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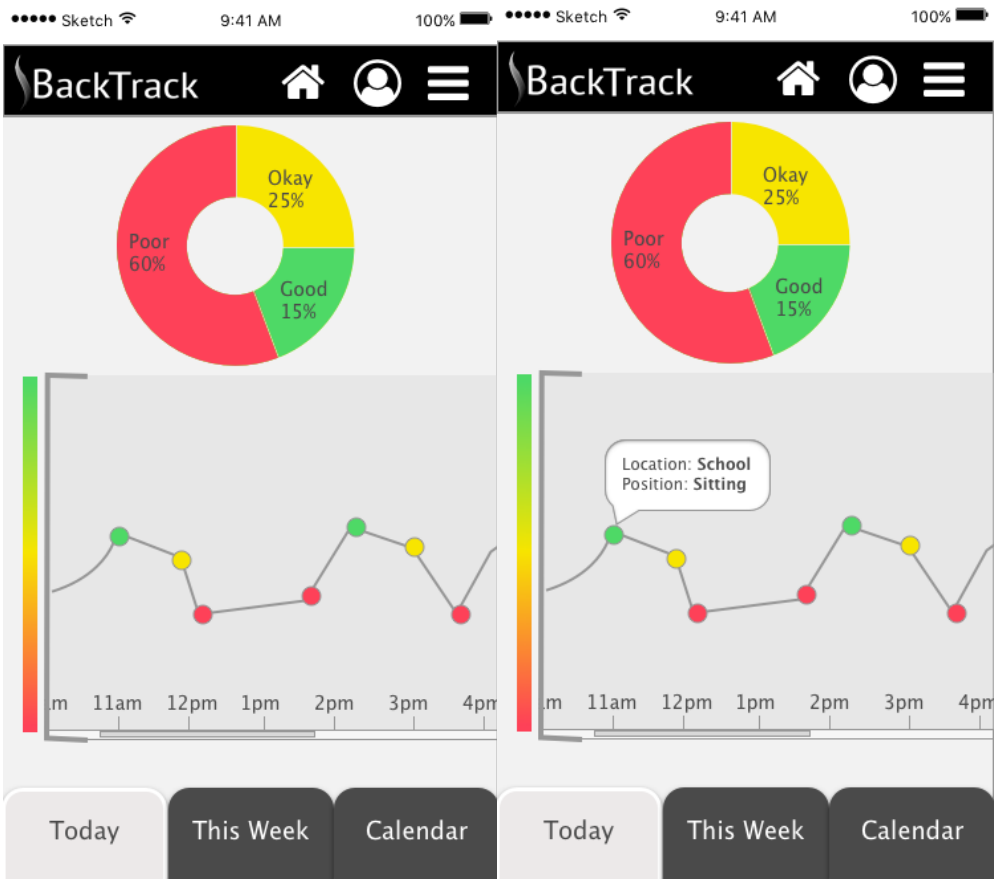
CSE 440 AA

BackTrack 3e - Digital Mockup

Design Overview (smartphone application):



The main screen of the app. Displays today's posture in a donut graph and a clickable line graph. The node shows critical event with color representing posture. Clicking points on the line graph brings up more information about that time with location and position (sitting or standing).

