BackTrack

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Poor posture causes many problems

- Poor self-esteem
- **Depression[1]**
- Decreased energy
- Bad first impressions
- Decreased motivation
- **Back/neck pain[2]**
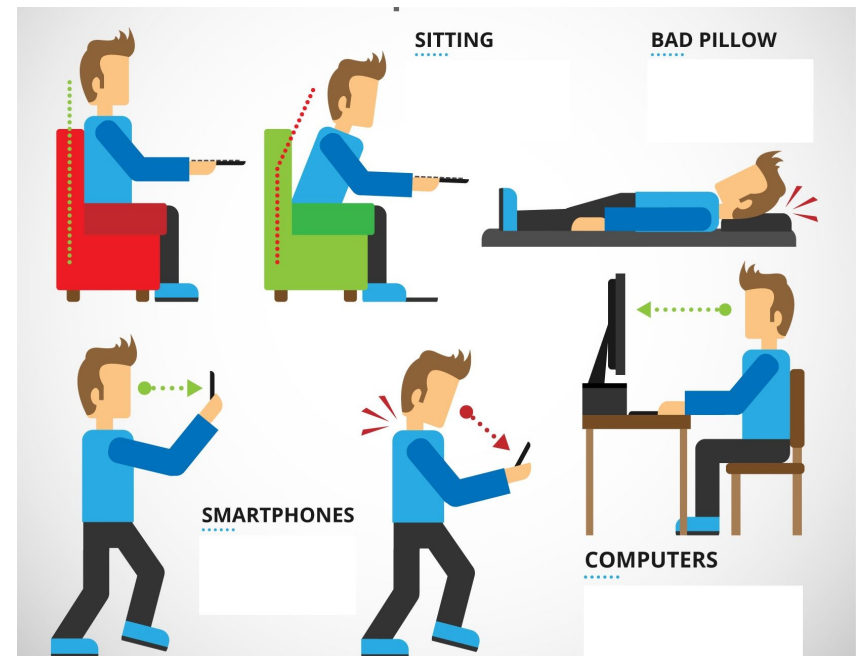- Digestive issues
- Poor breathing
- **Increased risk of death[3]**

...but it's very difficult to correct.
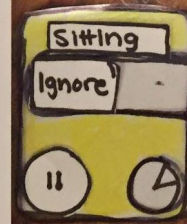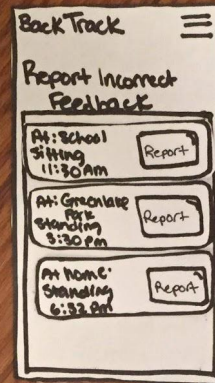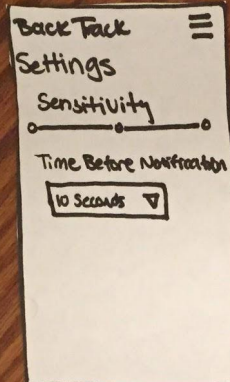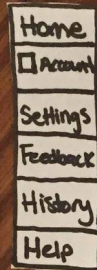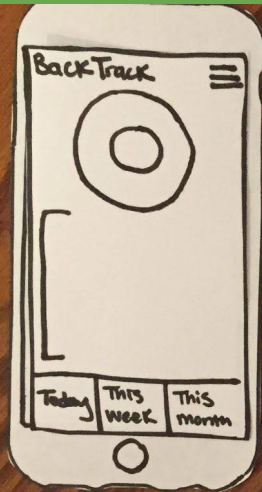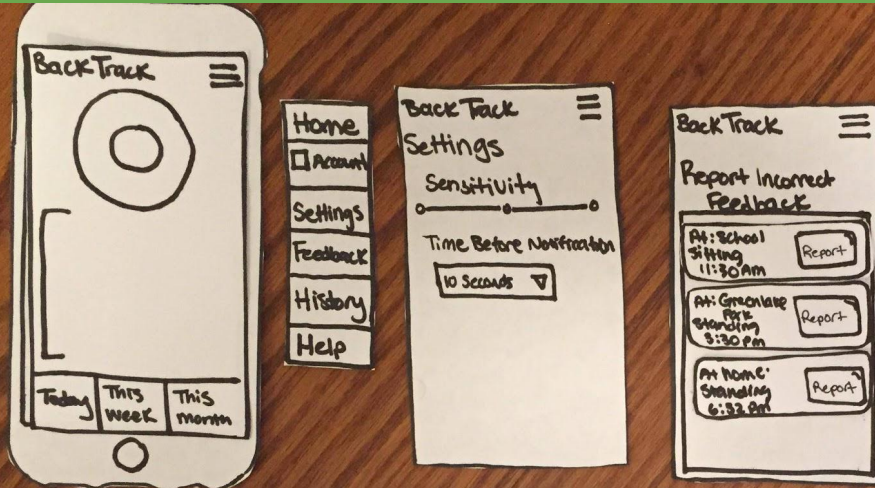
Principal Tasks

