

The University of Winnipeg

ACS - 2816: Health Information Systems
Project Completion Review (PCR)
MyMediPal
Group 5

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April 4, 2024

Project Completion Review (PCR)

1. Project Overview

- **Project Name:** MyMediPal
- **Project Duration:** January 14, 2024 to March 30, 2024
- **Project Team:**
 - Allen Villarin - Product Owner
 - Jashan Sharma - Scrum Master
 - Manas Sharma - Quality Assurance
 - Oyinkonsola Akinboye - UI/UX Designer

2. Executive Summary

- **Mission**
 - Create a user-friendly application to help users track and manage their medication, build a community and find the nearest medical practitioner
- **Achievements**
 - Used research and data analysis to understand user wants and needs
 - Achieved high user satisfaction scores through iterative design improvements
 - Maintained a consistent delivery schedule, meeting all sprint deadlines
 - Fostered a strong, collaborative team environment enhanced by Figma's plugins
- **Constraints**
 - Learning gaps in health regulations and advanced Figma features
 - Balancing deep user research with fast Agile sprints
 - Aligning different stakeholder expectations

3. Project Objectives

- **Primary goals:**
 - Allows users to follow medication schedules with timely reminders
 - Easy medication tracking and management
 - Better communication between patients and healthcare providers

MyMediPal team aims to support comprehensive medication management. Improve medication adherence and patient health outcomes through a user-friendly platform.

4. Sprint Overview

Sprint 1

- **Duration:** Jan. 14, 2024 - Jan. 27, 2024
- **Key Deliverables:**
 - Application requirements gathering
 - Product backlog creation
- **Achievements:**
 - Data gathered from respondents to create wireframes
- **Challenges:**
 - Time and lack of respondents to participate in answering our requirement-gathering survey

Sprint 2

- **Duration:** Jan. 28, 2024 - Feb. 10, 2024
- **Key Deliverables:**
 - Initial Product Backlog
 - Sprint backlog
 - Team assignments and roles
 - Work breakdown structure
 - Wireframes
- **Achievements:**
 - Complete the creation of initial wireframes
- **Challenges:**
 - Meeting with peers was difficult as the team had work and other assignments from other courses

Sprint 3

- **Duration:** Feb. 11, 2024 - Feb. 24, 2024
- **Key Deliverables:**
 - System architecture
 - Database design
 - Entity Relationship Diagram
 - Data Flow Diagrams
 - Mockups
 - User Flow Diagrams
 - Initial prototype
- **Achievements:**
 - Completion of creating mockups
- **Challenges:**
 - The same challenge faced in the previous sprint

Sprint 4

- **Duration:** Feb. 25, 2024 - Mar. 9, 2024
- **Key Deliverables:**
 - No key deliverables
- **Achievements:**
 - Cleaned up prototype to make it more appealing to use
- **Challenges:**
 - Team members' schedules have become more unavailable but they are still able to deliver their expected work

Sprint 5

- **Duration:** Mar. 10, 2024 - Mar. 23, 2024
- **Key Deliverables:**
 - Developed more wireframes, and mockups, and produced a prototype to complete the product backlog
- **Achievements:**
 - Successful completion of developing key features in the product backlog
- **Challenges:**
 - The connectivity of wireframes has become a challenge which needs cleanup

Sprint 6

- **Duration:** Mar. 24, 2024 - Mar. 30, 2024
- **Key Deliverables:**
 - Project Completion Report
 - PCR presentation
- **Achievements:**
 - Successful completion of MyMediPal prototype
- **Challenges:**
 - The University of Winnipeg servers were down and was unable to use the necessary resources to complete the Project Completion Report. It took more time than expected to finish the PCR. Exams are upcoming and scheduling a mock presentation was a challenge.

