

 **HawkTour**

An Application of Pervasive Computing

Agenda

- Problem
- Solution
- Architecture
- Enhancements
- Team Organization

Problem

- The need for a context aware, content delivery system architecture.
- Pervasive computing prototype application built on such an architecture.

Pervasive Computing

- All devices networked together
- Computer part of environment
- Enhances daily life
- Context aware

Context Awareness

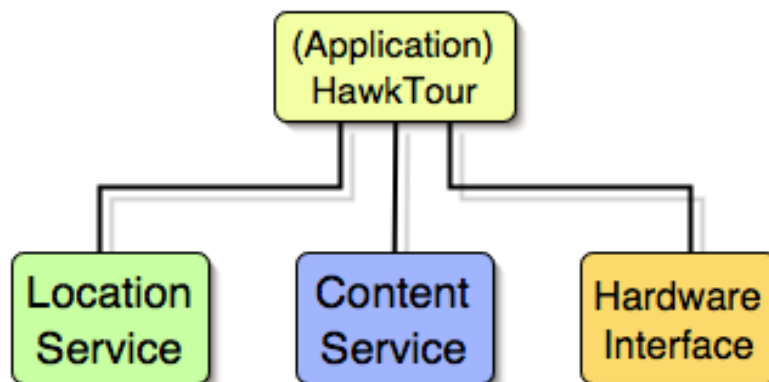
- Example
- Computers anticipate our needs
- Adapt without explicit input
- Fundamentally change interaction
- Have intelligence everywhere

Problem

- The need for a context aware, content delivery system architecture.
- Pervasive computing prototype application built on such an architecture.

Solution

- A module based, pervasive architecture
 - Web Services
 - Interfaces



Solution (continued)

- HawkTour prototype application
 - Gives tours without a live guide
 - Employs Tablet PC
 - Interacts with devices like HDTV's
 - Uses context to customize information