1. Becoming aware of "posture creep"
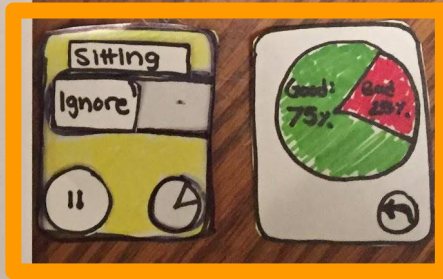

2. Adapting to changing activities

Initial Paper Prototype

Task 1

Becoming aware of daily "posture creep"
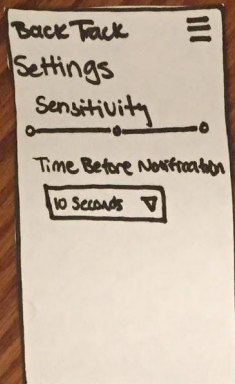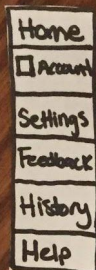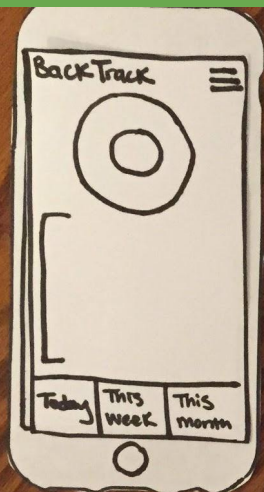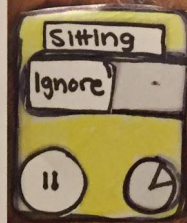
Task 2
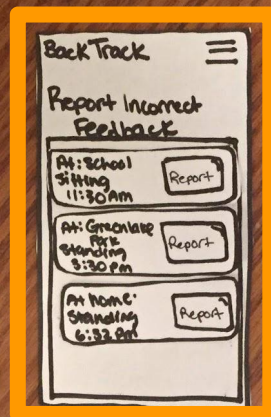
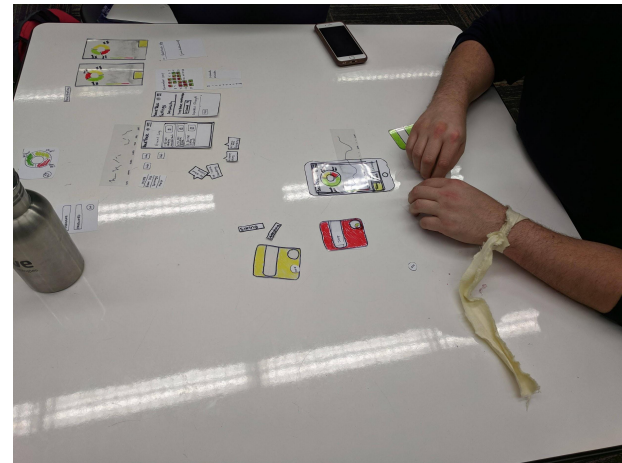**Calibrating between different activities**

Testing Process and Results

Tested 3 participants in their natural work environments with the paper prototype and a fabric "wristband"

Tasks: Avoiding Posture Creep
         Adapting to Changing Activities
Difficulties
- Participants' hyper-awareness of their posture while testing
- Simplicity of tasks

Changes Made

Feedback View of Current Posture

- ● Help users see what their current posture looks like
- ● Guides the user to correct posture

