

CS 525M – Mobile and Ubiquitous Computing Seminar

Project Presentation

Home Monitoring System Emulator

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Project Presentation

Outline

- Project Overview
- Related Work
- Basic Architecture of actual system
- Our work
- Future work/conclusions
- Demonstration

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Overview

- Use wireless & mobile networking technologies to monitor & control home and office environment
- Built emulator: mobile device uses WAP to connect with a remote server, which is connected with a device in a building that controls heating, electricity components etc.

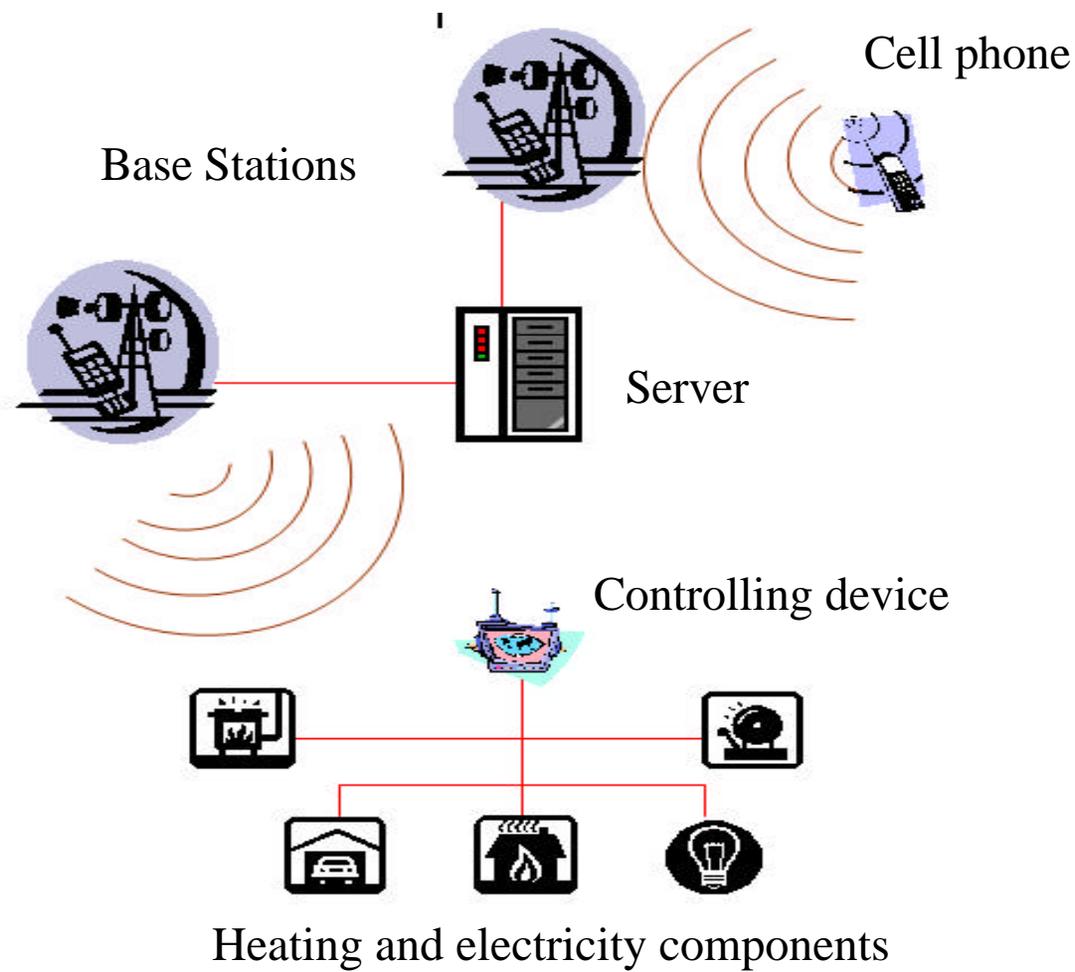
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Related Work

- We have the technology
 - WAP enabled cell phones
 - Electricity and heating controllers
 - Software & technological research:
 - *Learning to Control a Smart Home Environment*, Diane J. Cook (software issues)
 - *Remote Controlled Home Environment*, W. Pasman and J. Lindenberg (technological issues)
 - Remote access devices:
 - Robot vacuum cleaner (Samsung)
 - Welcoming host (Honda)

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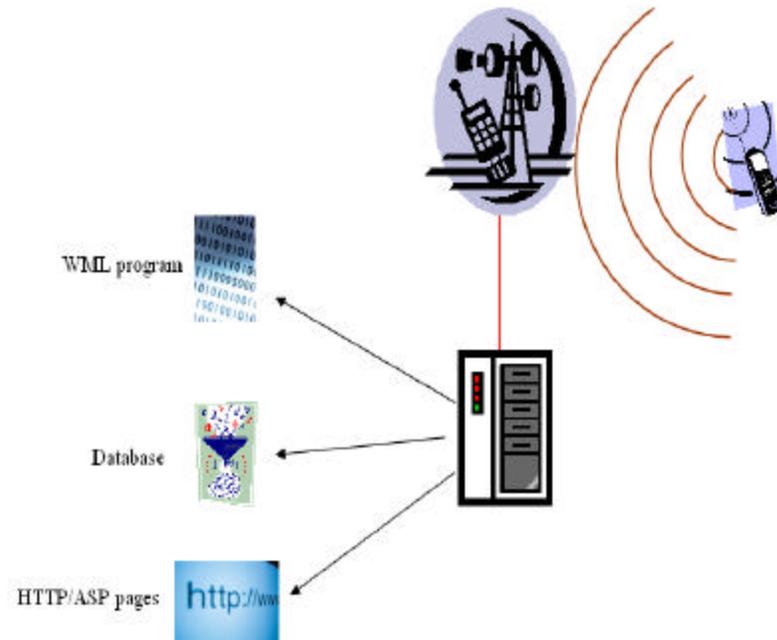
•Home Monitoring System: Basic Architecture



