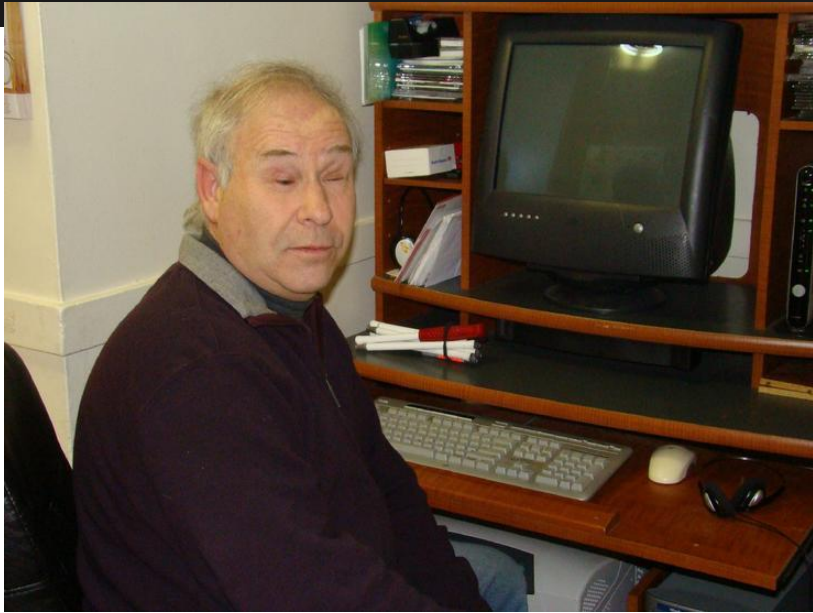


Audio-based Fitness Tracking

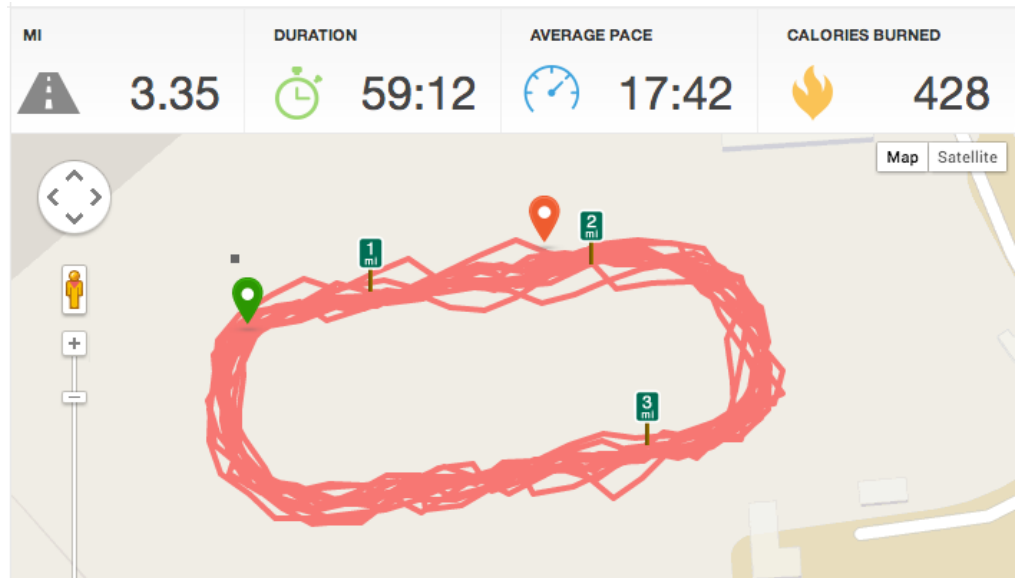
Team Jonathan: Michelle, Joe, Jen

About Jonathan



- Legally blind for his entire life
- Held various careers including lobbyist for people with disabilities
- Worked with AT projects before
- Active physical life

An active physical life



Jonathan's request

Assistive technology that...