Calibration

- ● Starting screen informs user what correct posture should be
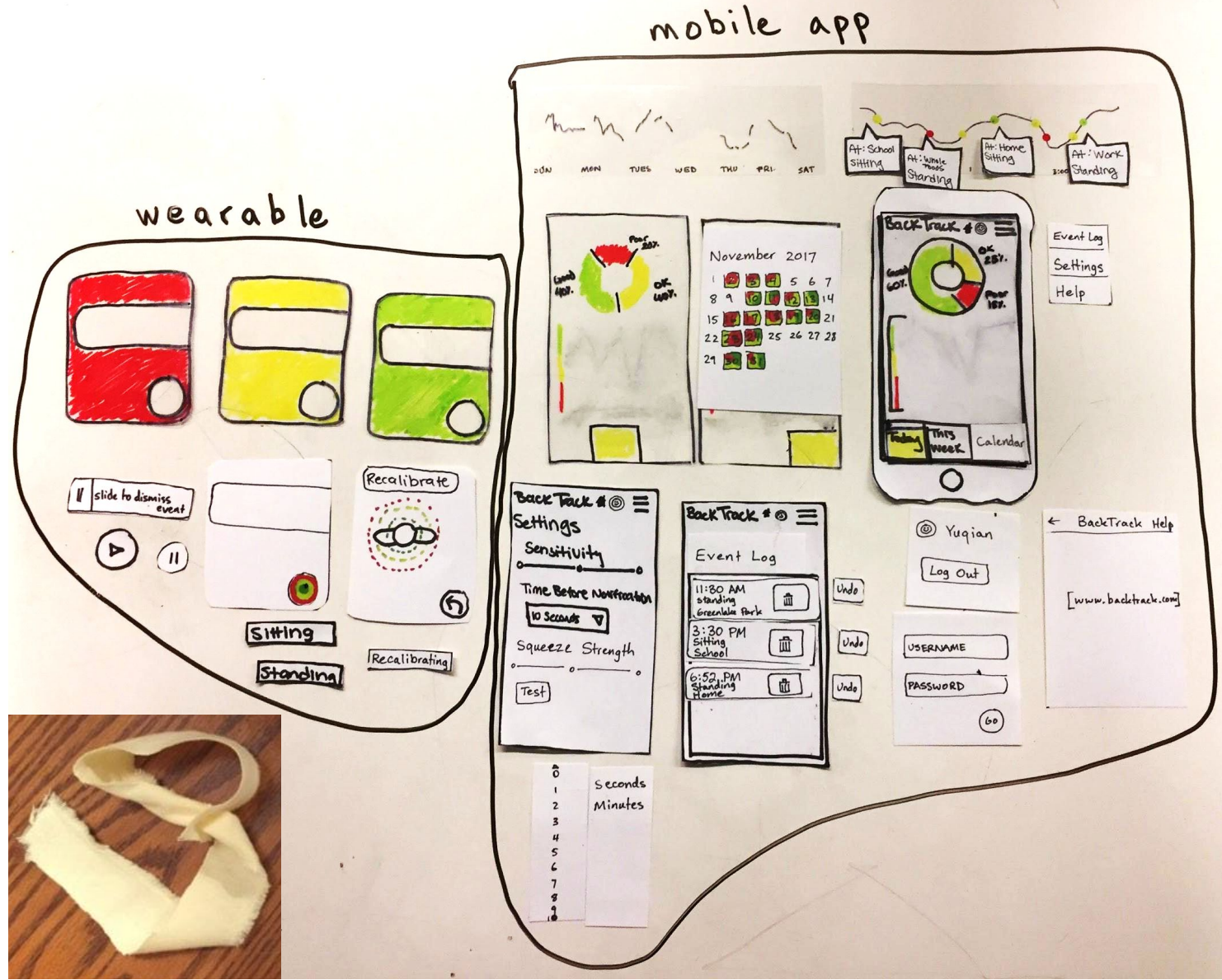- ● While in use gives user a way to correct device if sensors get off