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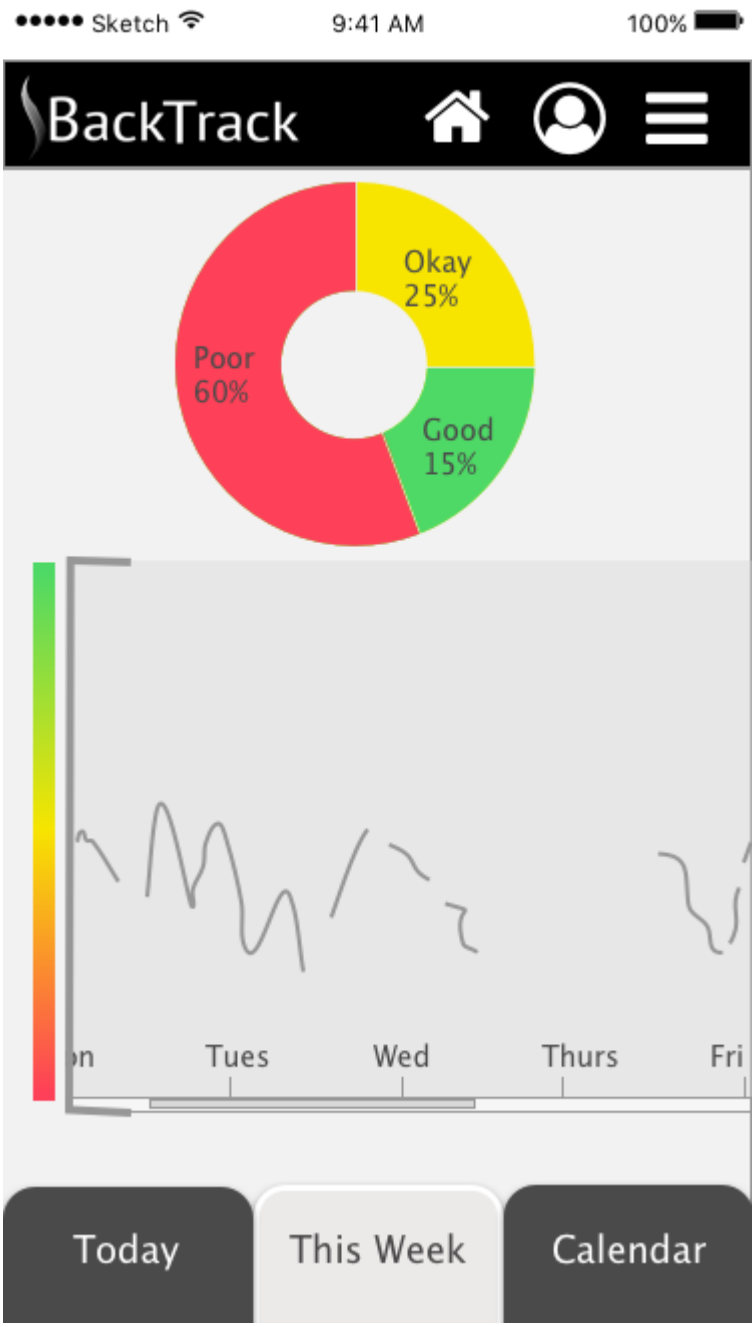

Tapping “this week” in the bottom nav brings up the same information, but for the entire week. The break of line graph means user stops recording at that time. User can scroll to see the graph.

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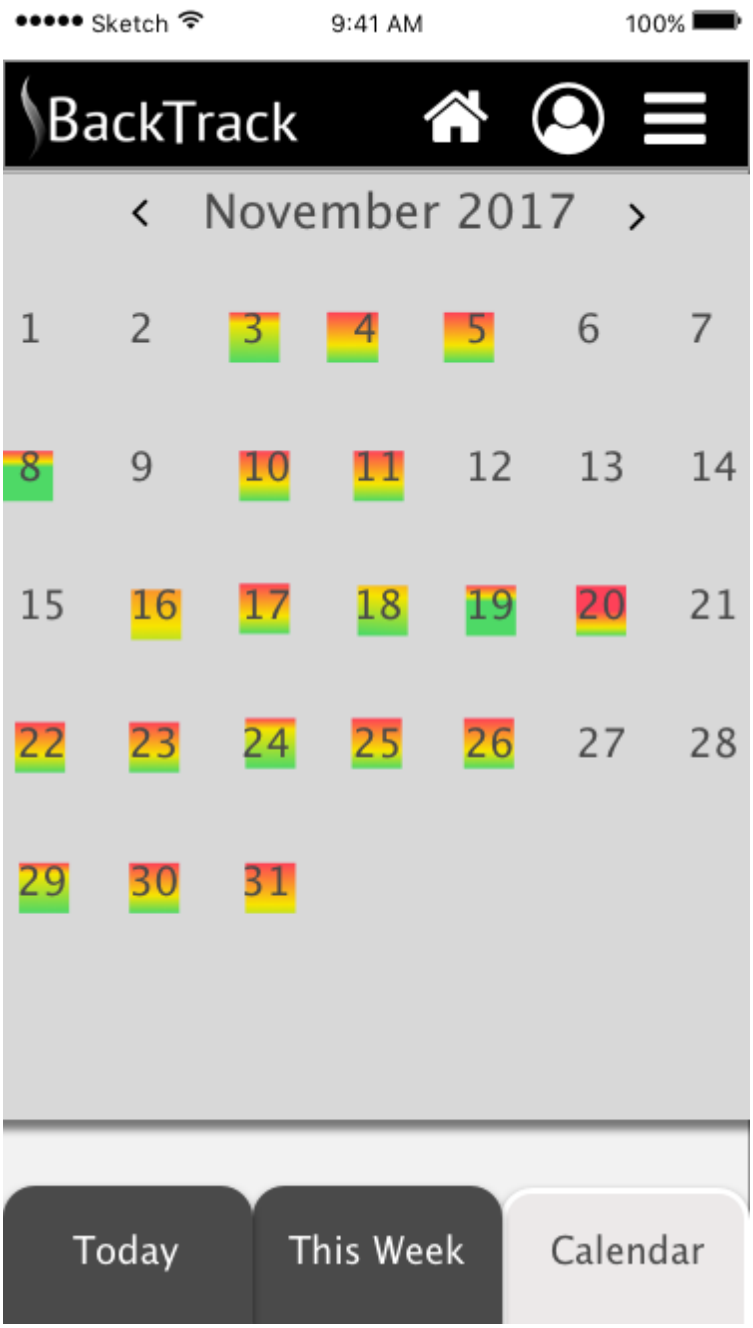