1. Reports data during a workout

- Distance
- Steps
- Heart rate

2. Tracks information regardless of location

- Indoors → treadmill
- Outdoors → track

3. Provides access to data post-workout

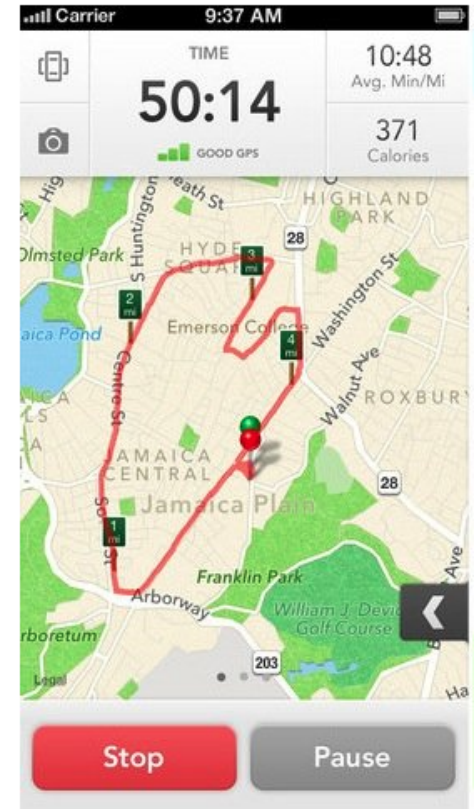
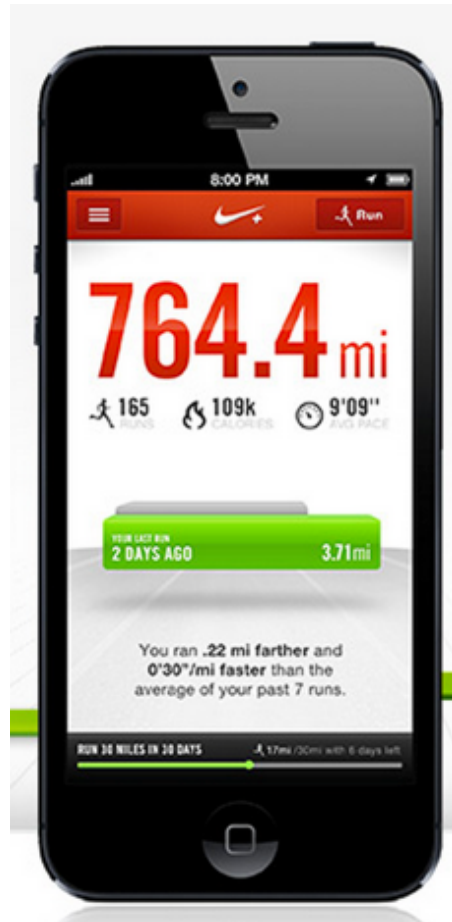
- Mobile
- Desktop

