Prior Work

Jeremy Kelley, Kyumin Lee & Xiheng Zhang

November 10, 2009

1   Prior Work

Zurita et al. [5] presents MCSketcher, a mobile collaborative sketching system, using handheld devices in an ad-hoc network. People can draw sketches with collaborators in the same page in the system. They can take a picture and use it in the background of the drawing. The system supports gesture recognition for basic navigation gestures, and selecting and resizing items. Collaborative work is only available in an ad-hoc network. In other words, friends or collaborator can only work together in close distance. Our application connects to a server to store what users draw and to retrieve what they drew in the past using cellular networks. One can collaborate with not only friends, but also any people.

Kim and Dey [2] presents displaying augmented reality based car navigation information on windshield. Augmented reality helps elder people can concentrate to drive a car and easily follow directions from a navigation system. Augmented reality is one of ways to display various information in a view. Likewise, overlapping sketches can help for users to know what has happened in a certain location, even though augmented reality is not exactly applied to our application. In addition, our application provides users with some filters such as name of a drawer, time and so on, so that they can select what they want to view.

Bastéa-Forte and Yen [1] presents a collaborative sketching tool. Each user has a Tablet PC to draw some sketches and to view shared sketches. Each users drawling is synchronized, so that users can view the same drawling. The collaborative sketching tool helps each users contribution is equalized although it reduces total number of sketches. Our application enables users to collaborate drawing no matter what their relationship is.

The authors in [4] are trying to combine various context-aware applications. They want to retrieve data from different sources and services, thus design a general purpose client software that can be used to access a variety of context-aware services. In their paper, they proposed an architecture of their system model. They use messenger protocols. If a service has new information, it sends a short notification message via the servers to the client. The client can then decide whether it wants to retrieve the full data. Therefore, the client can directly connect to the service. A discovery service is used to find services which are relevant for a client in its current context. It uses the messenger protocol to inform the client software about new services. In our project, we will find sketches relevant for a client based on its current context information - both GPS data and twitter friends.

The authors in [3] tested a few hardware and software technologies in real-time collaborative system, basically raised two fundamental principles - collaboration and persistence. The two principles refer to the ability to communicate ideas with other interested parties in real-time and the ability to store the results of those interactions for long-term reference, respectively. The softwares include NetMeeting, OneNote, DyKnow. Their work is mainly to help students share class materiel and simultaneously edit presentation text or sketch.

References

[1] Marcello Bastéa-Forte and Corina Yen. Encouraging contribution to shared sketches in brainstorming meetings. In *CHI '07: CHI '07 extended abstracts on Human factors in computing systems*, pages 2267–2272, New York, NY, USA, 2007. ACM.

[2] SeungJun Kim and Anind K. Dey. Simulated augmented reality windshield display as a cognitive mapping aid for elder driver navigation. In *CHI '09: Proceedings of the 27th international conference on Human factors in computing systems*, pages 133–142, New York, NY, USA, 2009. ACM.

[3] Steven Lindell. Real-time collaboration tools for digital ink. *J. Comput. Small Coll.*, 25(3):24–31, 2010.

[4] Torben Weis, Martin Saternus, Mirko Knoll, Alexander Brändle, and Marco Combetto. Towards a general purpose user interface for service-oriented context-aware applications. In *CAI '06: Proceedings of the international workshop in conjunction with AVI 2006 on Context in advanced interfaces*, pages 53–55, New York, NY, USA, 2006. ACM.

[5] Gustavo Zurita, Nelson Baloian, and Felipe Baytelman. A collaborative face-to-face design support system based on sketching and gesturing. *Adv. Eng. Inform.*, 22(3):340–349, 2008.