

UCSD

ActiveCampus

An exploration of wireless location-aware computing in the university setting.

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Problems

1. Use handheld computing devices to enrich our experience of the world around us.
2. What applications will enrich our lives?
3. What kinds of interfaces will make them usable in dynamic, social settings?
4. What kind of infrastructure can best support the development and delivery of application services?

Objectives

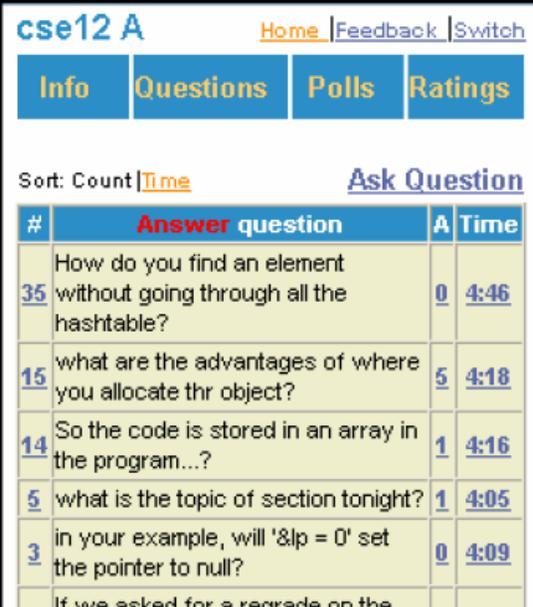
1. Try to explore the wireless location-aware computing in the university setting.
2. Develop a context-aware application infrastructure and an array of application services running on existing infrastructures and handheld devices (PDAs)

Design Rules

1. Infrastructure and end-user technology would build on portable standards
2. Applications serve basic HTML
3. Minimal use of client resources
4. Interfaces must be easy to grasp, even in a dynamic setting.

App 1 - ActiveClass

1. Large class size, gender and culture issues can reduce verbal participation in lectures
2. Anonymous asking of questions, polling and student feedback
3. Silent and anonymous aggregated conversation



The screenshot shows the ActiveClass interface for 'cse12 A'. At the top, there are navigation links: Home, Feedback, and Switch. Below these are four tabs: Info, Questions, Polls, and Ratings. The 'Questions' tab is active. The interface displays a list of questions with their respective counts and times. The questions are sorted by count, and the 'Time' column is highlighted in orange. A link for 'Ask Question' is visible at the top right of the table area.

#	Answer question	A	Time
35	How do you find an element without going through all the hashtable?	0	4:46
15	what are the advantages of where you allocate thr object?	5	4:18
14	So the code is stored in an array in the program...?	1	4:16
5	what is the topic of section tonight?	1	4:05
3	in your example, will '&lp = 0' set the pointer to null?	0	4:09
	If we asked for a regrade on the		

App 2 – ActiveCampus Explorer

1. Support location-aware IM, maps, annotations, digital graffiti.
2. Make campus “transparent” – create serendipitous learning opportunities
3. Support contextual and asynchronous discourse
4. Geo-location by signal strengths.



Conclusion

1. ActiveClass can create new modalities for participation in the classroom
2. ActiveCampus Explorer shows potential to create impromptu opportunities for users
3. Mundane issues: battery life, data loss and connectivity make these applications difficult to use.
4. Develop native client to deal with the push connection
5. Social barriers to handheld computing
6. Users seem unconcerned about location privacy with friends