Chase Deets
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Device: We did not use an iPod touch as we had all the necessary hardware on iPhones

Project: **PaceMkr**

Pitch:

Many of us perform cardio exercises every day to stay in shape, however many people don't realize that there's a target exercise heart rate (related to your age) that you should strive to keep your heart rate within for optimal results.  Our app takes in your name and age and calculates your target heart rate.  That information is displayed to you on our homescreen.  You can begin a workout with the touch of a button (options are included if you do not have a heart rate for active heart rate measurements).  In manual mode you can take your heart rate through any means and enter it in the BPM box.  If you have an apple watch, you can click the start button, which will begin a workout. During this workout, anytime your click update, the most recent heart rate recorded by the watch will display.  A color-coded heart rate will appear.  This rate is red if your are greater than 40 bpm outside of your target rate, yellow for 20 bpm off target, and green when within 10 bpm of your target.  A difference calculator tells you how to adjust your current heart rate to meet your target.  A map view is also included which will track how far you've traveled during your workout, along with a list of important local places that you can get directions to with just a click.  Now you can check out someplace new while you run and track your heart!

Key Features
  • Custom target heart rate for each user
  • Color coded heart rate feedback
  • Difference calculator to tell you how to reach your target heart rate
  • Optional Apple Watch heart rate integration
  • Live GPS data
  • Distance tracker for your workout
  • Optional Manual heart rate mode for users without Apple Watch
  • List of Important Locations with directions
  • Sleek Homepage UI with all of your info

Instructions for use:
  • Click on the PaceMkr App icon or search for it in the search bar
  • Enter your Name and Age
  • Click Start
  • Click on Start if you have an apple watch
  • Otherwise Click on No iWatch
  • You can also click on "MAP" for the Map View

- When in manual Mode:
- Enter your heart rate in the box and click update
- When in Apple Watch Mode
- Take heart rate reading on your watch
- Then enter the app and click update
- When in the map view you can see your total distance
- Click reset to set your distance back to 0.0
- Click Nearby Locations for a list of locations
- Click a location to get directions to it on the map
- Click the back button in the top left corner to return to previous screen

Lessons Learned:

One we began using the app, we realized that the most usable functionality while running was the Map view, so we focused a lot on that aspect during this final build. The distance traveled was updated to more accurately reflect distance traveled during use. We also experimented with and implemented a line function on the map that shows you where you've traveled during the workout! This feature of maps took some experimenting and learning how to change the simulated location with the emulator. This allowed us to "travel" to far places and insure a line was drawn in the wake of our path (we took a trip around the major capitals of the world).

One of the other biggest aspects we played with on this final build was polishing our UI. Before we had a text cluttered list of links, buttons, and information displayed to the user on the homepage. Now, we considered an interface that displayed this information in an easy to read, quick to access, and aesthetically pleasing manner for when a user is running. We learned that clicking the buttons on our last interface was difficult in practice, so we made them easy to find and select while running with our new "tiled" display. This brought more lessons in UI design, constraint usage, information hiding, and display changes than we could've expected. Setting up a symmetrical, tiled display meant that constraints had to be perfect and that each item had to be properly constrained by its neighbors. Also, with the limited screen size, we ran into problems of not having room to effectively display all of the text we previously had. This meant designing the tiles with short, intuitive tags that users would recognize to navigate and receive the information they want, in an aesthetically pleasing manner.

The last piece we wrestled with, was Healthkit integration. Our previous builds were using a now deprecated version of Healthkit and that was not allowing us to use any data functionality. For this build we attempted to integrate the new Healthkit and ran into tons of problems. We learned how to create HealthStores to begin the exchange of data between our app and Healthkit, but ran into massive hurdles when attempting to use HKQueries to retrieve heart rate and other data. These queries would build properly, but never seemed to properly execute in order to change our labels and update our health data. Finding updated (post Oct 21) resources to remedy the problems with the new changes proved to be very difficult.

WireFrame: