**MICHIGAN STATE**
**U N I V E R S I T Y**

# Project Plan
## Wellness Application for Medtronic Patients

## The Capstone Experience

### Team Medtronic

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*From Students…*
        *…to Professionals*

# 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
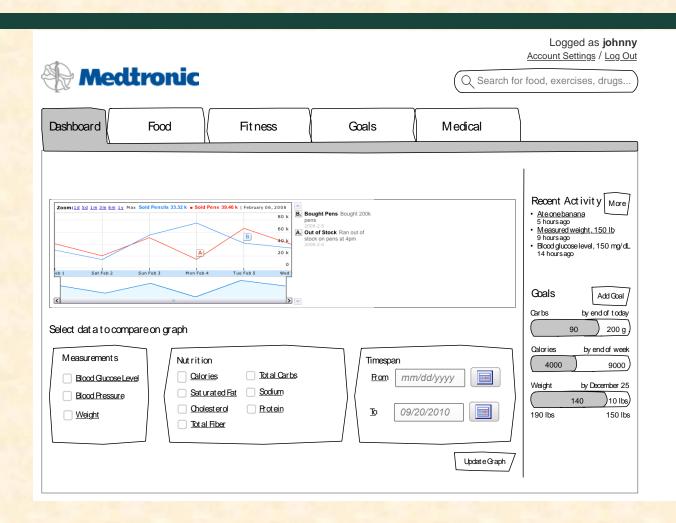- Focus on quick and seamless data entry
  - Gratuitous use of autocomplete
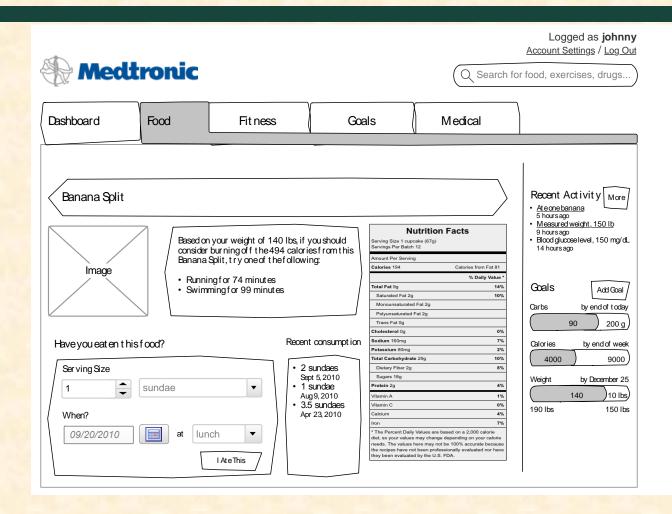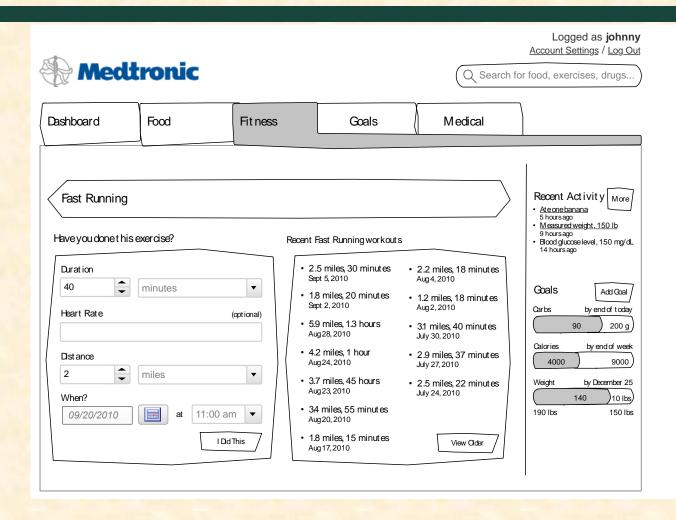  - Search -> Select -> Record

# Screen Mockups (iPhone App)

# Screen Mockups (Web App)

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# Screen Mockups (Web App)

