Project Plan
Synchronized Program Content Delivery

The Capstone Experience

Team Motorola Mobility

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Project Overview

• Develop Synchronized Program Content Delivery Tool
  ▪ Synchronize what the user is viewing on their television with appropriate secondary content on mobile device

• Develop Audio Sync Service
  ▪ User can record sample audio footprint of a program, and the sync service will identify the program and sync

• Develop Synchronized Complete TV mobile app
  ▪ Smooth interface for user preferences

• Develop Set Top Box User Interface
  ▪ Similar to a program guide
Functional Specifications

• Synchronized Program Content Delivery Tool
  - Synchronize based on user actions (e.g. pause, fast forward, rewind, channel change)
  - Synchronize based on user's progress into a particular episode

• Audio Sync Service
  - Record sample audio, identify program, and sync

• Set Top Box UI
  - User can select a program, and the mobile device will sync accordingly

• Synchronized CompleteTV Application UI
  - Users can customize sync and secondary content preferences
Design Specifications

• Synchronized Program Content Delivery
  ▪ Accurate syncing to provide seamless integration between primary and secondary content

• Audio Sync Service
  ▪ User should not be taken out of the experience to record audio

• Synchronized CompleteTV
  ▪ Intuitive User Interface
Screen Mockups

Synchronized CompleteTV: Content Page
Screen Mockups

Synchronized CompleteTV: Settings Page
Screen Mockup

Synchronized CompleteTV: Device Management Pages
Screen Mockups

Set Top Box UI

- Lost
- Family Guy
- Survivor
- Jersey Shore

Lost |
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60 minutes

"What Kate Does" - Kate finds herself on the run.
Technical Specifications

• Databases
  ▪ Identity Management Database
    o Store information about the user, devices, and associations between them in PostgreSQL Database
  ▪ Sync Database
    o Stores sync events in PostgresSQL Database.

• Application Server
  ▪ Deployed to GlassFish
  ▪ RESTful APIs

• Mobile Device
  ▪ Communicates with Sync Service and Content Service

• Set Top Box
  ▪ Sends information about the program being played to the Sync Service
System Architecture
System Architecture

Clients
System Architecture

Sync Sequence Diagram
System Components

• Hardware Platforms
  ▪ Motorola Set Top Box & TV
  ▪ Android mobile device
  ▪ Windows & Mac Desktops

• Software Platforms / Technologies
  ▪ Java, RESTlet framework, Eclipse
  ▪ jQuery, jQuery Mobile
  ▪ Set Top Box Portal
  ▪ PostgreSQL / MyBatis Persistence Layer
Testing

• Synchronized Program Content Delivery Tool
  ▪ Accurate syncing of primary and secondary content
  ▪ Test performance with many users syncing at once

• Audio Sync Service
  ▪ Test user experience and ease of use
Risks

• Scalability
  ▪ Needs to be able to support multiple users syncing simultaneously
  ▪ Needs to be able to support multiple Set Top Boxes sending sync events simultaneously

• High Performance
  ▪ Syncing needs to be accurate to deliver appropriate secondary content

• Intuitive Syncing
  ▪ Syncing process should have very little user involvement; we don’t want to take them out of the user experience