THE Ultimate Weight-Loss Adventure

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Problem Background

- Obesity is rampant and rising
- Working out can be difficult, straining
- This leads to a lack of motivation to work out
- We want to promote an active lifestyle, provide motivation
Need Statement

• There is a need to promote healthy activity among students in a way that is fun, so that participants are more motivated to continue a workout regimen.
Goal

• Our goal is to create a mobile, collaborative social game that will encourage users to be active and give them motivation to continue to pursue an active lifestyle while having fun.
Objectives

• Accessible to large number of people cheaply
• Easy for user to use
• Health feedback to motivate progress
• Fun incentives for being active
• Efficient/fast interface
• Collaborative environment
• Should be FUN!
Alternative Designs

• Hardware-based
  – Accelerometer-based activity monitoring
• Content-based
  – “Amazing Race” style timed challenges
• Weight lifting instructions
• Calorie monitor (Weight-Watchers)
• Track racing style game
Design Constraints and Feasibility

• Use GPS to track user distance
  – Battery life issues
  – Alternative solution using accelerometer

• Physically hold the phone while playing campuSeek
  – User may not want to hold phone while walking/running
  – Phone clip solution
Design Constraints and Feasibility

• Using a specific Android SDK
  – Compatibility issues
  – Using Android 2.1 because 90% of phones have 2.1 or higher

<table>
<thead>
<tr>
<th>Platform</th>
<th>API Level</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Android 1.5</td>
<td>3</td>
<td>3.9%</td>
</tr>
<tr>
<td>Android 1.6</td>
<td>4</td>
<td>6.3%</td>
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<tr>
<td>Android 2.1</td>
<td>7</td>
<td>31.4%</td>
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<tr>
<td>Android 2.2</td>
<td>8</td>
<td>57.6%</td>
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<tr>
<td>Android 2.3</td>
<td>9</td>
<td>0.8%</td>
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</table>
Although campuSeek is a unique idea, several other products implement some functionality that is similar:

- NIKE + GPS
- Endomondo
- Tourality
- SCVNGR
- SportsTracker Pro
Literature and Technical Survey

• Nike+ GPS
  – IOS platform
  – Time, track routes, record distance of workouts
  – Target audience different than CampuSeek’s
Literature and Technical Survey

• **Endomondo**
  – Supports most phone platforms, web
  – Similar to Nike+ GPS
    • Real-time tracking
  – Heart-rate monitor integration
  – Lacks gaming feature of CampuSeek.
  – Audience different
Literature and Technical Survey

• Tourality
  – Android-based GPS scavenger hunt
  – Challenges posted locally
  – Users compete to find destinations
  – Users encouraged to use vehicles
    • No health focus
Literature and Technical Survey

• **SVNGR**
  – Android scavenger hunt
  – Encourages going to businesses, places
  – Main purpose is check-in service
  – CampuSeek has health focus
Literature and Technical Survey

- **SportsTracker Pro**
  - Android
  - Similar to Nike+ GPS
  - Geared toward distance travel sports
  - Analyze pace, altitude, speed
  - Lacks gaming, fun focus of CampuSeek
Proposed Design

• Campus scavenger hunt
  – Facebook and Android interfaces
  – GPS used to determine location

• Health charting
  – View progress, analyze data

• Competition
  – Compete in game and health aspects

• Incentives
  – Unlock incentives by completing aerobic exercises
Proposed Design

Diagram showing the integration of Facebook, a database, an Android smartphone, and GPS for results.
Proposed Design

- Android Interface
Design Analysis

• Each module tested when implemented
  – FB, Android, GPS, DB, health
• Test battery life with GPS throughout day
  Test GPS to ensure accuracy
• Test that data is sent correctly to FQL database
• Test Android application interface
• Final debugging and testing will be done on the field.
  – Survey satisfaction, fun factor
  – View calorie statistics
Economic Analysis and Budget

- Low cost
- Holsters may be required if accelerometer is used, or for safety
- Possibly need to purchase web hosting plan

<table>
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<tr>
<th>Item</th>
<th>Estimated Cost</th>
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<tbody>
<tr>
<td>Android Phone (x10)</td>
<td>$0 (donated)</td>
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<tr>
<td>Phone Holster (x10)</td>
<td>$150</td>
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<tr>
<td>Possible Web Host Subscription</td>
<td>$30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<tr>
<td>Tasks</td>
<td>Start</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Android SDK installation, testing</td>
<td>2/09/11</td>
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<tr>
<td>FQL database setup</td>
<td>2/15/11</td>
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<tr>
<td>Android Interface design</td>
<td>2/19/11</td>
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<tr>
<td>Android DB interaction</td>
<td>2/22/11</td>
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<tr>
<td>Android challenge viewing</td>
<td>3/03/11</td>
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<tr>
<td>Android interface completion</td>
<td>3/10/11</td>
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<tr>
<td>Facebook interface design</td>
<td>2/09/11</td>
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<tr>
<td>Basic Facebook app launched</td>
<td>2/17/11</td>
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<tr>
<td>Facebook app uses FQL, accesses users</td>
<td>2/18/11</td>
</tr>
<tr>
<td>Facebook app collaboration features</td>
<td>2/22/11</td>
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<tr>
<td>GPS support for Android</td>
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<tr>
<td>GPS properly confirms challenge completion</td>
<td>3/15/11</td>
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<tr>
<td>Facebook health statistics</td>
<td>3/26/11</td>
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<tr>
<td>20 Challenges created</td>
<td>2/25/11</td>
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</table>
Team Roles and Meetings

• Steve - Team leader, will work on Android App and FQL database integration
• Scott - Will work on GUI interface of Android App and assist in the FQL database and technical writing
• Fernando - Android App, particular focus on obtaining and utilizing GPS data, challenge creation
• Prince - Utilizing data to configure workout statistics for Android App, system interface design
• Will meet during lab times on Tues/Thurs as well as during class when no meetings are scheduled. Additional meetings will be planned as needed
Societal, Safety and Environmental Analysis

• Societal Analysis
  – Promotes weight loss through a fun interactive game
  – Helps students familiarize themselves with campus, make friends

• Safety
  – Campus is relatively safe, few cars
  – Should be careful where they wander

• Environmental
  – Little foreseeable environmental impact