Performance Metrics

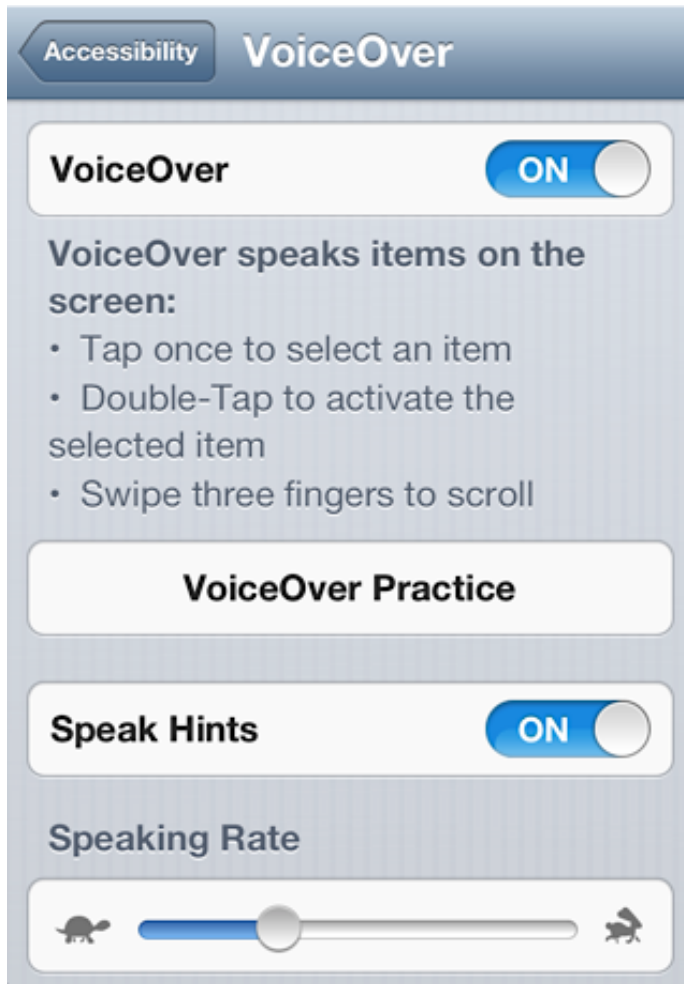
1. Access to Metrics While Exercising
2. Access to Metrics from Past Workouts
3. Efficiency
4. Satisfaction
5. Comfort Level

Research: Existing Fitness Tech

NIKE+ FUEL BAND SE
MOTIVATION ON YOUR WRIST.



Our solution: iPhone + heart rate monitor



Phase 1: 3 “Paper” Prototypes



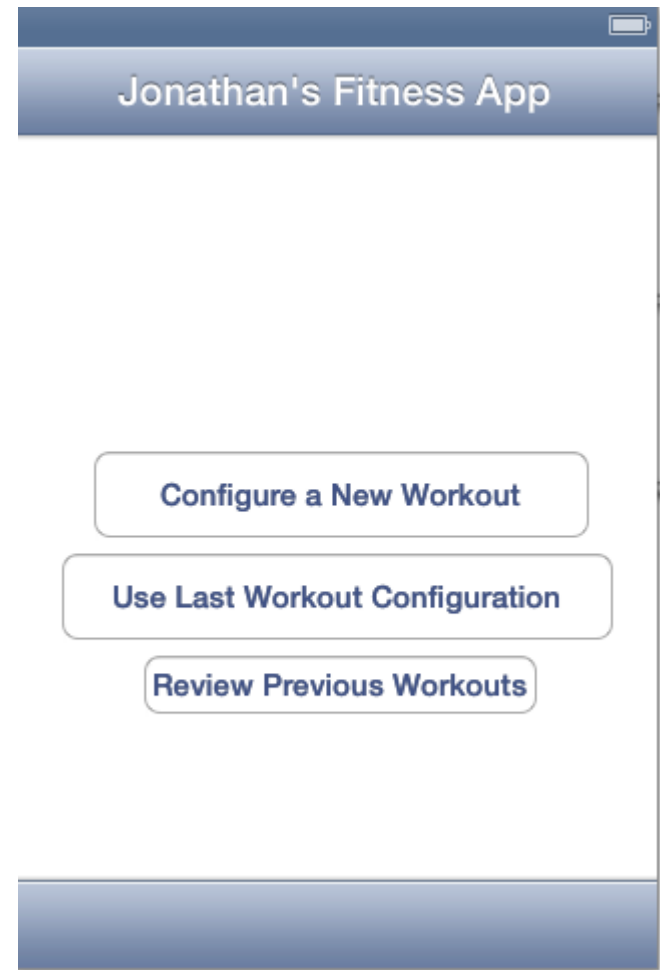
- 3 Different Focuses
 - Efficiency
 - Learnability
 - Satisfaction
- We imitated iOS Voice Over

Be consistent and verbose.

