based services (LBS) on commodity mobile phones, and the location-aware and semantic web. To conduct research in ubiquitous computing, we no longer have to provide special purpose devices to people - they carry and use them already. However, despite the widespread use of simple context-aware services such as LBS, there is still much room for improvement. Context-aware systems attempt to infer human intent and adapt to that intent, however, at best, they can only approximate human intent. That approximation results in all sorts of usability problems.

In this talk, I will discuss the usability problems that result from trying to build sophisticated, real- and virtual-world context-aware applications that attempt to infer human intent. I will show examples of systems that have succeeded and failed, and discuss the role of machine intelligence in designing good context-aware systems. Finally, I will discuss new types of interfaces, algorithms and support that such applications need to have to support real human activities.