A User-Centred Design Approach to Data Visualizations

Participant Workbook

Phase I: Research

User interview questions

1. Tell me a little about you (e.g. occupation, education, family, hobbies, etc.).

   Bhavesh Waghela, I am a postgraduate student of Big Data Analytics.
   My education background is Bachelor of Engineering in Information Technology.
   I belong to a Gujarati Family, and I have 5 members in my family.
   My hobbies are playing sports, cooking food and exploring sacred places.

2. **What** aspect(s) of a healthy lifestyle would you like to monitor in 2019?

   Any Physical activity that I perform during the day and
   Prioritize my sleep - aiming for 7-8 hours of quality sleep and maintaining a consistent sleep schedule.

3. **Why** is this important to you?

   Awareness to enable me do some assessment on my activity.
   Goal Setting which will help me set and achieve goals by determining necessary adjustments and providing a measurable metric for progress.
   Identifying Patterns and Barriers that impact activity levels, such as busy schedules or commitments. This insight will enable me to develop strategies to overcome barriers and find alternative ways to stay active.

4. **When** would you use this information?

   I would like to use this information while **Goal Evaluation** - by comparing current activity levels with the initial baseline, I can assess if I am are moving in the desired direction This information allows me for goal adjustments, modifications to the exercise routine.

   Monitoring long-term physical fitness data will help me **identify patterns and trends** in activity levels, including fluctuations based on days of the week, seasons, or life events.

   Recognizing these patterns enables effective workout **planning and adjustments** to accommodate predictable variations in the routine.

5. **Where** would you use this information?

   Personal Reflection: I can use this monitoring information for **personal reflection and self-assessment**.

Phase I: Research

Reviewing my activity levels, progress, and patterns can help me gain insights into my fitness journey. It allows me to understand my strengths, areas for improvement, and the impact of my efforts on overall health.

I would like to use this to set new fitness goals or modify existing ones.

6. Do you monitor this information currently (digitally or non-digitally)? If so, **how** do you monitor this information? What do you like and dislike about it? Do you encounter any challenges?

Non-digitally - Writing on a calendar
Like - Writing it physically gives me a sense of motivation.
Dislike - It's gone the next month when the month is over. Not easily accessible when I am out.
Challenges - Not consistent in doing it regularly and tracking it as it's an extra task for me.

Phase I: Research

User interview synthesis

1. Who is the user?

The user is Bhavesh Natwarlal Waghela.

2. Where should our product fit in their work or life?

- The user is concerned about health and wants to live a healthy lifestyle.
- They keep a close eye on their sleeping and exercise habits.
- The user is looking for a more practical and approachable way to track their health-related data.

3. What problems should our product solve?

- The solution offered by the product should be more effective than manually recording physical activity and sleep on paper.
- The difficulty of sustaining consistency and motivation in monitoring health-related data should be addressed.
- The product should make it easier to spot trends and obstacles affecting a user's activity level and general health.

4. When and how should our product be used?

- The tool should be regularly used to track physical activity and sleeping patterns so the user can track their development and make any adjustments.
- To promote regular use, it ought to send notifications and reminders.
- Data entry should be simple and quick for the user, not interfering with their regular activities.

5. What features are important to our users?

- Activity tracking: The ability to track different types of exercises, duration, and intensity.
- Sleep monitoring: A dedicated feature to track sleep duration and quality.
- Goal setting and progress tracking: The ability to set personalized goals and monitor progress over time.

- Data analysis: Visualizations and insights to identify patterns and trends in physical activity and sleep.
- Reminders and notifications: Alerts to remind the user to input data and provide motivation.

6. How should our product look and behave?

- The product should have a user-friendly and intuitive interface.
- It should be visually appealing with clear and organized information.
- The product should be responsive and provide real-time updates.
- Integration with other health-related apps and devices would be beneficial.

Teams. Sebastopol, CA: O'Reilly Media, Inc.

