Project Plan
Mobile Health Management System

Team Medtronic
CSE 498, Collaborative Design

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Project Overview

• Portable Health Management System
• Improve health and prevent future health problems
• Two applications to track health:
  – iPhone Application
  – Web Application
Functional Specifications

- Collect food and exercise information from user
- Create goals
- Track progress:
  - Quick progress meter on home page
  - Individual goal progress graphs
- Display current nutrition counts
- View device data
- Easy to use!!!
Design Specifications

- Most used functionality on the home page
  - Inputting food and exercise
  - Viewing daily nutrition counts
  - Progress quick view
- Graphs displayed are based on goals the user selected to track
  - Less cluttered
  - More user specific
Welcome User!

**Today’s Current Counts:**

- Calories: ###
- Sugar (g): ###
- Fat (g): ###
- Cholesterol (g): ###

**Hungry?**

- Snack: Apple, Carrots
- Meal: Sesame Seed Chicken

**Add Activity:**

- **Food:** v
- **What:**
- **How Much:** (in servings)

[Add]
Web Application Screen Mockups

Welcome User!

Home | Track Progress | Customize Account

- Weight
- BMI
- Heart Rate
- Calorie Intake

Show Projected
iPhone Application
Screen Mockups

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Technical Specifications

• iPhone:
  – Will be run on all iPhone OS
  – Will use touch screen along with other hardware features
  – Developed using iPhone SDK

• Web:
  – IE7, IE8, Firefox 2.*, 3.*, Safari
  – Compatible with 800x600 to 1280x1024 screen resolutions
  – Developed with Java and HTML
  – Use of Apache Tomcat
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Architecture Illustrated

- **Health Coaching**
- **Internet Platforms** (Google, Healthvault, etc.)
- **Social Network**
- **Integrative Wellness Web Application**
- **External Data**
- **Patient**
- **Other 3rd Parties**
- **Consumer Devices**
- **PHR Data**
- **Non-MDT IMD Data**

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**Weight & Diet Management**
- Caloric Intake vs. Expenditure
- Dietary guideline
- Target Weight
- Body Mass Index
- Resting Metabolic Rate
- Daily Caloric Needs

**Exercise Management**
- Activity level
- HR, % of Max
- Target HR Zones

**Stress Management**
- Autonomic Coherence
- Respiratory Training

**Personal Growth**
- Changing Habits
- Emotional Awareness
- Performance Management

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**Integrated Wellness Application**
- **IMD Data**
  - HR
  - HRV
  - Activity

**Consumer Input**
- Diet
- Thoughts
- Emotions
- Behavior

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**Patient**

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**Health Coaching**

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**IM Research**

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**Personal Development**

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**Other 3rd Parties**

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System Components

- Hardware Platforms
  - Windows Sever 2003

- Software Platforms / Technologies
  - Apache Tomcat
  - Grails/Groovy
  - MySQL
Testing

• iPhone:
  – Personal use
  – Unit testing
  – Cross over regression testing

• Web:
  – Use debuggers through Grails
  – Line by line checking
  – Cross over regression testing
Risks

• Communicating Between iPhone and Server
  – Insert data into iPhone and save in database
• iPhone SDK
  – Graphic class
• Setting up Sever
  – Apache tomcat
  – MySQL
• Import information from Microsoft HealthVault