5. Project Metrics (WBS)

Work Breakdown Structure			
ID	Description	Duration	Resources
Analysis task			
1	Create survey questions	3 hours	4 people
2	Ask stakeholders to answer survey	10 minutes	4 people
3	Document gathered requirements from survey	3 hours	1 person
4	Create the product backlog	3 hours	4 people
Design tasks			
5	Create mockups	30 hours	2 people
6	Create wireframes	30 hours	2 people
7	Wireframe connectivity	30 hours	4 people
Build tasks			
8	Build interfaces	30 hours	4 people
9	Build main components	30 hours	4 people
10	Acceptance testing with stakeholders	30 minutes	2 people
11	Apply feedback changes	10 hours	4 people
12	Final acceptance testing	30 minutes	2 people
13	Release product	5 hours	4 people

6. Product Backlog Evolution

● 1st version

PRODUCT BACKLOG						
ID	As a... (Role)	I want to be able to... (Requirement)	So that...	Priority	Sprint	Status
1	User	Log in	I can start managing my medicine intake	MUST	1	DONE
2	User	View homepage	I can see a summary of today's medication	MUST	1	DONE
3	User	Search medicine	I can read medication details such as medication dosage	MUST	1	DONE
4	User	Search doctors	I can view doctor's profile and book a doctor's appointment	MUST	1	DONE
5	User	Add a reminder	I can be reminded when I should take my medicine daily	MUST	1	DONE
6	User	View my medication calendar	I can be more informed of what medication I am taking daily	MUST	1	DONE
7	User	Scan my medication	It will automatically add what medication and time I should take it	MUST	1	DONE
8	User / Visitor	View community page	I will be informed if there are news or advices in the medical community	MUST	1	DONE
9	User	View my profile	I can read and edit my details when needed such as emergency contacts	MUST	1	DONE
10	User	View my medical history	I will know what medication I have taken in the past	MUST	1	DONE
11	User	Choose a pharmacy	I can shop and pick up medicine easily	MUST	2	DONE
12	User	Place an order	I can refill my medication whenever I run out	MUST	2	DONE
13	User	Sign out	If I want to stop using the application	MUST	2	DONE
14	User	Edit an alarm	If I have a mistake, I can change it easily	MUST	3	TO BE DONE
15	Visitor	Create account	I will have an account to have full access of the application	MUST	3	TO BE DONE
16	User	Change Language	I can use that app in my desired language	SHOULD	3	TO BE DONE
17	User	Activate automatic medicine refill	I will not run out of medication if I forgot to order	MUST	4	TO BE DONE
18	User	Deactivate automatic medicine refill	I will not have any extra medicine after purchasing	MUST	4	TO BE DONE
19	User	View order history	I will know when and what I ordered previously	MUST	4	TO BE DONE
20	User	Contact health professionals	If I have a question about my medication, I can contact them	MUST	5	TO BE DONE
21	User	Change font size	I can properly read medication information	COULD	5	TO BE DONE
22	User	Change theme (Dark and light mode)	I can see details properly	COULD	5	TO BE DONE

- 2nd version

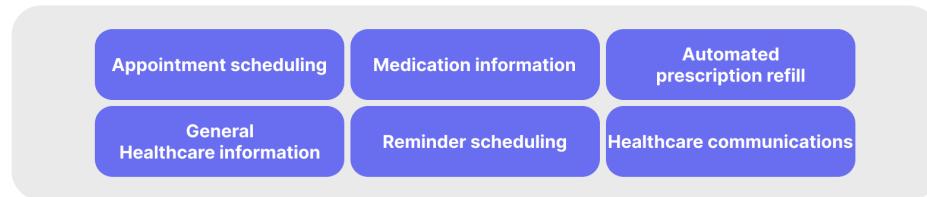
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4	User	Search medicine	I can read medication details such as medication dosage	MUST	1	DONE
5	User	Search doctors	I can view doctor's profile and book a doctor's appointment	MUST	1	DONE
6	User	Search pharmacies	I know where I can buy my prescribed medications	MUST	1	DONE
7	User	Search clinics	I can book an appointment depending on what medical condition I have	MUST	1	DONE
8	User	Search hospitals	I will know which hospital is best to treat my medical condition	MUST	1	DONE
9	User	View my medication calendar	I can be more informed of what medication I am taking daily	MUST	2	DONE
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14	User	Get Support	I can navigate the app when I am lost	MUST	4	DONE
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24	User	View order history	I will know when and what I ordered previously	MUST	5	TO BE DONE
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27	User	Change theme (Dark and light mode)	I can see details properly	COULD	6	TO BE DONE