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What did we do???:

- Expensive equipment for set up, so built an emulator
- System consists of the following parts:
 - WAP enabled cell phone/WAP emulator
 - Server:
 - WML program
 - Database
 - HTML/ASP pages



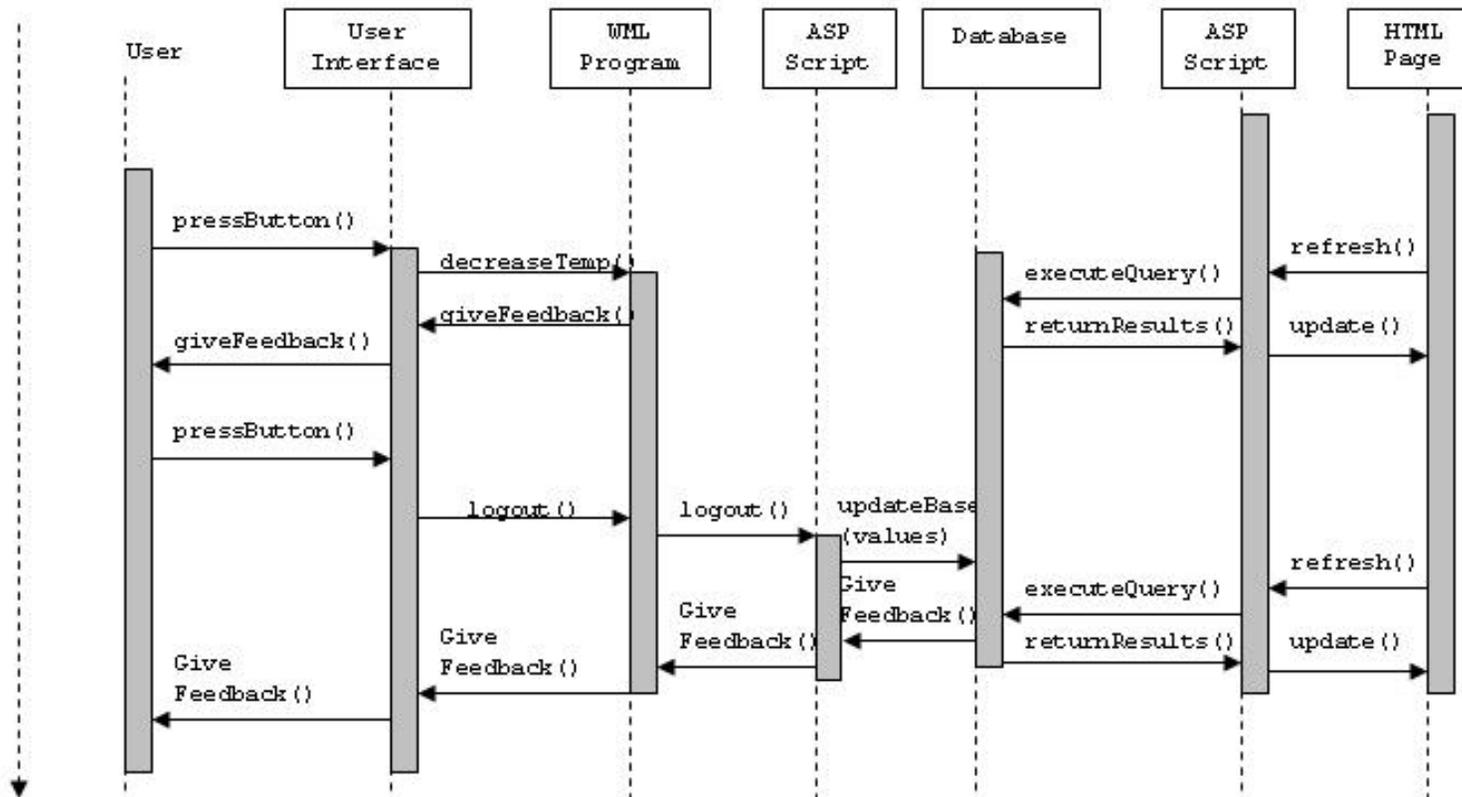
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How it works:

- WML program:
 - User login
 - Update Information
 - Logout
- HTML/ASP pages: Run an auto-refresh script every couple of minutes and load updated information from the database

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How it works: Decrease Temperature Example



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Future Work/Conclusions

- We have the technology
- We have shown it is easy to built the basic software
- Need to connect server with controller
- Issues:
 - Security
 - Database Concurrency Control
 - Bandwidth
 - General mobile & wireless software issues

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**Hold on... demonstration
following!!!**

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Questions???