- Consistency is key
- More > Less
- Audibly confirm actions

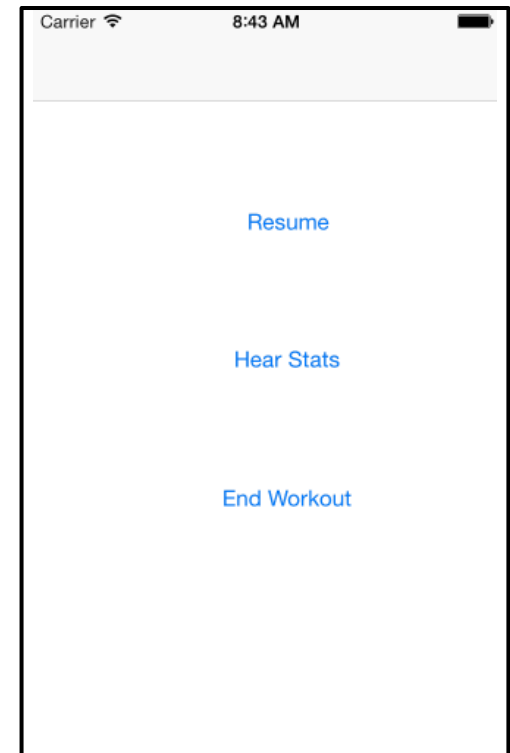
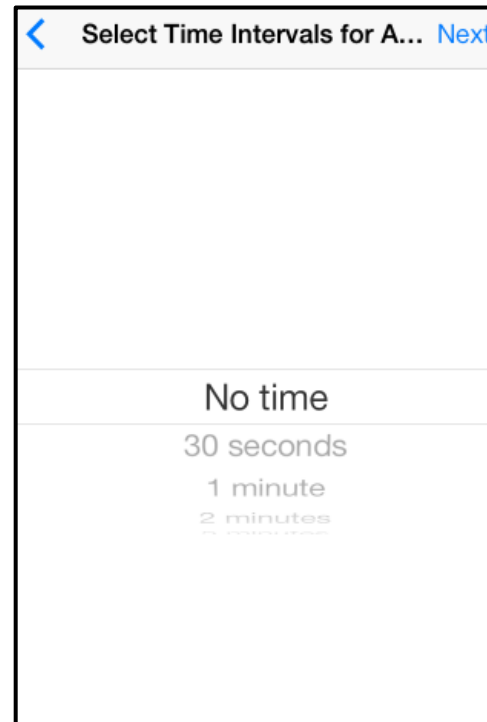
Phase 2: Barebones iPhone app