Changes Made

Information Visualization
- Added affordances to graphs to let users know what parts they can interact with
- Different visualizations for day/week/year to account for the variations in what information a user might need for each
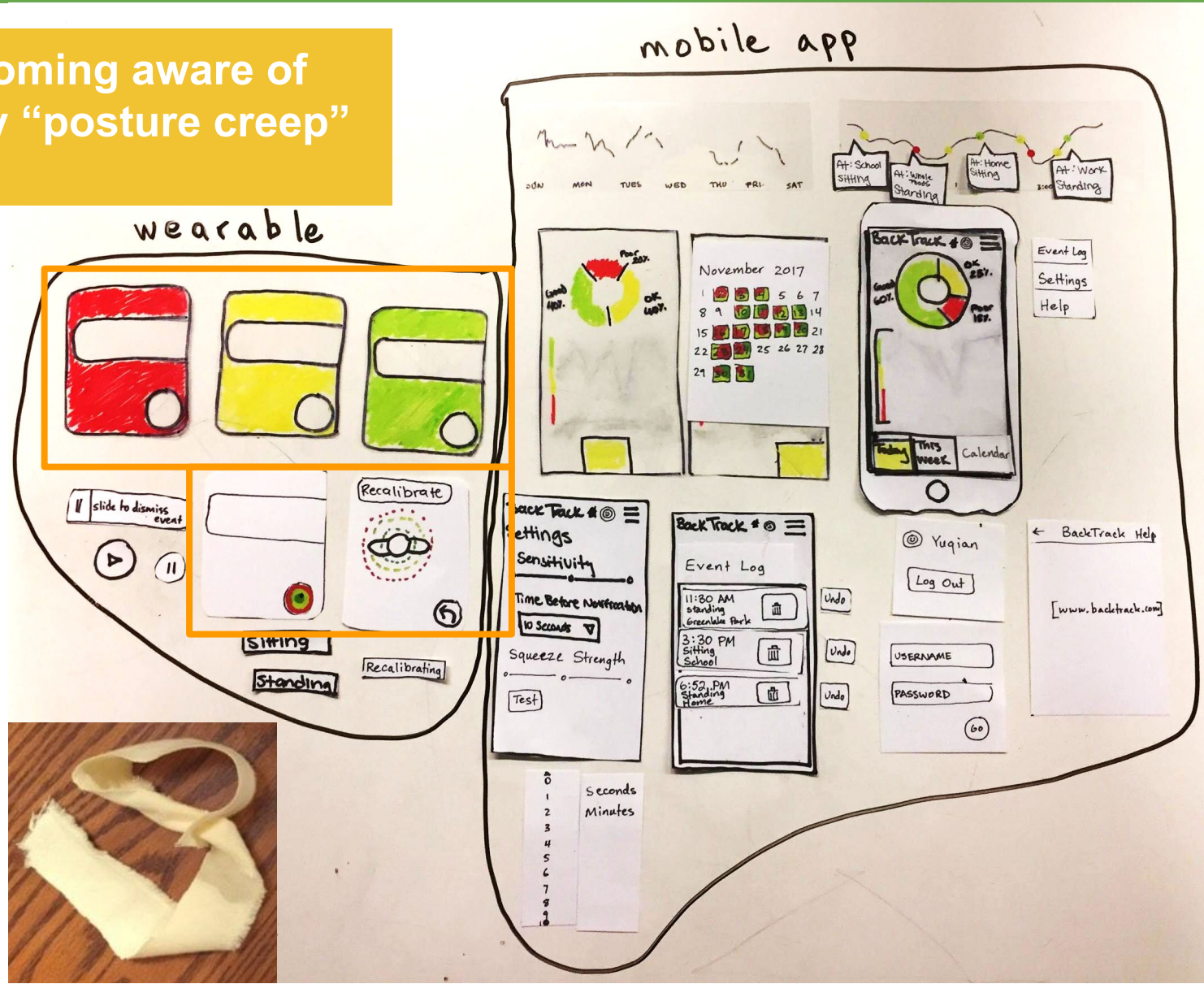

Weekly

Daily

Monthly

Final Paper Prototype

Task 1

Becoming aware of daily "posture creep"

11/16

Task 2

Calibrating between different activities

Final Digital Mockup
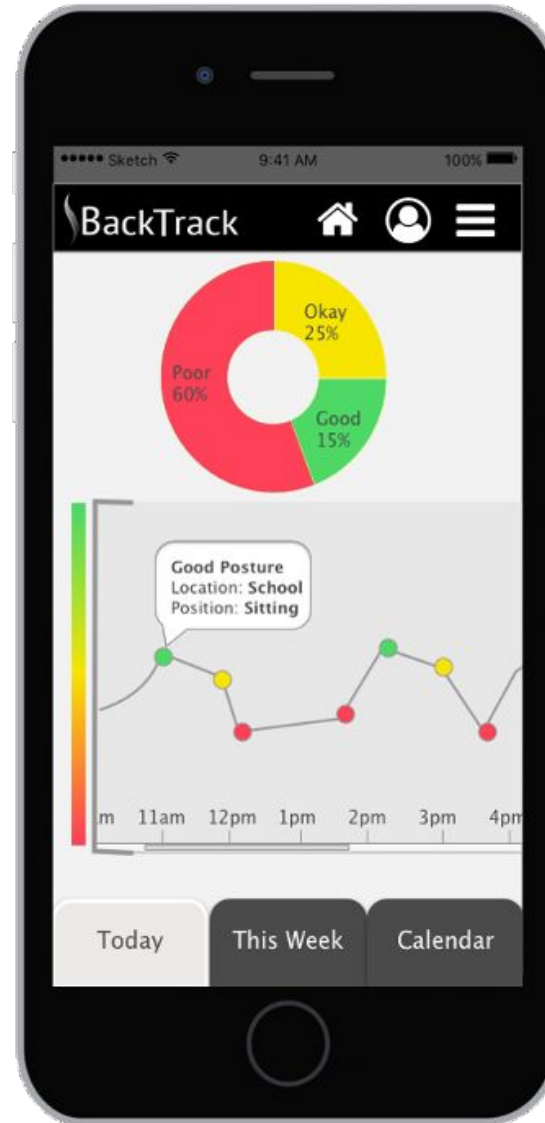
Task 1

Becoming aware of daily "posture creep"

