**Research Plan**

Stress Wearables

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| --- | --- |
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| 0.1 | 9/26/2022 | Victoria | Setup layout for the research plan | In progress |

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# Introduction

This research plan is to help break down the main goal of the project to sub questions that will aid in achieving the desired deliverables of this project. This research will be conducted according to the DOT (Development Oriented Triangulation) Framework to communicate and give structure to the investigations of each sub question. With the help of this document, we can properly show our expectations, approaches, challenges, and outcomes of each sub question to prove the results and choices we have made.

# Research Questions

This research plan is based on a main research question broken down into sub research questions. By answering these sub questions, the main question can be answered.

## Main Question

How can a functioning prototype visualise data, recorded from a wearable, on an interactive dashboard that is accessible from a mobile device and the web?

## Sub Questions

**Question 1:** How can data be collected from the wearables?   
Research method: Literature Study (Library), Document Analysis (Field), Prototyping (Workshop) (HBO-i, 2022)

**Question 2:** What is the best way to visualise the data to the end user?  
Research method: Literature Study (Library), Group Brainstorm (Workshop), Prototyping (Workshop) (HBO-I, 2022)

**Question 3:** How can the platform be accessible by a large amount of users at one time?  
Research method: Literature Study (Library) and IT architecture sketching (Workshop) (HBO-i, 2022)

**Question 4:** How can the platform be made to be mobile friendly by converting to or making a Progressive Web App (PWA)?   
Research method: Literature Study (Library), Prototyping (Workshop) (HBO-i, 2022)

# Development Oriented Triangulation (DOT) Framework

### How can data be collected from the wearables?

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Strategy** | **Approach** | **Expectation** |
| **Library** | Literature Study | Finding general information online with relevant keywords to the question. | Information to answer the research question which also gives understanding to the topic. |
| **Library** | Literature Study | Contact the creators of the wearables to get assistance with connecting to their API. | Information needed to connect to and retrieve live data from the wearables. |
| **Field** | Document Analysis | Finding documentation of using the wearables and collecting the data from online sources. | Find useful documentation that will guide us in to being able to retrieve data from a wearable. |
| **Workshop** | Prototyping | Creating a prototype of collecting data from a wearable to learn whether it works and discovering the technical limitations or possibilities. | Have a working prototype that will help give us a baseline for implementing this concept to the actual project. |

### What is the best way to visualise the data to the end user?

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| --- | --- | --- | --- |
| **Method** | **Strategy** | **Approach** | **Expectation** |
| **Library** | Literature Study | Finding general information, guidance, and best practices of sources online. | With this information we can have ideas to see what fits well for our project of visualizing data. |
| **Workshop** | Group Brainstorm | Coming as a group to discuss ideas we have thought of or found to visualizing the data. | Reach a suitable approach to visualize the data we all agree on. |
| **Workshop** | Prototyping | Developing a concept of visualizing the data of the design we chose as a team. | The concept will make our ideas concrete to visualizing the data with learning whether it works and the technical limitations. |

### How can the platform be accessible by a large amount of users at one time?

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Strategy** | **Approach** | **Expectation** |
| **Library** | Best Good and Bad Practices | Research approaches and project structures that match the desired goals of our project. | We will be able to have an idea to how we will want to structure our project. |
| **Workshop** | IT Architecture Sketching | Each team member sketches an architectural design which can be discussed to develop the most suitable approach for the project. | With the help of discussing a main architectural design from each team member's approach, we can create the most suitable design with input from everyone. |
| **Showroom** | Benchmark Test | Test the conditions under which the system functions when it is used by many users. | Prove that the app is scalable and accessible when it gains a large amount of traffic. |

### How can the platform be made to be mobile friendly by converting to or making a Progressive Web App (PWA)?

|  |  |  |  |
| --- | --- | --- | --- |
| **Method** | **Strategy** | **approach** | **expectation** |
| **Library** | Literature study | Finding online sources to how a web application can be converted to a PWA. | With the information acquired, we will be able to use it to create a prototype of implement this functionality where we can use it for the project. |
| **Workshop** | Prototyping | Creating a prototype of converting a web application to a PWA to learn whether it works and discovering the technical limitations or possibilities. | By creating a prototype, we can use this concept to implement to the project to add this functionality. |

# Assigned Questions

## Sub Questions

**Question 1:** How can data be collected from the wearables?

**Question 2:** What is the best way to visualise the data to the end user?

**Question 3:** How can the platform be accessible by a large amount of users at one time?

**Question 4:** How can the platform be made to be mobile friendly by converting to or making a Progressive Web App (PWA)?

## Assigned questions Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Developers** | **Question 1** | **Question 2** | **Question 3** | **Question 4** |
| Marinda Boshoff |  |  |  |  |
| Michael Osuntuyi |  |  |  |  |
| Milan Koster van Groos |  |  |  |  |
| Victoria Fong |  |  |  |  |

## Color Legend

|  |  |
| --- | --- |
|  | Contribute fully from the start to end of investigating the research question. |
|  | Contribute on adding partial value to investigating the research question. |
|  | Do not contribute to the research question. |