Clicking the calendar button in the bottom nav displays a monthly calendar with color gradients for the days for posture.

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Tapping the hamburger menu on the top right brings up a way to go to the event log, settings, and help.

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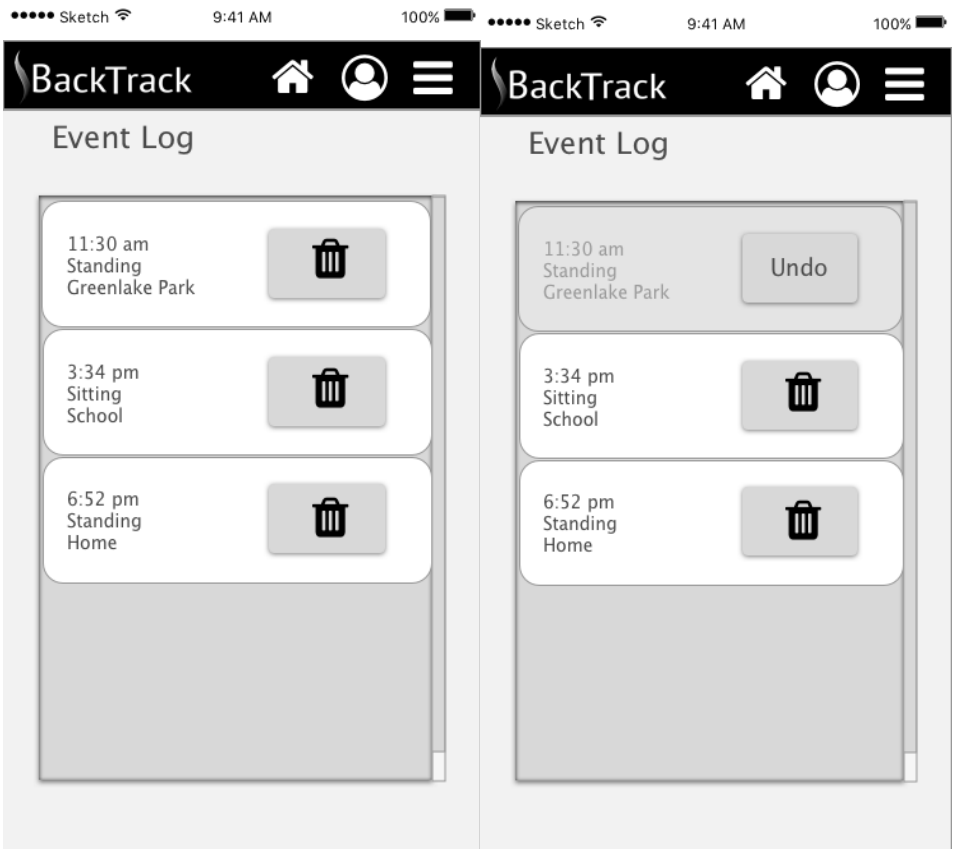

Reviewing the event log. Tapping the trash can icon allows the user to remove a posture event from the log, training BackTrack to avoid triggering on events like that. Grays out the event and shows an undo button.

