Shilpa
Dhamdhere

shilpa.lagu@gmail.com | 617-257-2319

Heart Rate and Progression Overtime

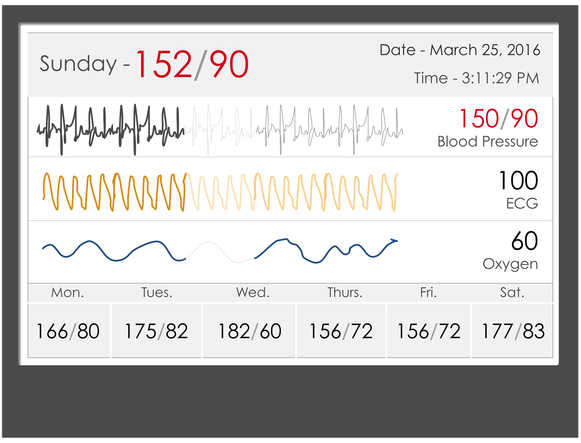
Role
Lead User Experience Specialist for the project

Key Focus Areas
Data Visualization

Overview
One of the assignments focus was to demonstrate knowledge about data visualization best practices. Creating a visual for multiple devices and varied environments for monitoring heart rate:

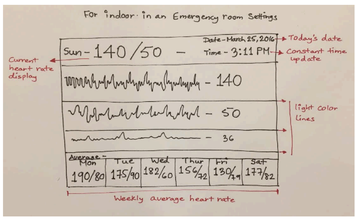
- In an emergency room
- On an indoor elliptical equipment
- For health app - desktop web interface
- For mobile app while jogging
- Visual for smart watch

Heart Rate Progression



An emergency room has a lot of panic and tension. Due to smaller monitor size it is imperative to show current heart rate at the top. We tend to read from top left corner so adding critical information in there helps to capture the content. At the bottom, it shows average pr progressive heart rate over the period of 7 days and its average heart rate per day.

We have to keep in mind that although each interface would be designed for a single user, the visual should suffice broader user base. They would be novice, journeyman, and expert and the visual should be simple and easy enough to decode the data.



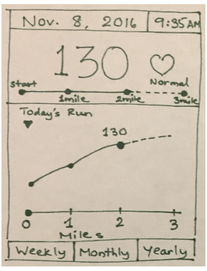
Smart Watch - Outdoor Jogging

User needs to decipher information when their primary goal is to exercise and monitor heart rate while running . Best practices that were considered during the process were:

1. Using same colors to represent same variables.
2. Using different color to highlight focal point.
3. Using simple icons (basic shapes) instead of icons with lots of details.
4. Incorporating less content yet dipicting data that user wants to know.

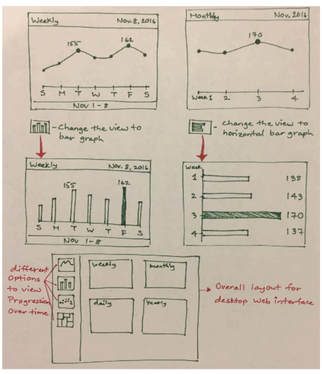
Sketches

Smart Watch - Outdoor Jogging



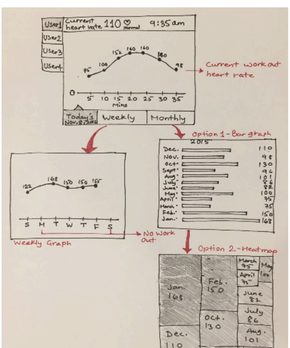
Current heart rates displays in big font size along with heart icon that echos if the heart rate is normal or need to take it easy. It also displays how the graph looks and charts where the user is at the current time, how far the user has reached his/her target run. Mobile interface can also have weekly, monthly, and yearly display to see progression overtime.

Health App - Web Interface



Web interface would have ability to display multiple visual representations. Desktop has more real estate and the user would be able to choose different view options, line graph, bar graph, scatter plots, heat map. Though there is space to add more data, I still want to keep the visuals clear and clean to have readability. Don't over crowd with data.

Indoor Elliptical Equipment



Current heart rate - Since the user (single user) will be working out and in motion displaying less data on the screen would help decipher the information. Since it's a home equipment multiple users would be using this machine and can customize to view each individual data. Default screen would display current heart rate and time, both will be continuous update. Follow by a line graph representing heart rate every 5 mins. Due to motion, I have removed y axis from the graph and placed actual numbers on the line.

Weekly heart rate - When clicked on weekly, it will display another line graph that represents 7 days in a week. I am wondering how to communicate if the user doesn't work out each and every day of the week? In the current illustration, I have skipped monday and saturday and represented data for remaining days.

Monthly heart rate - For monthly display I have created 2 options, one would be a horizontal bar graph and average heart rate would be displayed on the right (right aligned). According to Wong (pg 71), "when plotting horizontal bars over time, the bars should be ordered from the most recent data point and go back in time". That's the reason I have started the bar graph with most recent month (Dec.). I would like to know your thoughts?

Option 2 is a heat map that would represent the average heart rate over a period of one year.

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