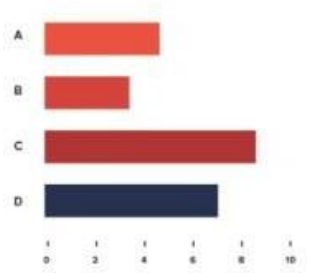
Phase II: Wireframe

Types of charts by function

https://datavizproject.com/

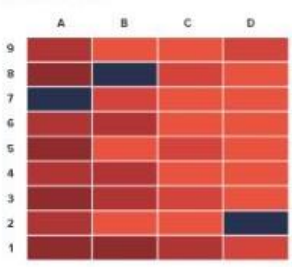
Make comparisons

Horizontal/vertical bar



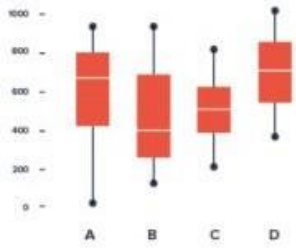
Bullet

Heatmap

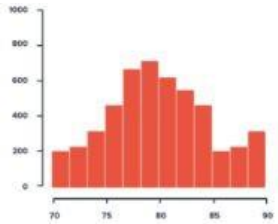


See distributions

Box and whisker

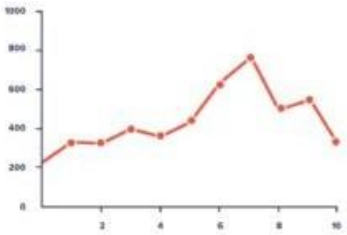


Histogram

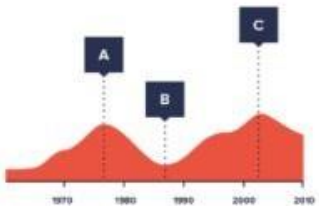


Spot trends over time

Line

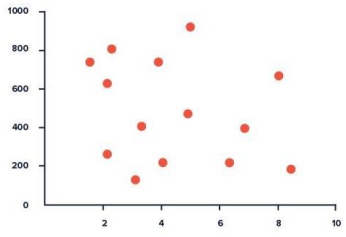


Area

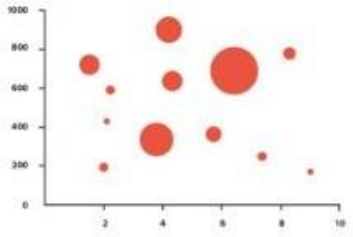


Understand relationships

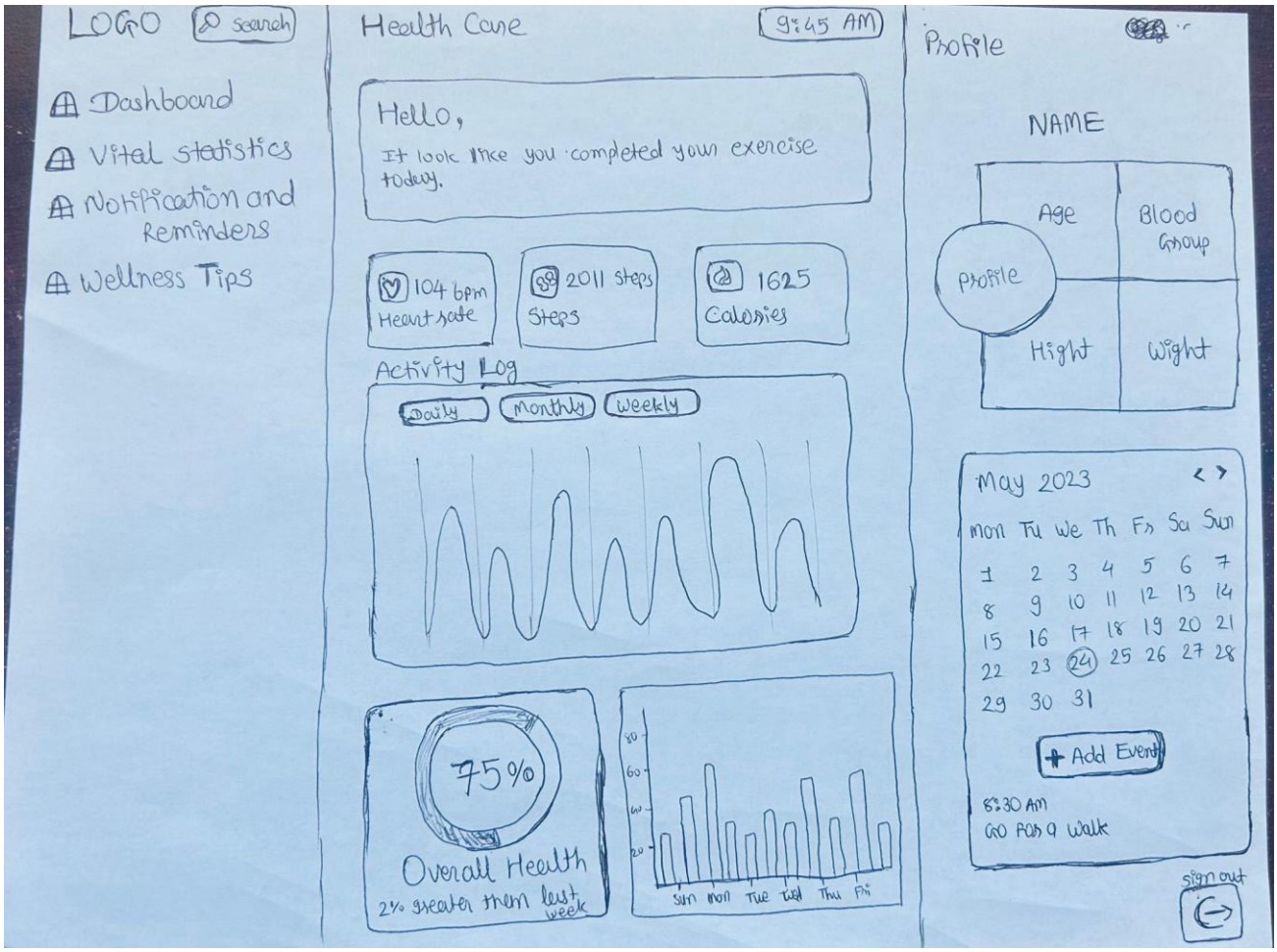
Scatterplot



Bubble



Use the space below to draw your wireframe, or use other sheets of paper provided.



Phase II: Wireframe

User feedback

(+) Likes Activity Log Matrix. Calendar to Add new events. Overall Health Update. KPI's values related to Steps, Heart Rate, Sleep.	(-) Dislikes Profile section. The Title giving an overview of today.
(?) Questions What can be considered as Vital Statistics? How would you define the overall health of the person in a chart?	(!) Suggestions Goal Meter KPI and an analytical chart view of goals achieved and not achieved if added would display the progress to the user.

Phase III: Prototype

Usability Test Template

Describe the task(s) you wish to test:

Reflect on your user's goals and key activities. For example, a goal of the user may be to do more bench presses every week. Can they use your dashboard to:

1. See if they are improving each week;
2. See how much they are improving each week;
3. See how close they are to achieving their goal.

Read this introductory script to your test participant:

Hello {Name of the participant}, thank you for coming. My name is {your name} and I'm the designer of this health and wellness dashboard. I'm going to walk you through the session today.