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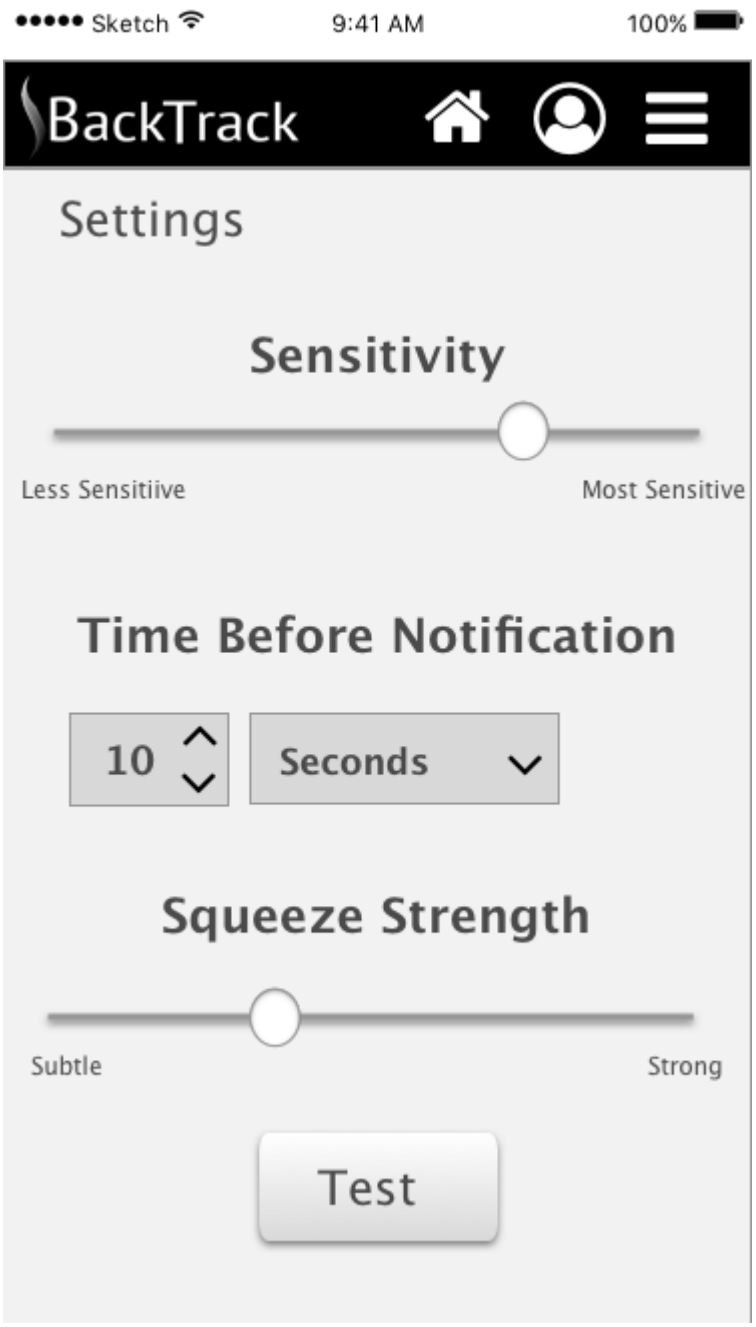

The settings menu allows for configuring sensitivity, time in poor posture before receiving a squeeze notification, and the strength of the squeeze. User can test the setting by clicking the “Test” button.

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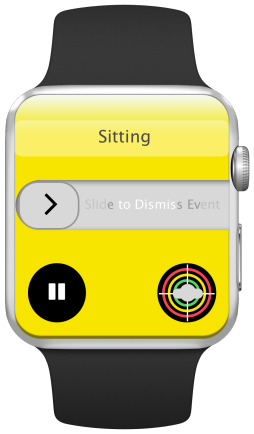
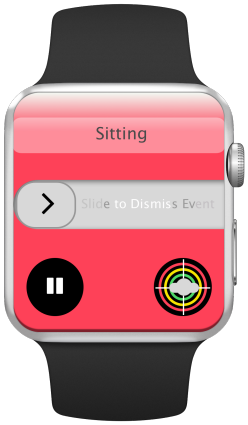
Detailed Tasks:

Task 1: Trying to become aware of daily “posture creep”





These screens show the flow for posture creep. These actually required very few changes from the original paper prototype. For the slide, we copied the iOS design for slide because we wanted it to be something users were familiar with. One difficulty we faced was that we imagined the watch having a gradient of color rather than three discrete colors. Due to the static nature of both paper and images, we haven’t been able to capture that aspect of the design yet.