- Final version

PRODUCT BACKLOG						
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15	User	View my medical history	I will know what medication I have taken in the past	MUST	5	DONE
16	User	Place a refill order	I can refill my medication whenever I run out	MUST	5	DONE
17	User	Add a reminder	I can be reminded when I should take my medicine daily	MUST	5	DONE
18	User	Sign out	If I want to stop using the application	MUST	5	DONE
19	User	Contact health professionals	If I have a question about my medication, I can contact them	MUST	6	DONE
20	User	Edit a reminder	If I made a mistake on making my reminder	MUST	6	DONE
21	User	Remove a reminder	If I am no longer taking the medicine	MUST	6	DONE

7. System Architecture

Scenario

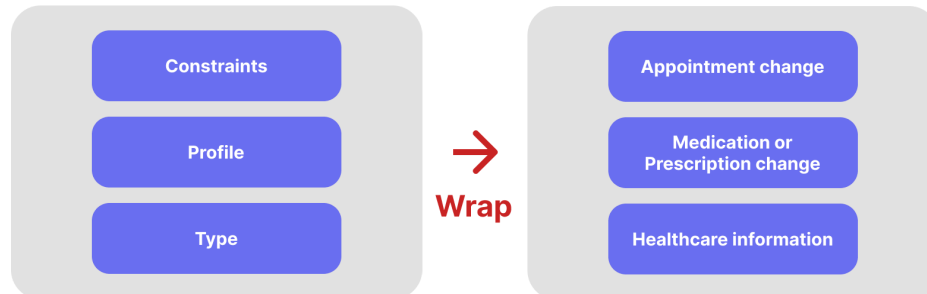


User core

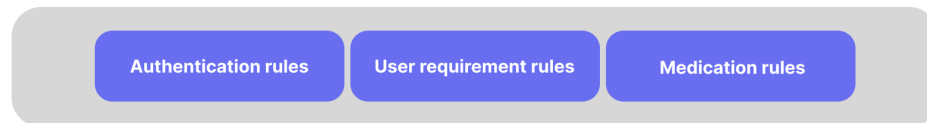
↑ Support

MyMediPal core

↑ Support

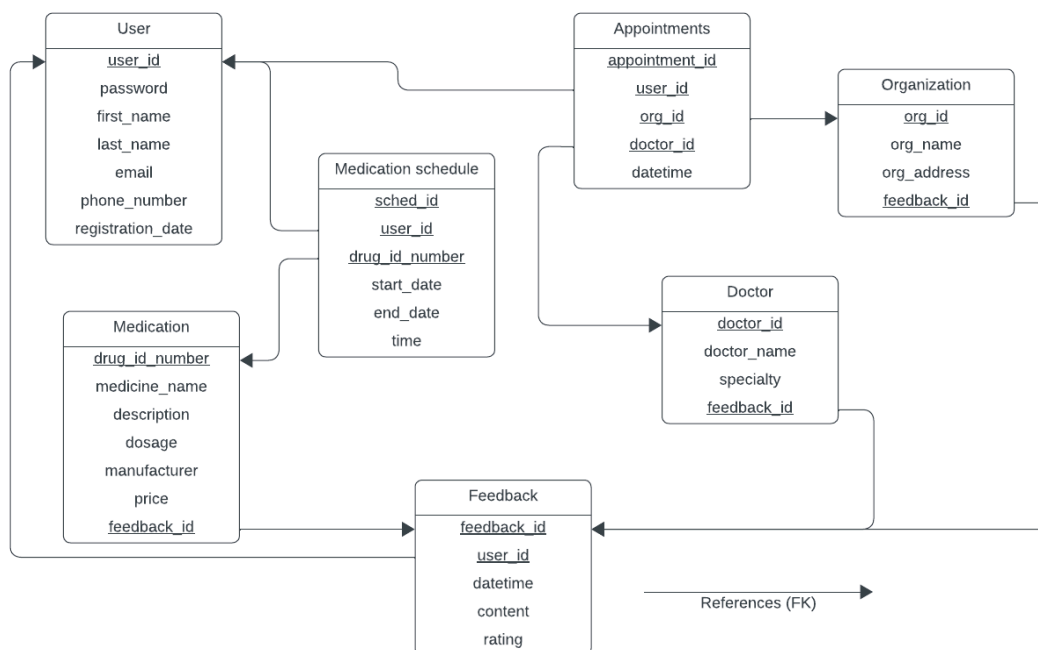


Rule engine

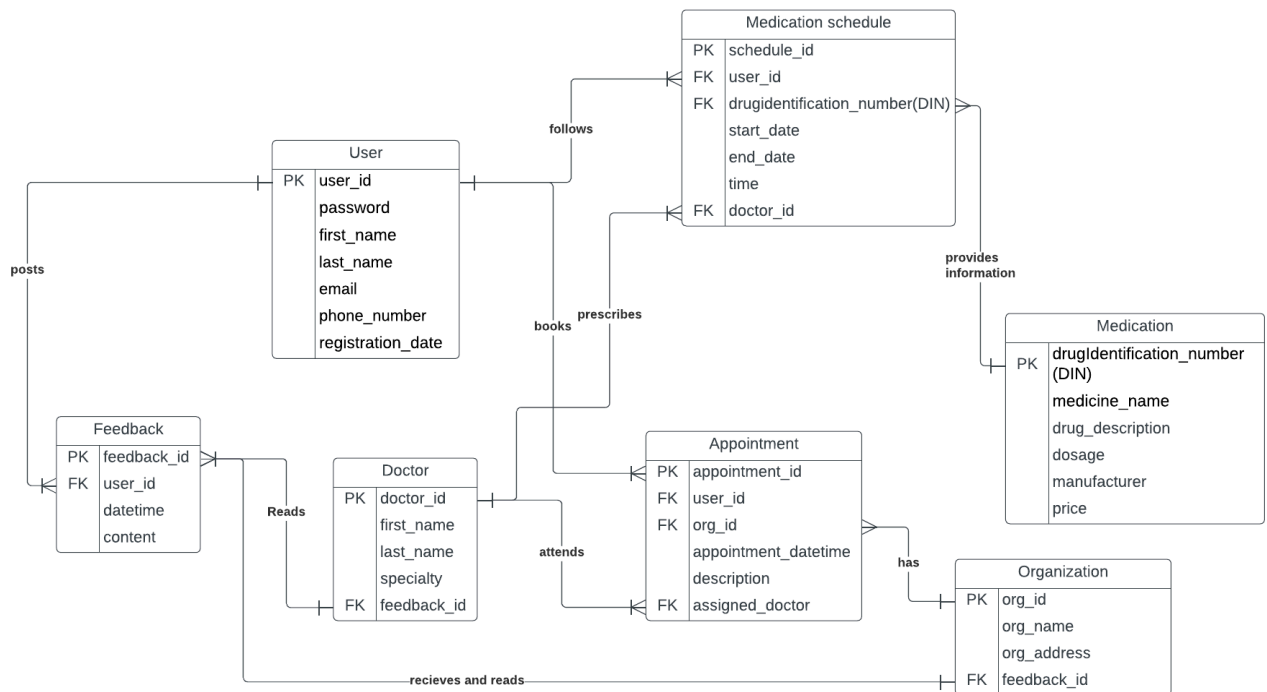


8. Database Design

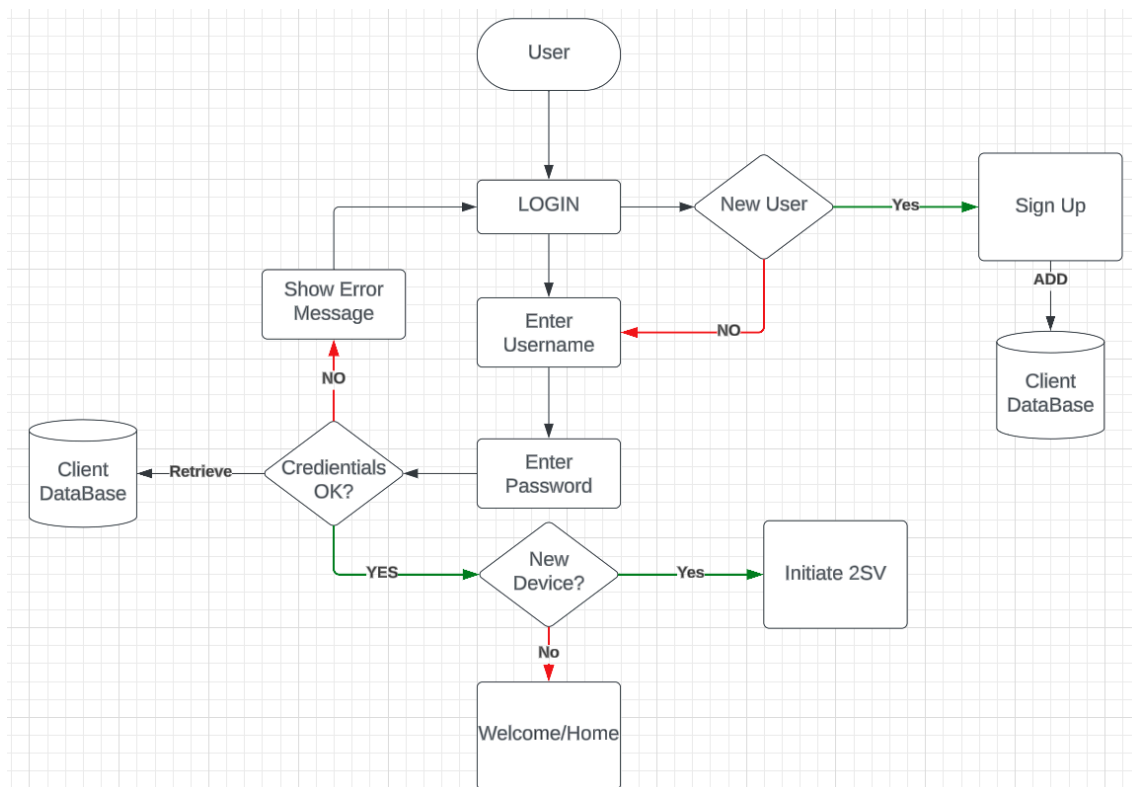
• Database Schema

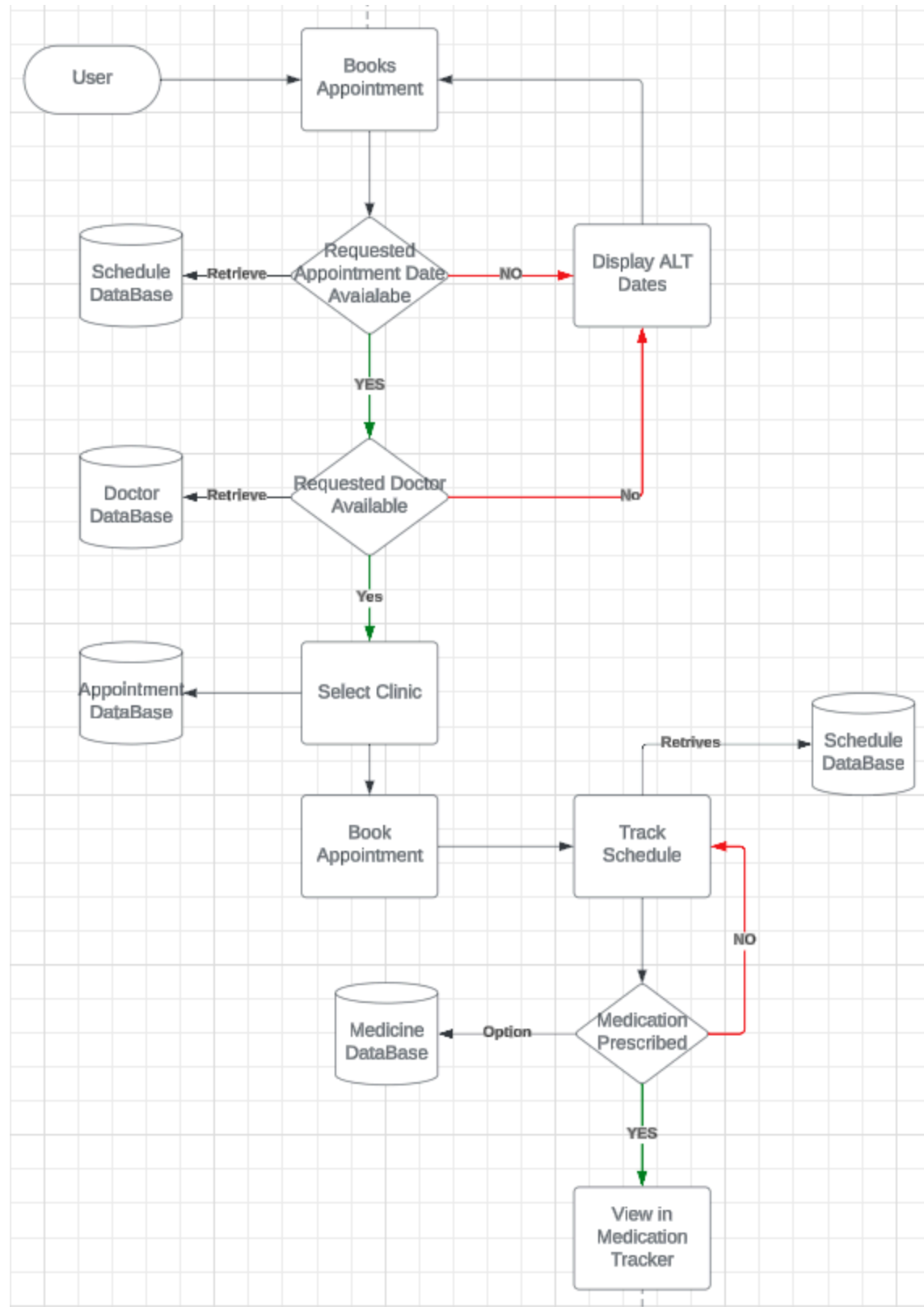


Entity Relationship Diagram



Data Flow Diagrams





[Prototype link](#)

10. Testing Strategies

Before the team conducts the final step on every sprint, retrospecting, the team finds candidates to test the prototype and get feedback on what to improve on the application. These feedbacks primarily focus on three factors, usability, functionality, and user interface. Most feedback heavily targeted the User Interface factor that did not meet a satisfactory user experience. Usability and functionality were not an issue as the user flow aligned with the user flow diagram implemented and met the use cases proposed in the product backlog. In this testing phase, the team prioritized and proposed a solution on how to make something that ruined the user experience better and meet out user's expectations. Cleanups were done which led us to the final product.

11. Release Plan

● Version 1

- Release date: **Feb 24, 2024**
- Features released:
 - Search medicine, doctor, pharmacy, and clinics
 - Scan prescription from a prescribed doctor
 - Community page
 - Choose a pharmacy
 - Place a medication order

