Project Plan
Wellness Application for Medtronic Patients

The Capstone Experience

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Project Overview

Goal

• Complete and polish current Wellness Portal apps
  ▪ Web app
  ▪ iPhone app

• Integrate with
  ▪ Microsoft HealthVault
  ▪ Medtronic devices
  ▪ Nutrition source (FatSecret)
  ▪ Streamline Existing Functionality
Functional Specifications

• Ingest Medical Data Automatically
  ▪ Medtronic Devices (Mocked XML)
  ▪ Microsoft HealthVault (XML-WS)

• Collect food and exercise information from user
  ▪ Automatic entry via search

• Track arbitrary data, e.g. carbohydrates or weight

• Create and track goals related to any tracked data

• Provide recommendations from USDA guidelines
Design Specifications

• Most used functionality on the home page
  ▪ Search for food/exercise
  ▪ View recurring (daily) and long-term goal progress
    ○ Bar / Pill Graph
  ▪ Viewing recommendations

• Focus on quick and seamless data entry
  ▪ Gratuitous use of autocomplete
  ▪ Search -> Select -> Record
Screen Mockups (iPhone App)
Screen Mockups (Web App)
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Technical Specifications

• Web app
  ▪ Compatible with IE7, IE8; Firefox 2, 3; Safari
  ▪ Developed with Groovy on Grails, JDK
  ▪ MySQL Database backend
  ▪ Exposes RESTful Web Service to iPhone

• iPhone app
  ▪ Run on all iOS-compatible devices
  ▪ Developed with Xcode 3.2.4 and iPhone SDK 4.1
  ▪ Interface with Web App via RESTful Web Service
System Architecture
System Components

• Hardware Platforms
  ▪ Web App: All platforms that support Java JVM
  ▪ iPhone app: Apple iOS

• Software Platforms / Technologies
  ▪ Web app
    o Groovy on Grails
  ▪ iPhone app
    o Xcode 3.2.4 with iPhone SDK 4.1
    o RedLaser SDK
  ▪ MySQL Server
  ▪ External Data Sources
    o Interface via REST and XML web services
Testing

• Web
  ▪ Exploit unit and integration testing support in Grails
  ▪ Code reviews from Medtronic

• iPhone
  ▪ Exploit Xcode unit testing functionality
  ▪ Code reviews from Medtronic

• Integration testing when all new features completed
Risks

- Communicating Between iPhone and Server
- Import information from Microsoft HealthVault
- Interface with Nutrition Data provider
- Interface with Medtronic devices