Good posture (no squeeze)

OK posture (50% squeeze)

Poor posture (100% squeeze)

Task 2

Calibrating between different activities
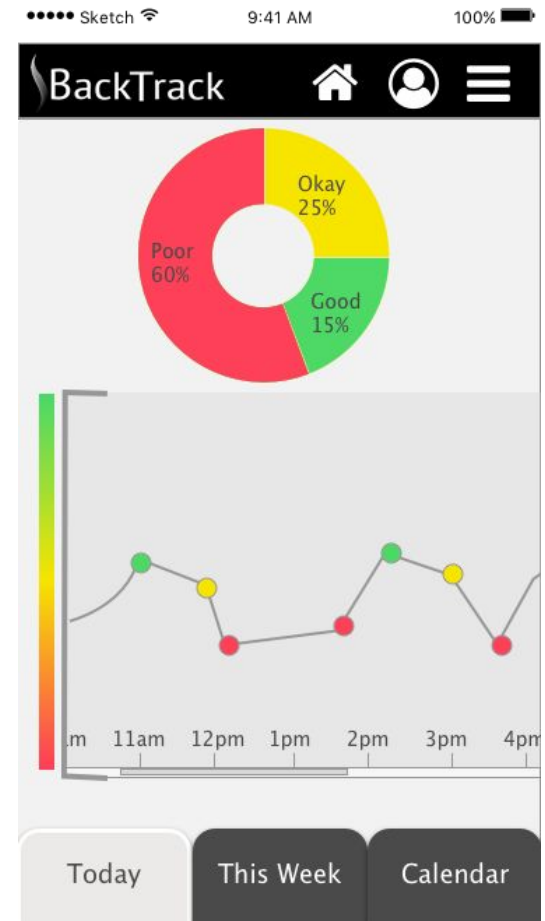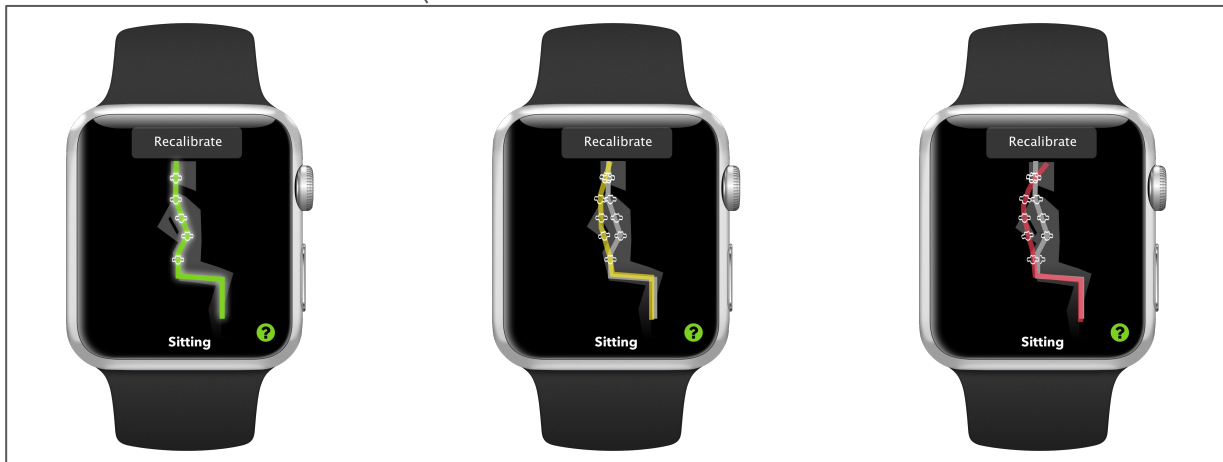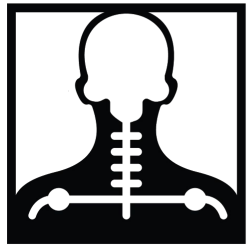

Initial Calibration   Standing (Good)   Sitting (Good)   Sitting (OK)

Lessons Learned

- Iterative design: there is always space for improvement even we think the design is perfect

- The process of iterative design has great impact on the users and tasks we target

- It's difficult to design a task associated with unconscious behavior

- More heuristic testing helps to reduce the consistency problem of prototype and then get useful feedback

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