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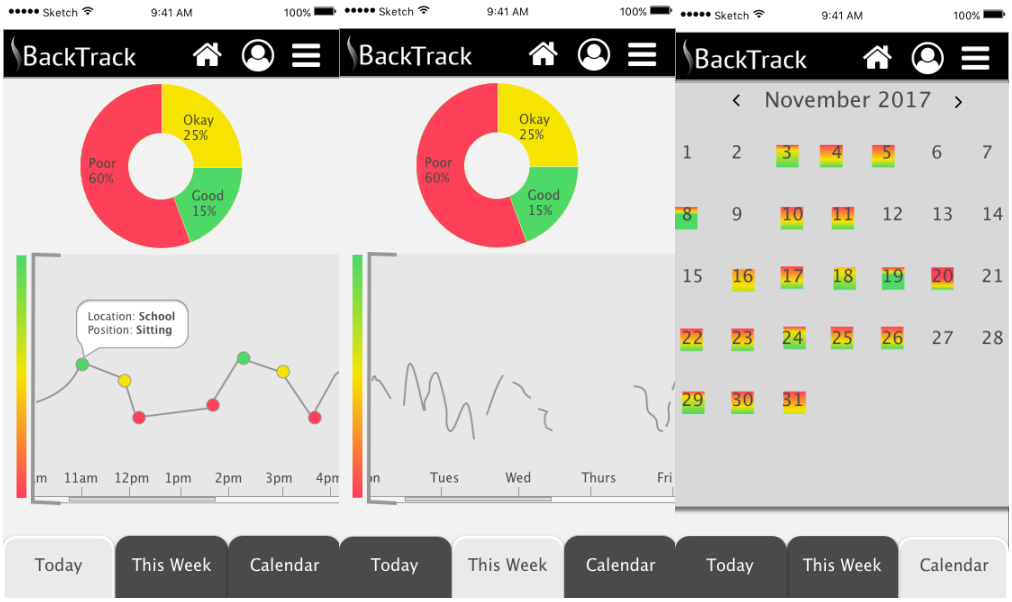
From the main screen, users can check their current posture, or recalibrate the BackTrack. As mentioned with the above calibration flow, the only major change we made here was the addition of highlighting/thickness to inform the user of their posture status.



Also, users can check their posture from the record of smartphone application. They can get the personal tendency of posture from the color gradient and line graph. Besides, by clicking at the node, they can get detailed information.

Task 2: Adapting to changing activities.

This task includes several screens. The task includes being able to monitor posture in different activities, so the main watch screens identify the user's current activity. This was something that we had included in our paper prototype, changing to reflect the activity (e.g. sitting, standing, running, etc.)

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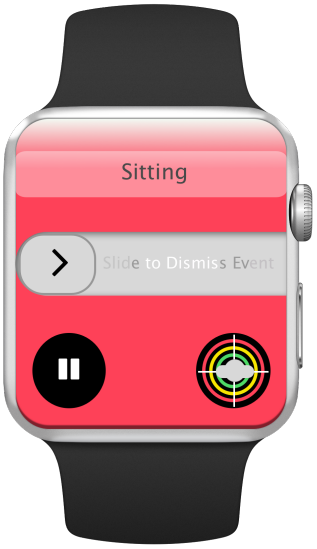

In addition to allowing users to check the status of their activity, they can also dismiss the event in the case that it isn't needed or is incorrect.

We imagined Task #2 might need support in dealing with errors. For this, on the screen allowing users to check their posture from Tast #1 also has a calibration option, so users can correct the system.

This can also be done through our event log, where users can delete incorrect notifications. This for this we added a greying out effect in our digital mockup that helps to signify to the user that the action delete has been performed.

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Discussion:

Overall, the transition from paper to digital prototype went fairly smoothly. Through our paper prototype, we had a fairly strong idea of what we wanted the flow of the experience to be, which helped in that we knew exactly what screens we would need for our flows. However, the major challenge was once we started to put together a more refined prototype, we were forced to make visual design decisions that we hadn't really considered before. While we had to decide on things like color and fonts, the more difficult part came identifying what might get lost in translation between paper and digital prototypes. One task we faced was making sure that the affordances that were clear in the digital screens. An example of this is the sliding mechanism for the graphs on our application. It was quite clear in the paper prototype that there was more information that could be revealed by sliding the transparency across. On a screen, however, there needs to be an affordance to allow the user know recognize that there is information being hidden, and the action needed to reveal that information. To do this, we added a scroll bar, as well as having the information on the edges partially displayed, suggesting that they should slide to reveal this.

One thing we noticed during testing was that participants didn't know when to "begin" using the device, and also were unsure as to what posture counted as "good." A way we addressed this in the digital mock-up was adding the calibration screen, which shows on startup. The calibration screen has a silhouette of a person and 3 differently colored circles, and the user needs to hold their body to line up the silhouette in the green circle to calibrate. One difficulty we found in translating it from paper to digital prototype was thinking about how to show interactions. We wanted to have some sort of feedback to confirm the recognition of the posture, which we took for granted in the paper prototype where the action of the "computer" showed confirmation. Here we instead showed a highlighted/thickened circle to show the status of the posture, which would brighten (center screen) and then confirm (right screen). After calibration, the watch app transitions to the "main screen".

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