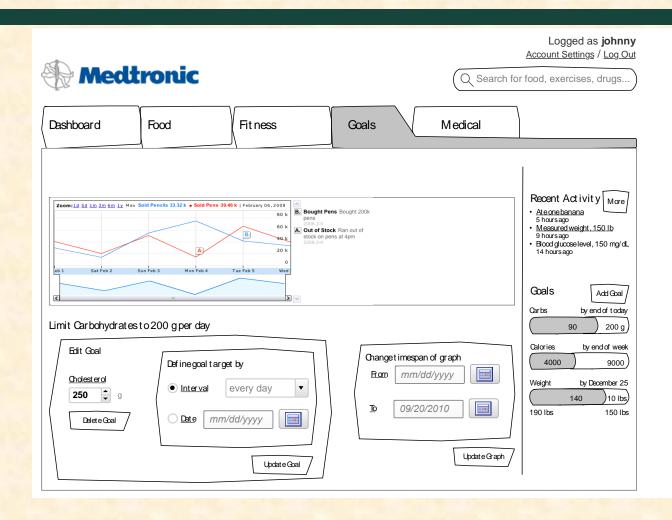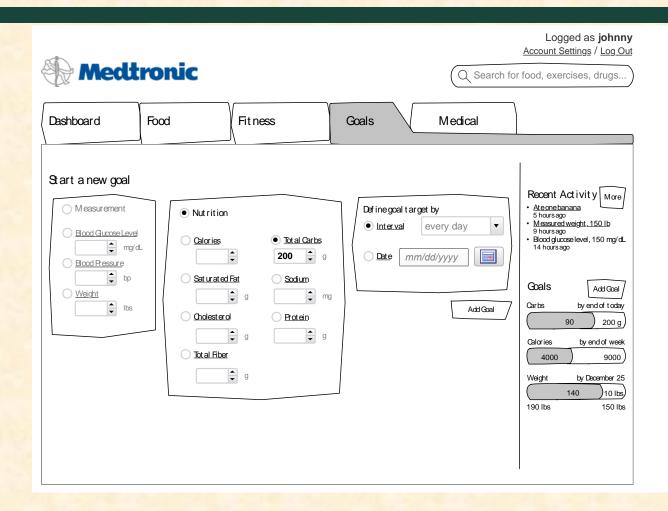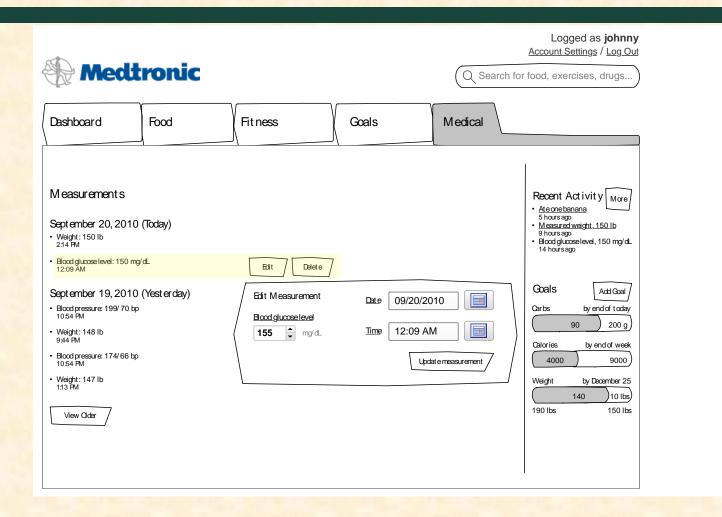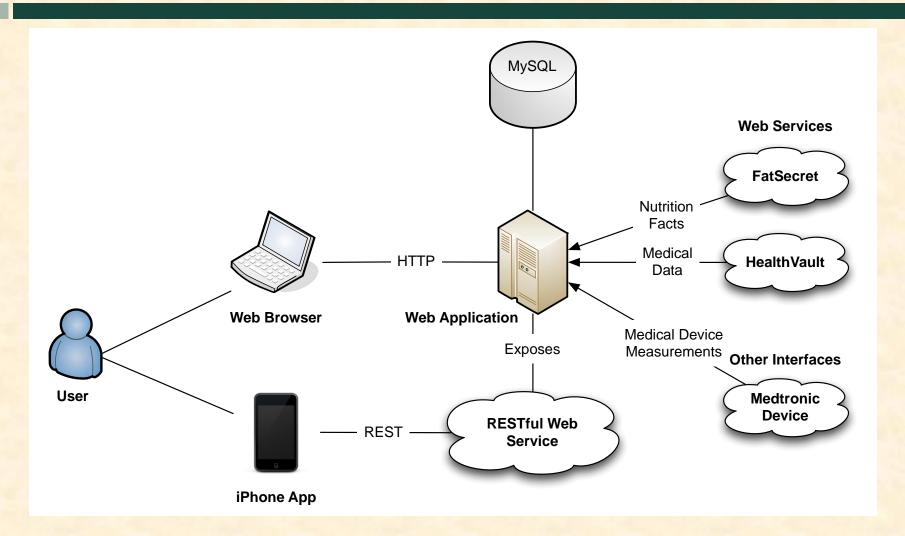# Screen Mockups (Web App)

# 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
    - Groovy on Grails
  - iPhone app
    - Xcode 3.2.4 with iPhone SDK 4.1
    - RedLaser SDK
  - MySQL Server
  - External Data Sources
    - 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