Senior Project - Project Mayhem

Location-Based Reminder System

Senior Project: 2003-2004

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Pensieve Software is a Boulder-based company that focuses on providing business applications for a variety of clients. These applications help business people to coordinate their day-to-day activities with their demanding business schedules.

For the everyday person conducting business on the go, there are often many tasks that need to be completed in a given day. Some of these tasks must be completed at a particular time, but others simply need to be completed when the user is at a particular location. For instance, a user may need to make a bank deposit, not "at 3 o'clock on Tuesday", but rather "next time I am near my bank". With this need in mind, part of Pensieve Software's customer base requested the ability to be reminded of tasks based on location, i.e. to provide location-based reminders.

No generally available application existed for location-based reminders. With the introduction of laws surrounding cellular phones and their ability to inform authorities of the user's location when dialing "911", accurate location technology is becoming widespread with national cellular carriers. This goal of the project was to design, implement, and test a location-based reminder system for some common portable device to allow Pensieve to judge the feasibility of such a system for its customers.

With this location-based reminder system, a user can search for a location based on a business name and select the appropriate location based on street address. Once the street address is verified, the user saves the location to the cellular phone. A user can then set up any number of reminders associated with this location, specifying how close they want to be to the location before being reminded. Whenever the proximity conditions set by the user are met, the cellular phone triggers an alert similar to that received for a time-based reminder.

The solution was implemented in Java and tested on the Motorola i730 cellular phone. Additional server-side support software was developed and third-party Yellow Pages and street address to latitude/longitude mapping systems were used as well.

Video:  Location-Based Reminder System Demonstration

Motorola i730 and User Interface

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