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Pervasive Computing Technologies: Augmented Mobile Help Desk

Asim Smailagic

Research Professor, Institute for Complex Engineered Systems, Carnegie Mellon University, Pittsburgh, PA

Daniel Siewiorek

Director, Human Computer Interaction Institute, Carnegie Mellon University, Pittsburgh, PA

Marvin Sirbu

Professor, Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA

Industry Participants:

James Beck

Inmedius, Pittsburgh, PA

Ivo Stivoric

BodyMedia, Pittsburgh, PA

David James

R J Lee Group, Monroeville, PA

Bill Trosky

Emerson Software Center, Pittsburgh, PA

Jeremy Shaffer

InspectTech, Pittsburgh, PA

Abstract

Pervasive Computing Technology allows the multitude of computing devices to seamlessly blend into the physical environment and communicate with each other and users. This technology allows users to tap into this distributed environment anywhere and at any time, accessing data from anywhere. The synthetic helper technology will allow a computer model of a human expert to interact conversationally, provide advice, read procedures and answer questions to a human.

The system integrates information from many contexts, such as location and schedule. It also transparently learns from the user, interacting with the user only when it is wanted. A cognitive model was built to help in reducing the user's cognitive load. Context-aware computing describes the situation where a mobile computer is aware of its user's state and surroundings, and modifies its behavior based on this information. The system can monitor a user's state and act as a proactive assistant, linking information derived from

many contexts, such as location and schedule. Distractions are even more of a problem in mobile environments than desktop environments, since the user is often preoccupied with walking, driving or other real-world interactions. A pervasive computing environment that minimizes distraction should be context-aware. If a human assistant were given such context, he/she would make decisions in a proactive fashion, anticipating user needs. The intent is to enable mobile computers to play an analogous role, acting as a synthetic helper.