- 3 Main Options
- High fidelity with basic functionality
- No persistent data



Phase 2: Lessons learned

- External Consistency
- Make sure mental model is the same as actual app

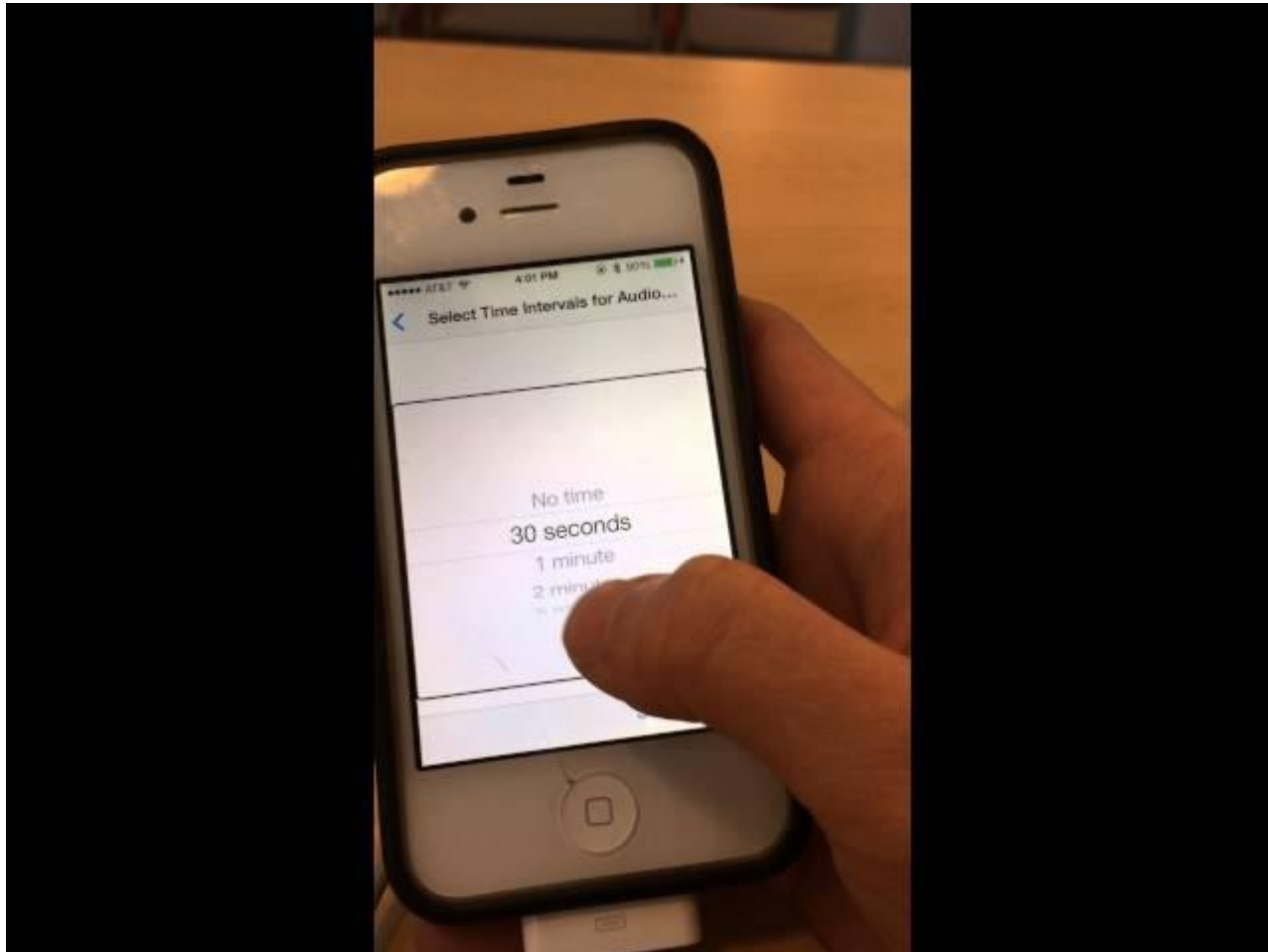