Context in HawkTour

- Who you are
- Where you are
- What is nearby



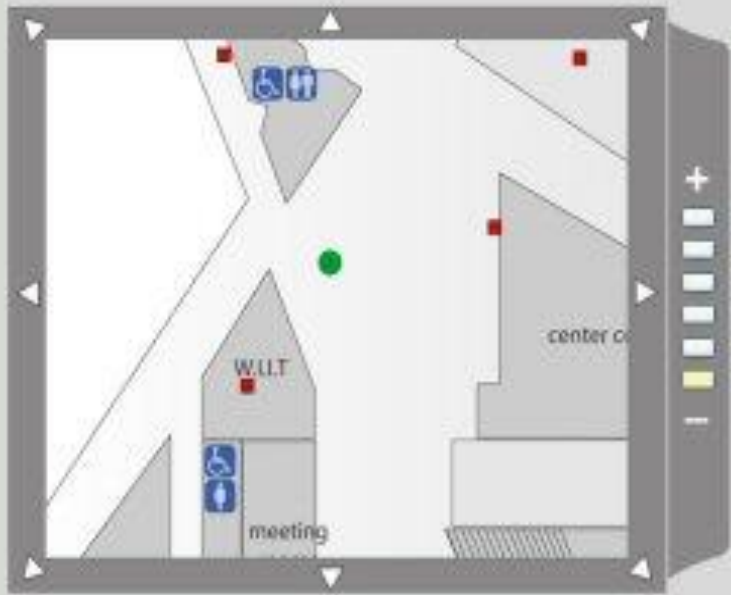
Hardware Service

- See map
- Watch video
- View image



HawkTour

View Help



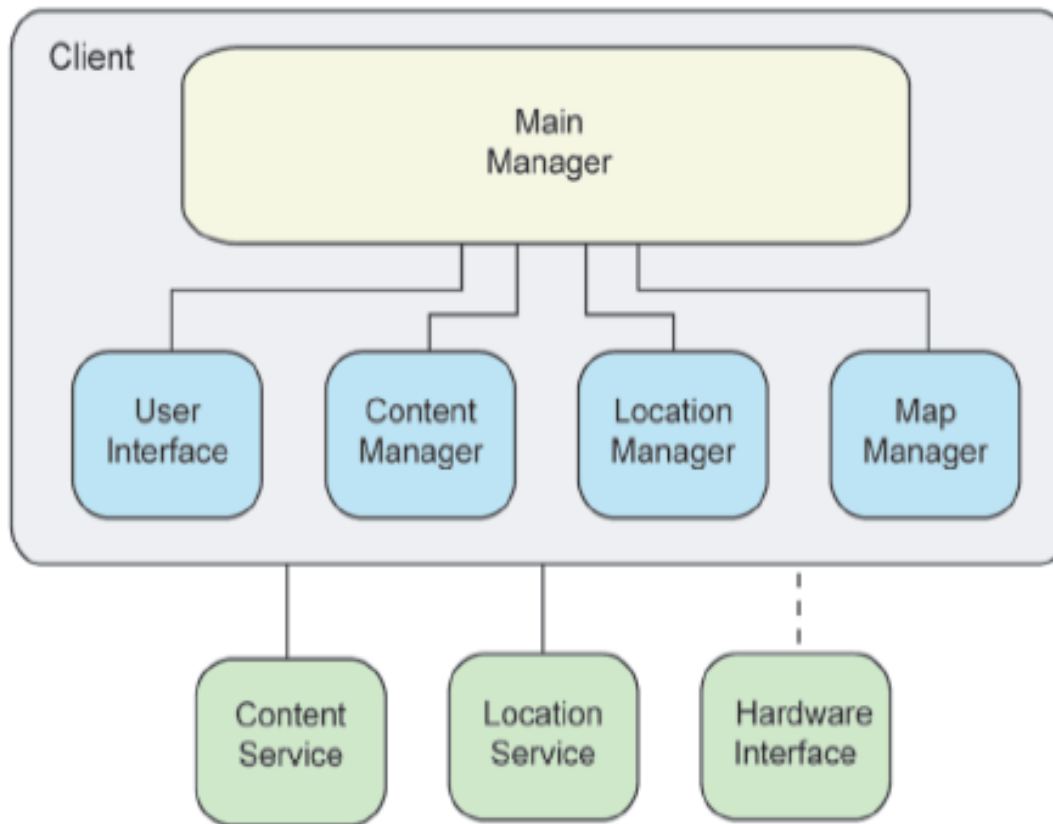
■ Points of Interest ↑ Suggested Path

Koolhaas had originally planned to use wood for the building's ceiling, but that was a budget buster. Wood is costly, and it's flammable, so a second,





Application Architecture



Application Enhancements

- User Interface
- Service Deployment
- Mapping Subsystem
- Hardware Interface
- Database Design

User Interface

- Institute of Design recommendations
- Multiple View Implementation
 - Survey, Mapping, Content, Browser
- Application Customization
 - Survey → Database → Customized Content

Service Deployment

- Ekahau positioning engine
- Improved accuracy of tracking
- New content server

Mapping Subsystem

- Polygon hotspots
- Hotspot highlighting
- Mini-Map overview

Hardware Interface

- Digital media receiver
- Signal strength monitor
- Automatic audio selection
- Improved interface panel
- Dynamic window sizing



Database Design

- Database analysis
- Redesign
- Move to more robust server
- Redeployment
- Application integration

Testing

- Test cases
- Approach
- Final test report

Organization

- Project Management
 - Build deadlines
- V-Model Process
 - Testing done in parallel with development
- Team Organization
 - Sub-groups used to tackle problems

Team

Mapping

Robert
Mike
Dave
Jodel

Database

Satish
Sangmin

UI

Tyler

Hardware

Santhosh
Marcin
Richard

Testing

Rohit
Mayowa

Deployment

Kamil
Nicu

Leadership

Dr. Sun
Tyler
Santhosh

Technology Sponsor



Questions?

www.hawktour.net