BRIEFING PAPER

ActiveCampus: Community-oriented Ubiquitous Computing

Project:	UCSD ActiveCampus
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The proliferation of handheld computing devices holds out the promise for a new generation of computing applications that could enrich experience of the world around us. The UCSD ActiveCampus project is exploring the problem and opportunity of sustaining community through mobile wireless technology. A major thrust is the development of infrastructure for community-oriented ubiquitous computing and development of applications and services for the large-university environment. The two principal applications in operation are: ActiveCampus Explorer, which uses students' locations to help engage them in campus life; and ActiveClass, a client-server application for enhancing participation in the classroom setting via small mobile wireless devices.

As part of the ActiveCampus project, more than 700 wireless-equipped HP Jornada handheld PocketPCs were distributed to undergraduate students on the UCSD campus, including 285 entering freshmen of the university's newest, residential Sixth College. The research team also sponsored Sixth College's first Explorientation, a three-day team challenge using the PDAs and ActiveCampus Explorer. ActiveCampus now comprises eight integrated end-user services, and Communication Department researchers are conducting ethnographic studies to understand the impact on campus life.

"Undergraduate enrollment at UCSD will soar by 10,000 over the next decade, and that growth can threaten the sense of community. We want to see if technology can enhance our 'culture of learning' and make the expanding campus seem somehow more intimate at the same time."
– Bill Griswold, PI, ActiveCampus

There is evidence that a location-aware computing application such as ActiveCampus Explorer, with its many services has the potential to create impromptu opportunities for its users in the campus environment. As part of Explorer, students are able to send each other messages and post Digital Graffiti, signed or unsigned —to be read by other users of the service when they visit a particular area.

One surprising finding: UCSD students are more likely to message each other when they are closer than average—indicating that location may matter in context-aware handheld computing. Researchers report that one possible reason for this is that the sender of the message perceived the short distance, providing an impulse to communicate (and perhaps meet).

The ActiveClass application allows students to use their PDAs to ask questions in class anonymously, answer polls, and give the professor feedback on the class. Every student and the professor see these lists of questions, poll results, etc. Students can also vote on pending questions, thereby raising their ranking – and encouraging the professor to give those questions precedence. The modality is a silent, aggregated broadcast conversation.

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