Phase 3: Functional Prototype

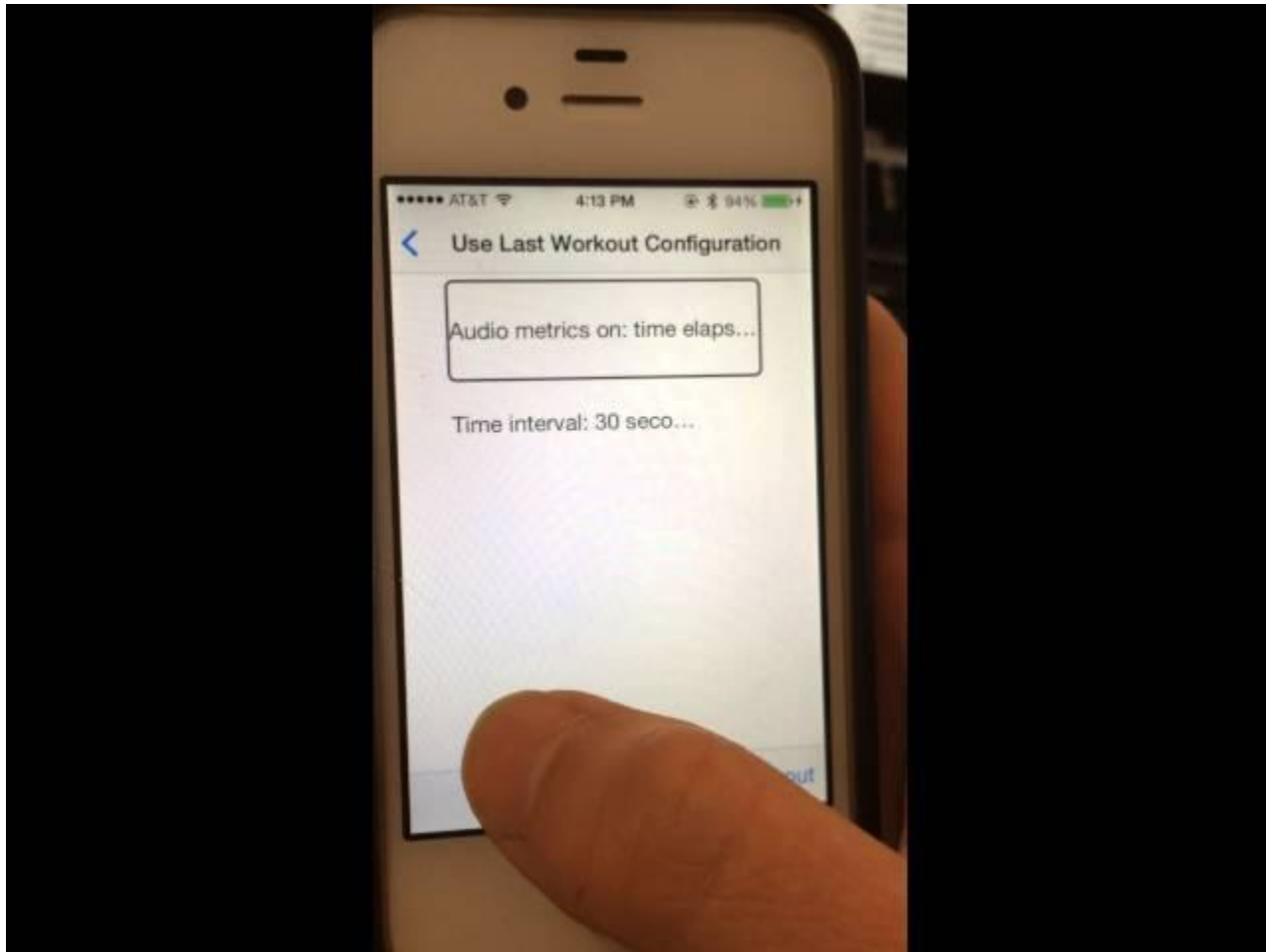
- **Integrating functionality**
 - connecting to heart rate monitor
 - saving/fetching data

- **Improving the user experience**
 - adding confirmations
 - display vs. speech

