Project Diary

# Logs

## September 2023

### 25/09/2023

* Scheduled a 30 minute supervisory meetings with supervisor on a weekly basis, **every Tuesday** at **13:30pm**.
* Need to collate all background research done during the summer in order categorise the findings according to a specific problem domain.
* Then select a particular topic in interest regarding eye health.
* Need to select a project methodology that is appropriate for the project.
* Create a project plan document yielding background researches.

### 26/09/2023

* Need to sort references in project notes document
* Separate background research into key areas and ideas.
  + Medication reminder.
  + Logging measurements.
  + Eye games and exercises.
  + Educational apps for managing eye health.
* Organise into sections, the existing mobile applications that I have researched.

### 27/09/2023

* Organise the literature review and background research of the project.
* Start draft of project definition report and attempt on poster.

### 28/09/2023

* Making sure harvard referencing is used in referencing section in report.
* Delve into background research for literature review.
  + Review research paper <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6561043/>
  + Look through the advantages of a smartphone being used for opening opportunities for online health care.
  + During Covid-19 lockdown, it was an important time for online health services.
  + Substantial numbers of patients are stilling missing their regular eye check since the Covid-19 lockdown, and opticians are currently requesting patients to book for an eye-test appointments. Resulting patients have uncorrected eye conditions/problems that have not yet been diagnosed during the period.

### 29/09/2023

* Identify the benefits and setbacks from the existing solutions.
  + This will then be used in order to discover improvements, when proposing a solution.
  + Review app reviews from application vendors such as App Store, and Google Player Store
  + Add to references
    - <https://play.google.com/store/apps/details?id=eu.smartpatient.mytherapy&hl=en_GB&gl=US>

## October 2023

### 1/10/2023

* Review literature review on eye health, and removed parts of the literature study that were not relevant to the background research.
* Need to review the following research paper:
  + <https://link.springer.com/article/10.1007/s40135-023-00308-9>
    - For discussing about the significance of health apps during CoVID 19, and how it has revolutionised how we receive health services from the health sector.
    - How ICT has benefited the health sector in terms of delivering the health services and appropriate treatment to patients.
* Think of Software Development Models
  + Waterfall Model
  + Iterative Model (Cyclical model)
    - May not adhere to time constraints.

### 02/10/2023 – 16/10/2023

* Focused on collating more background research on the topic of eye health.
* Consulted guides on literature review, and how to improving search query for research papers/journals.
* Updated schedule in bar chart.

### 17/10/2023 – 27/10/2023

* Focused on collating background on technologies and development tools used for mobile app development.

## November 2023

### 27/10/2023 – 10/11/2023

* Focused on ethics approval
* Using interviews as a way collecting responses based on a given use-case of an eye health application being used.
* Focus on collating historic dates and papers from topic related to eye health.

### 13/11/2023 – 04/12/2023

* Performed knowledge elicitation activities of the conducting of interviews through in person and online.
* Analysed responses obtained from the interviews.
* Explored existing eye health applications.
* Identified Non-functional and Functional requirements from Background research and Knowledge Elicitation activities and has prioritised them using MoSCoW.
* Identified potential risks that may occur and has documented them in Risk Management report.
* Identified key constraints regarding time management, hardware availability.

## December 2023

### 04/12/2023 - 15/12/2023

* Need to perform justification of selected hardware and development tools, whilst performing comparisons.
* Currently in the design process of creating wireframe designs, use-case diagrams, and database schema.

### 15/12/2023 – 05/1/2024

* Prepared git repository for the implementation of the eye health application
* Setted up IDE for Android mobile app development.
* Created a basic template of the mobile application.
* Reviewing API documentation on navigation, creating ViewModels to communicate between UI Screens etc.
* Attempted a start on the navigation between different screens, navigation components, and created first interactive vision tool game.
* Need to focus on implementing database scheme, need to choose database package, decide if database is going to be a local database or one that is to be hosted.

## January 2024

### 05/1/2024 – 15/2/2024

* Database Schema has now been fully implemented.
* Created minimal viable product of the eye health management application.
* Configured on GitHub, Continuous Integration tools that are designed for Android applications to identify if a particular modification of a module, or a new module causes potential software breakages.
* Created Tests on the backend of the mobile application using Android Unit Tests.
* Created Integration Tests on the Mobile applications, and integrated unit tests to identify potential software breakages or defects in a particular software module.
* Revising Chapters in the Final Report.

# February 2024

* Created database migrations for database schema.
* Refactored source code for Tumbling E Test and Colour Blind Test.
* Placed Tumbling E Test and Colour-Blind test in their own activities.
* Used RecyclerView API for managing dynamic list.
* Created notification reminders for reminding users to take their medications.

# March 2024

* Refactored source for notification reminders.
* Modified existing functionality for allowing users to receive notifications at a specific time of the day using AlarmManager API.
* Created Settings for enabling notifications using SharedPreferences API.
* Refactored source code for managing notification using intents provided the Settings service.
* Encrypted Database using third-party API.
* Updated release for Mobile Application prior to major changes.
* Completed Ethics declaration forms and relevant documents required for approving eht
* Conducted Usability Tests.
* Analysed test results obtained from usability tests.

# April 2024

* Evaluated tests results obtained from usability tests.
* Revised background research chapter, and drafted new report.
* Updated release for Mobile Application prior to bug fixes and changes to the library used for encrypting database.
* Reviewed other chapters and rewritten them in new report.
* Finalising report for submission.