● Version 2

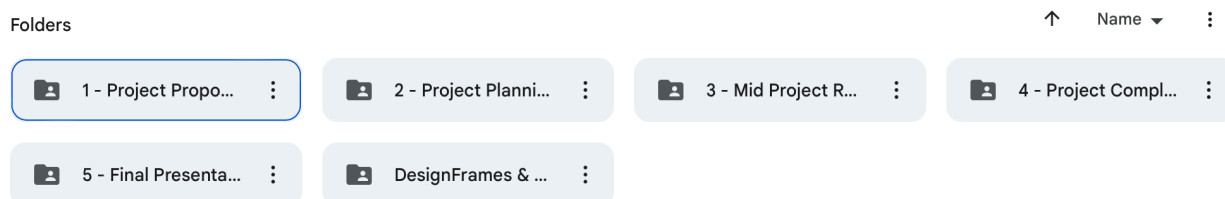
- Release date: **March 23, 2024**
- Features released:
 - Get medication support (support chat)
 - Search a hospital

● Final version

- Release date: **March 30, 2024**
- Features released:
 - View medical history
 - Refill order request
 - Add a reminder to your MyMediPal calendar
 - Sign up, Sign in, and Sign out
 - Editing and removing reminder

12. Documentation

The team has developed a system to ensure that everyone has access to the necessary files required to complete deliverables for each sprint. We primarily utilized Google Drive as the central platform for document management, facilitating efficient file handling and ensuring proper organization. Naming conventions are also essential for efficiently locating and identifying files that need to be worked on.



13. Lessons Learned

Throughout the development of MyMediPal, the team understood Agile's iterative cycles which enable quick adaptation to the feedback and changes. With the continuous user feedback from our stakeholders, the team was able to prioritize the necessary features and focus on software functionality. As the team was able to narrow down what to prioritize, effective communication and empathy in team interactions maintained motivation for all team members and overcame challenges during the development. Figma, the team's prototyping tool, enhanced team communication and design iteration speed to prioritize developing a user-centric design. Finally, regular retrospectives after every sprint, refined our team collaboration, especially in improving the efficiency of delivering key deliverables on every sprint.

14. Stakeholder Feedback

As the team focused on developing a user-centric design, the team's stakeholders appreciated the user-friendly interface built from the ground up in Figma. Further interactions with stakeholders, they requested additional features like medication interaction alerts, manually adding reminders on the app, an option to delete, and many more. The team absorbed all this feedback and applied it to the final design. With the fast implementation of these features on the application, a heavy commendation from stakeholders was received on the agility and responsiveness to feedback. This resulted in an appreciation for the regular updates and transparency throughout the development, user loyalty was achieved in implementing the feedback received.

15. Agile Methodology Assessment

The Agile Methodology has been an essential tool in enhancing our project planning and task organization processes, enabling us to efficiently deliver and complete the dynamic product backlog that is always changing throughout the project development. By breaking down tasks into manageable units, we've streamlined workflows, making it easier for all team members to collaborate effectively within the confines of our sprints, typically spanning around a week and a half per sprint. This structured approach ensures timely task completion and fosters a culture of adaptability and responsiveness to evolving project requirements. As a result, we've witnessed increased productivity and the ability to deliver the tasks needed to be done per sprint.

16. Recommendations

The team collectively embraced the Agile Methodology for its effectiveness in driving the development of our proposed project, MyMediPal. Recognizing its power when implemented correctly, we found it to be an effective tool in our project's success. After thorough consideration, the team concluded that no additional recommendations were necessary, as the methodology stands as strong planning management for future Agile projects. Its flexibility, iterative approach, and emphasis on collaboration have proven invaluable in navigating complex projects like MyMediPal. With Agile at our core, we are confident in our ability to adapt, innovate, and deliver functional and usable products.

17. Conclusion

Overall, the team has completed and delivered MyMediPal, a medication tracker, within a span of 6 sprints from January 14, 2024, to March 30, 2024. The team collaborated effectively and contributed to the development of essential features for a functional and user-friendly product tailored for the medical industry and most especially for patients and healthcare providers. Through this process, we acquired valuable insights into effective planning using Agile methodologies, particularly the Scrum methodology, which greatly facilitated the project's success. These acquired skills will prove beneficial in our future endeavours, enabling us to apply them to future software application projects with confidence and efficiency.