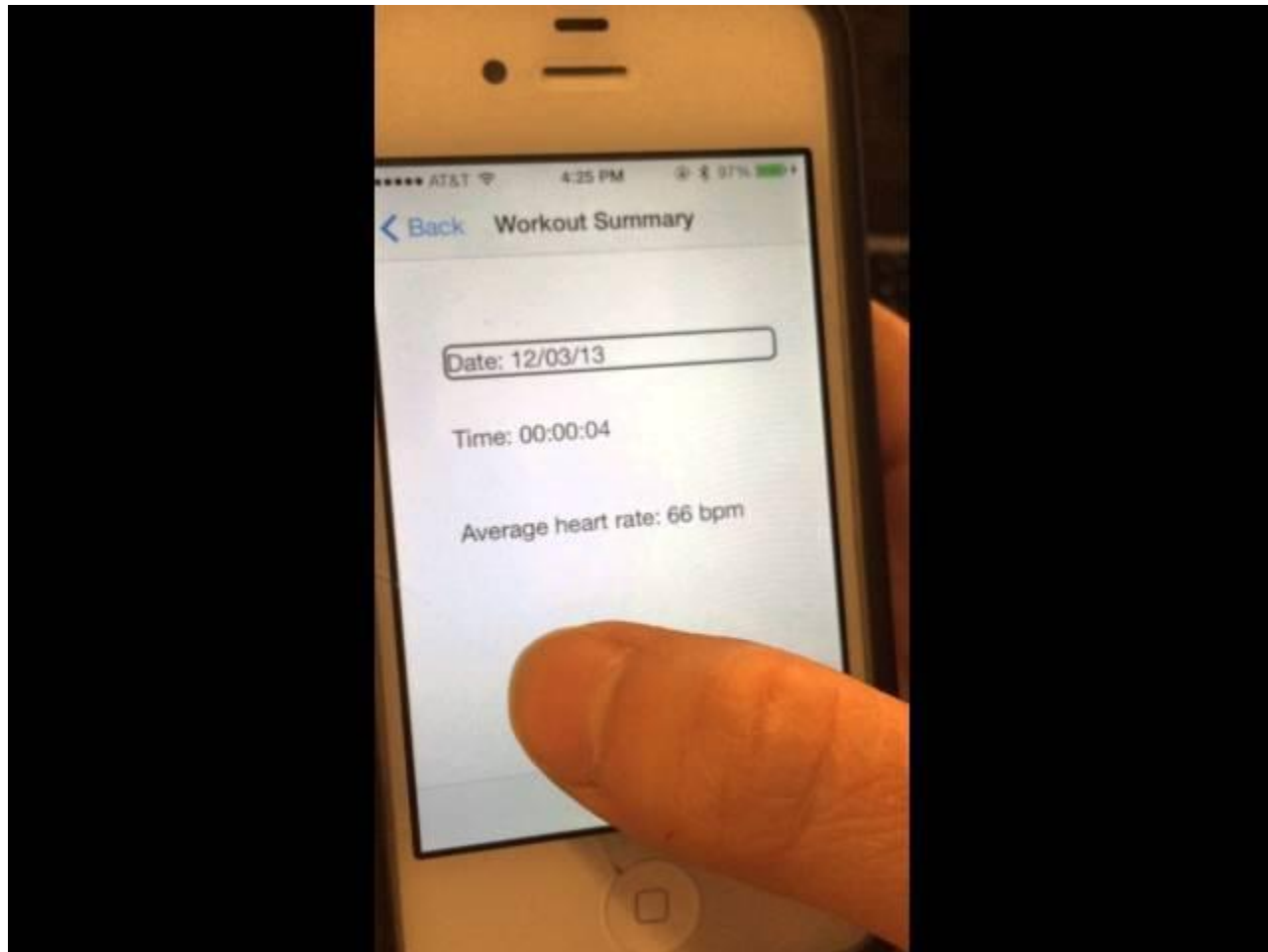
Demo: Configure a new workout



Demo: Use last workout configuration



Demo: Review previous workouts



Performance Metrics - Evaluation

1. Access to metrics while exercising	<ul style="list-style-type: none">● On demand● Automatically at a range of intervals
2. Access to metrics from past workouts	<ul style="list-style-type: none">● By date, metric● Averages across ranges of time
3. Efficiency	<ul style="list-style-type: none">● “Use last workout configuration” option
4. Satisfaction	<ul style="list-style-type: none">● Time, heart rate, calories burned● Highly configurable
5. Comfort level	<ul style="list-style-type: none">● Bluetooth connection

Team Roles

Joe - Storyboard/Retroactive Retrieval
Rockstar

Michelle - Accessibility/Wahoo Wizard

Jen - Core Data/Configuration Queen

Next Steps

- Submit to App Store
- Integrate with phone GPS
- Integrate with pedometer/distance tracker
- Setup Desktop access



Thanks!

Contact us @mit.edu

jkliu

mwchen

jdhenke



Phase 2: iOS Storyboard

1. Configure a new workout

2. Use Last Configuration

3. Review Previous Workouts