Before we'll start I have some information for you.

We're currently testing this product to learn as much as we can about the way people use it. Every product is intended to work in a certain way by its creators, but as you know – the reality might be quite different. The goal of this research is to get us as close to the reality as possible.

The session will take about an hour.

Please remember, during the next hour, that we're testing this product, and not you. Don't worry at all about mistakes. If they happen, it's the fault of the product. Finding about it is absolutely fantastic and gets us closer to creating a great product.

During the whole test, please try to think out loud. Share anything that's in your head. Tell me what you are looking at on the screen, what your thoughts are, what you like and what don't you like, et cetera. We want to learn about your honest reactions to this health and wellness dashboard.

Do you have any questions before we begin?

Source: https://www.uxpin.com/usability-test-kit

Phase III: Prototype

Usability test questions:

Walk me through how you would use this dashboard to **[describe task]**.

Note: If you have more than one task you wish to test, test one task at a time.

Probes:

- Why did you look there?
- What design element gave you that answer?
- How did you decide to do that?

Notes:

Phase III: Prototype

Usability Test Analysis

Critical issues:

Issues that prevented users from completing the task, and caused significant levels of frustration.

Major issues:

Issues that prevented users from completing the task properly/accurately, and caused moderate levels of frustration.

Minor issues:

Users were able to complete the task properly, but with some frustration and confusion.

Your design recommendations: