

TECHNOLOGY AND INFORMATION SYSTEM

DESIGN
THINKING
PROJECT

PRESENTED BY
GROUP 7 SECTION 02

DESIGN THINKING PROJECT

GROUP MEMBERS ✨



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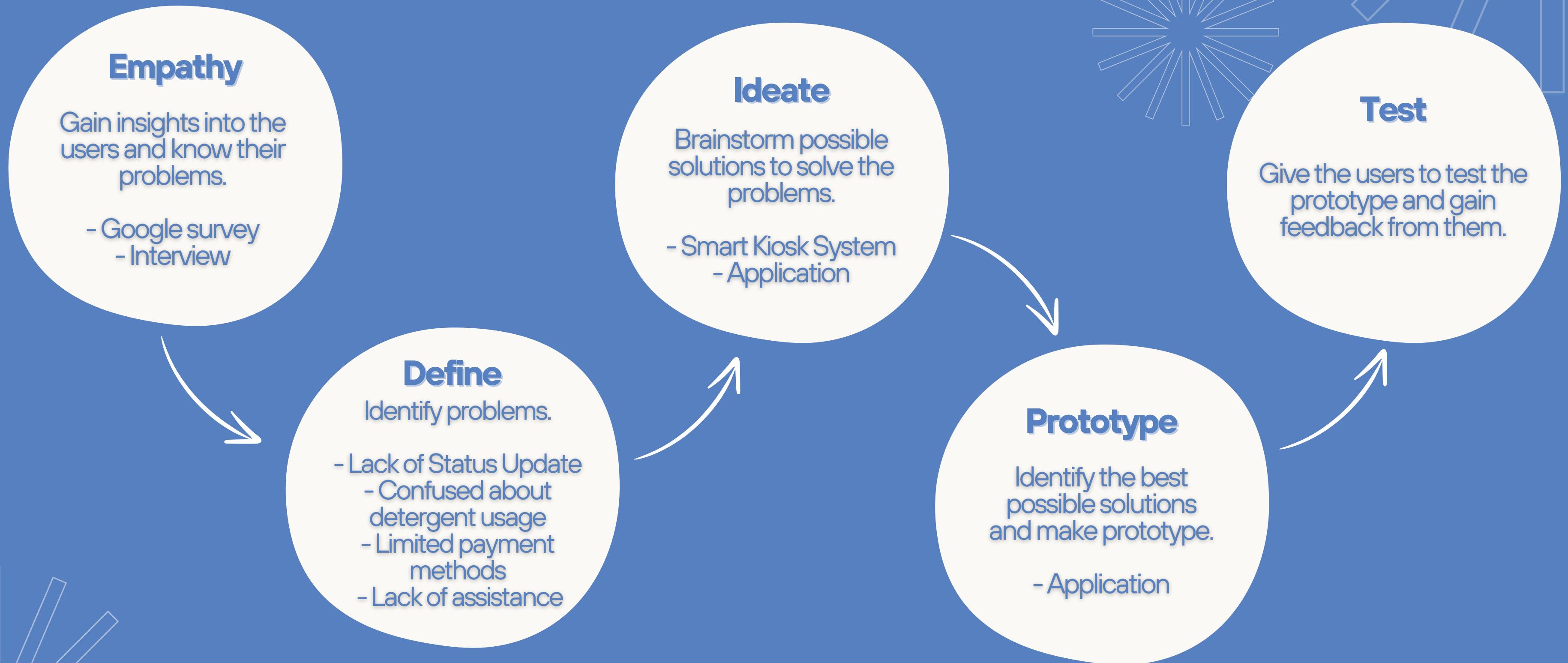


StainSlayer

INTRODUCTION

Nowadays, self-service laundromats or dobi play an important role in modern living. However, it does cause frustrations such as overcrowding, wasted time and also manual queuing. To address this, our team developed 'StainSlayer,' which is a smart IoT-based app that revolutionizes laundromats. The system uses sensors within washing machines and dryers to track machine status, queue numbers and operational conditions in real time. It also recommends detergent usage, supports multiple payment options and features an AI chatbot for assistance. With these innovations, 'StainSlayer' aims to provide users a seamless and efficient laundry experience.

DESIGN THINKING PHASES





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EMPATHY

①

Interview

②

Google form survey



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① Interview

We conducted an interview with a UTM student, Miss Tay Xin Ying, to better understand the specific issues she encounters during her laundry routine and to gather her ideas for potential solutions.

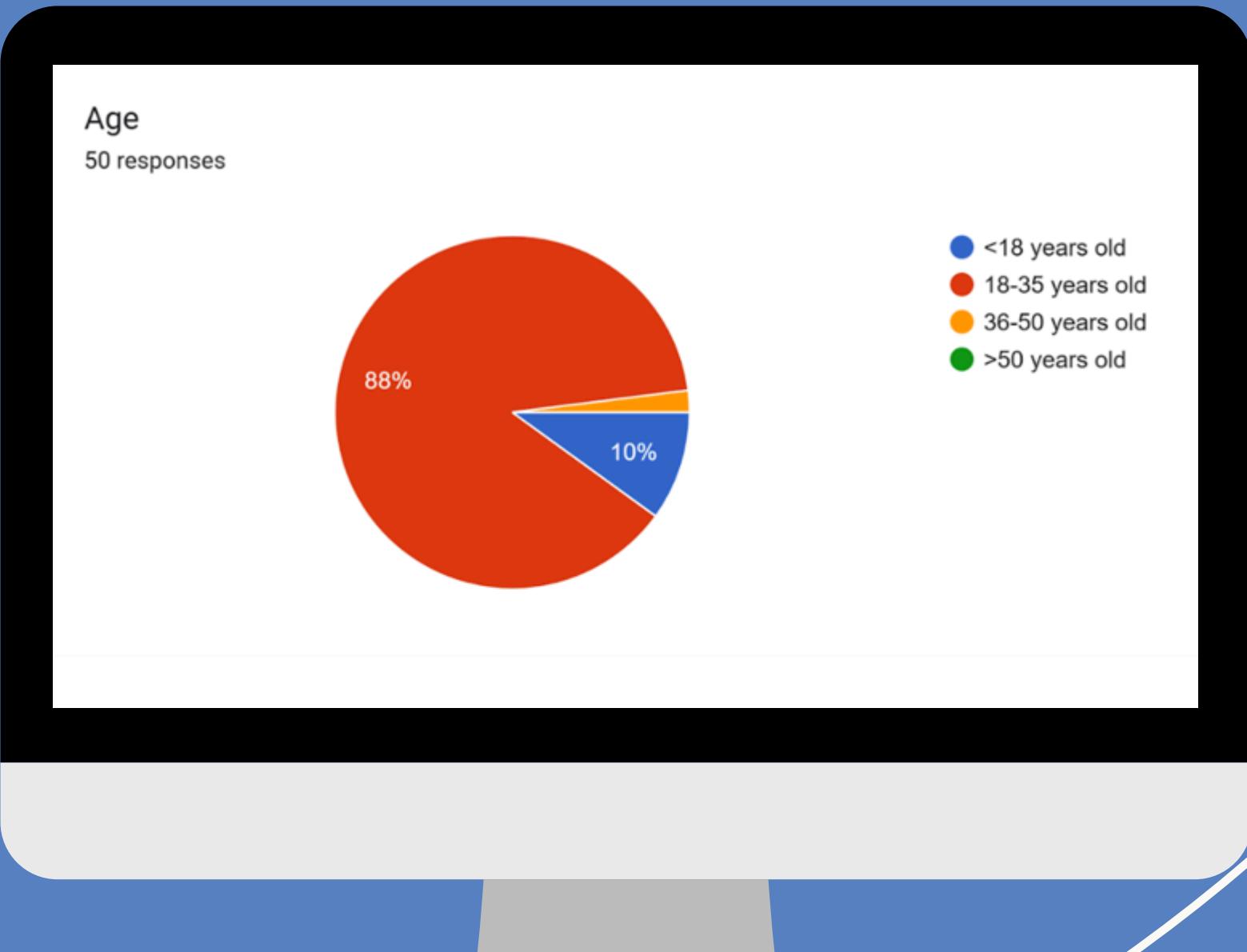




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② Google form survey

In order to actively engage with users and develop a sense of empathy, we designed a Google Form to collect data from the community, particularly UTM students. Through the google form, we gained detailed insights into their laundry experiences, the challenges they face and their suggestions for improvement.





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② Google form survey



RESULT

Majority of the
respondents use laundry
service once a week



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② Google form survey



RESULT

52 % of the respondents
don't have a tracking method
to track their laundry status



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② Google form survey



RESULT

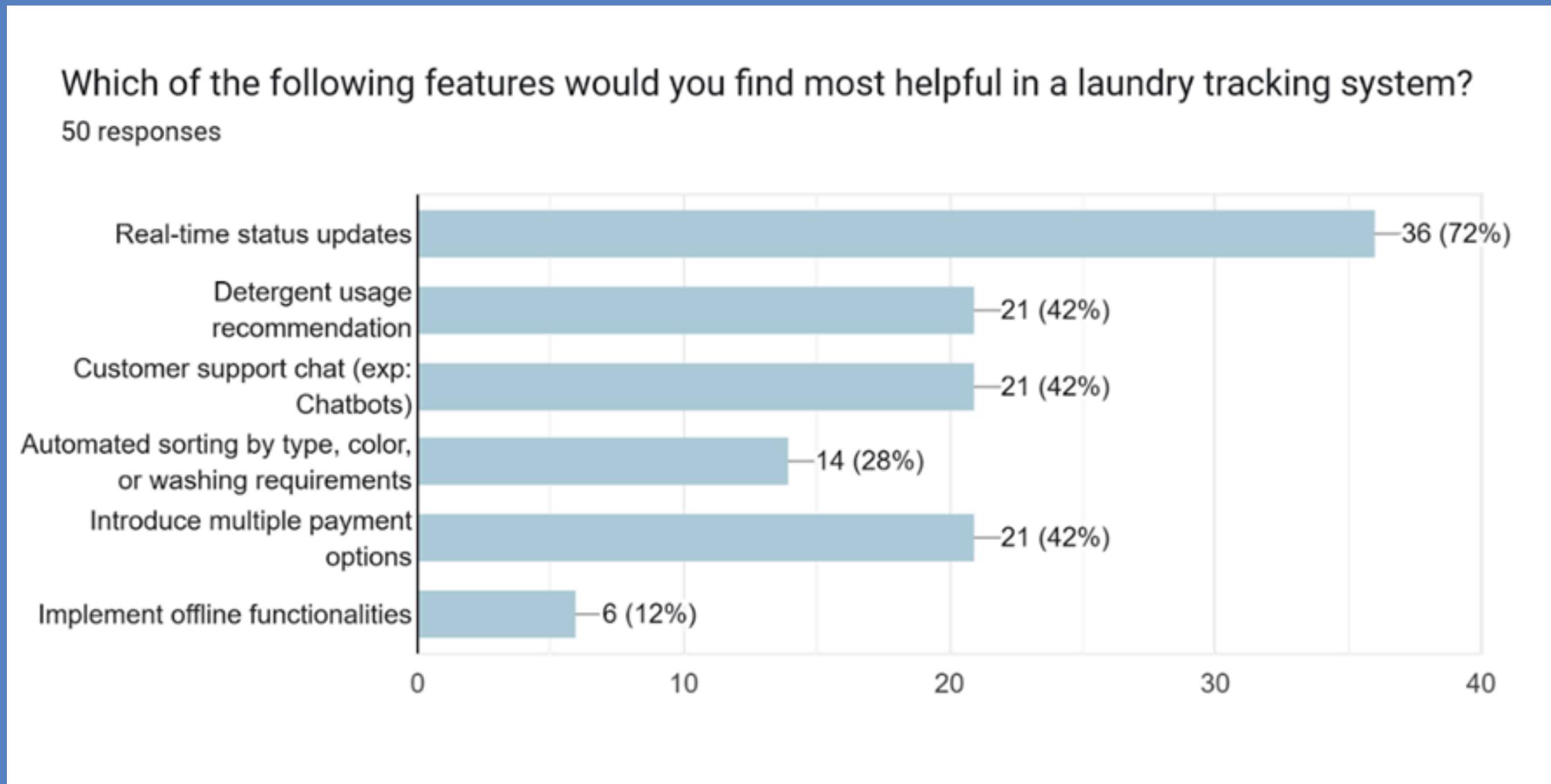
Major issues:

- Lack of status updates
- Unsure about the amount of detergent needed
- Lack of helplines
- Limited payment option



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② Google form survey



RESULT

Preferred features:

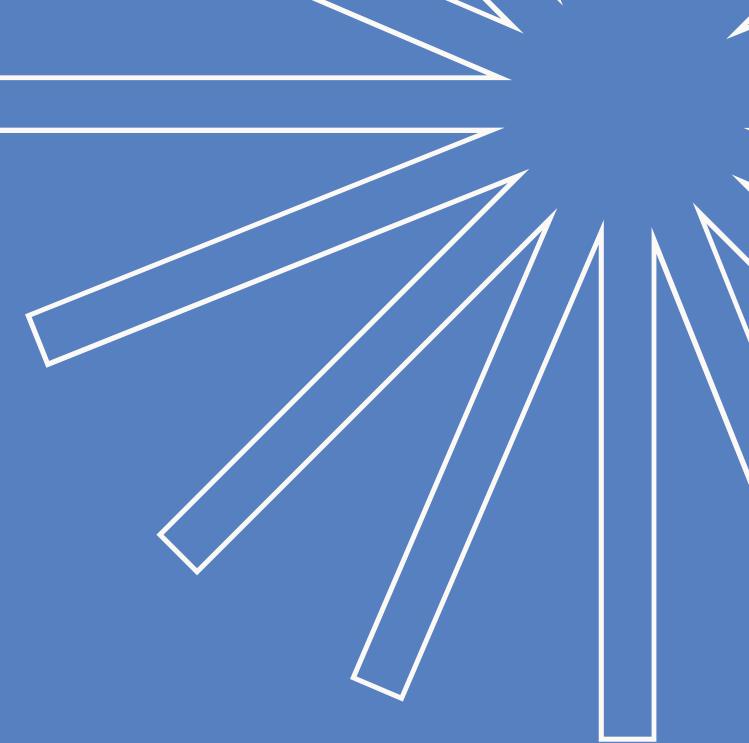
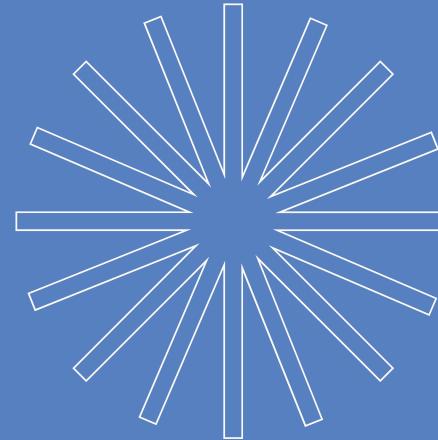
- Real-time status updates
- Detergent usage recommendation
- Helpline service
- multiple payment options



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DEFINE





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DEFINE

① Understand the needs

② Analyze observation

③ Discussion

④ Establish problem statement

PROBLEMS THAT USER ENCOUNTER

①

Lack of status update

③

Limited payment methods

②

Confusion on the exact amount
of detergent

④

Lack of AI chatbots / assistance

PROBLEMS THAT USER ENCOUNTER



①

Lack of status update

- Users struggle to estimate wait time
- No real-time updates on the status of laundry
- Causes inefficient time management

PROBLEMS THAT USER ENCOUNTER

2

Confusion on the exact amount of detergent



- Many users are uncertain about the appropriate amount of detergent to use for different load sizes
- Detergent wastage
- Ineffective cleaning

PROBLEMS THAT USER ENCOUNTER

③

Limited payment method

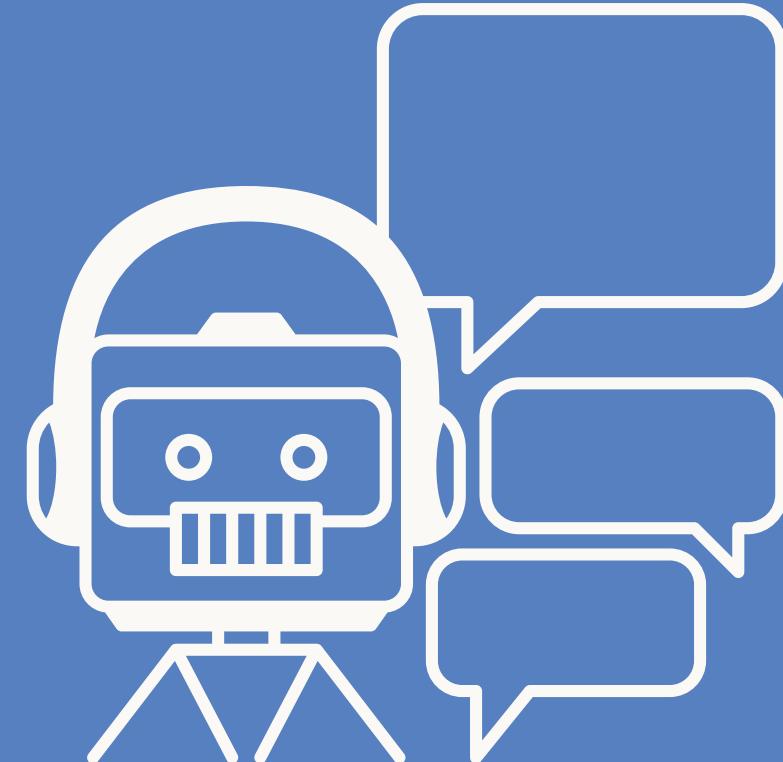


- Many laundromats only support cash payment
- Example: laundromat at Arked Angkasa
- Cause inconvenience

PROBLEMS THAT USER ENCOUNTER

④

Lack of chatbot/assistance

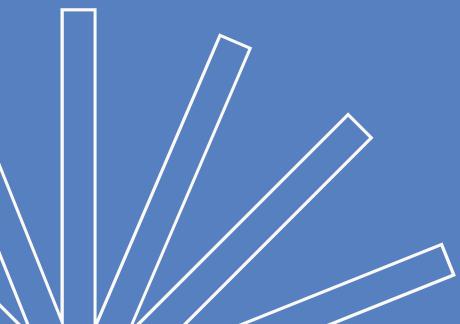
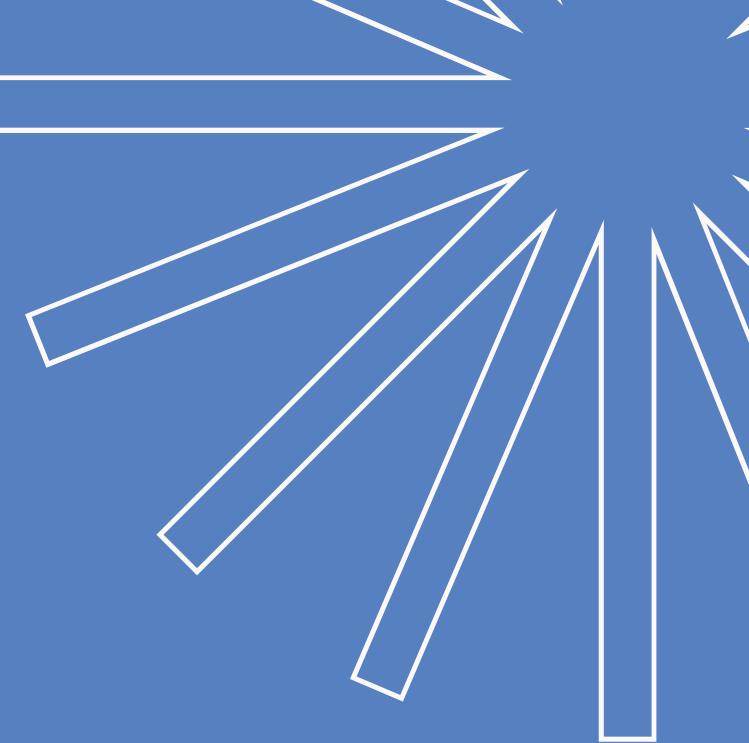
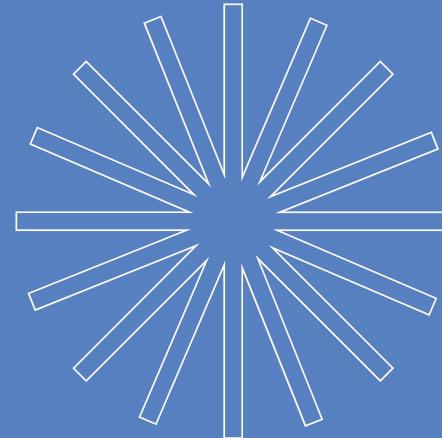


- Users may encounter technical issues
- Lack immediate assistance



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IDEATE



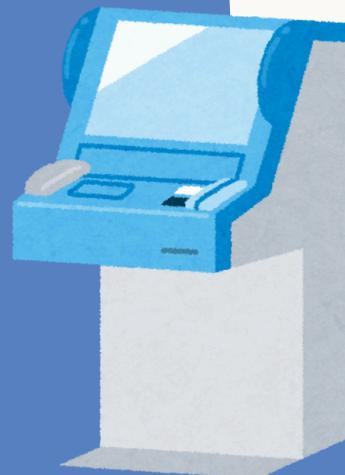


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IDEATE



**Smart Kiosk
System**



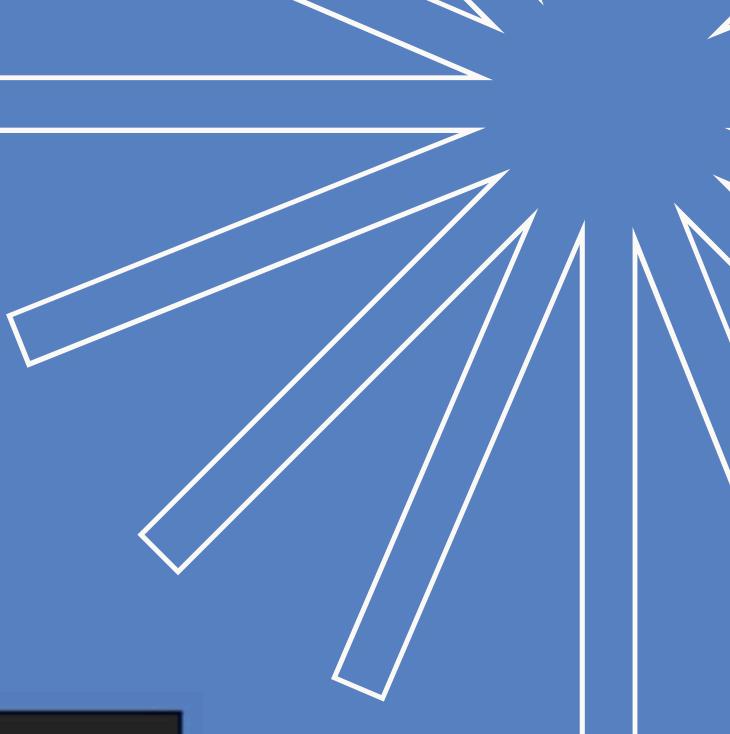
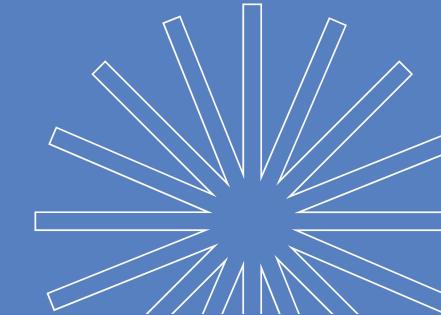
**Application-
based solution**





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IDEATE



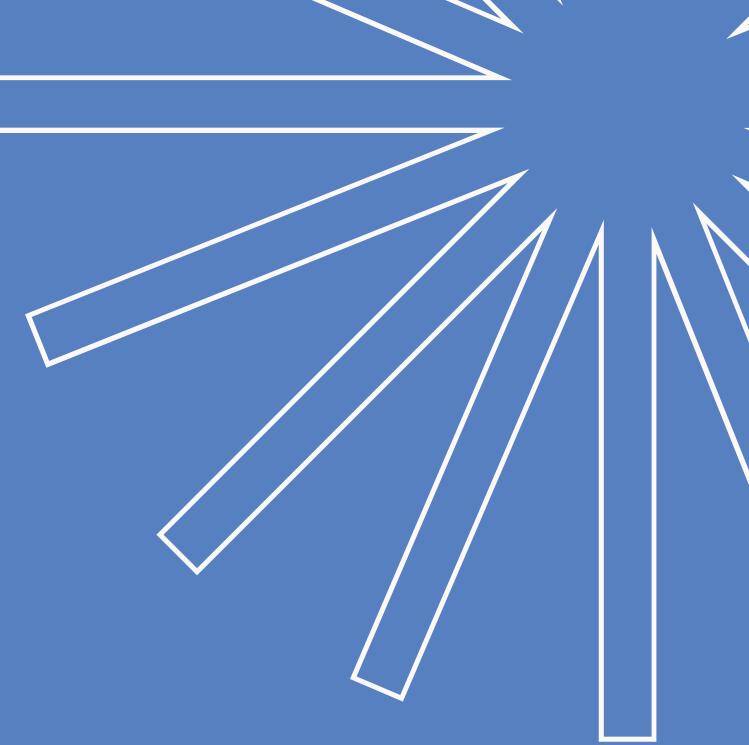
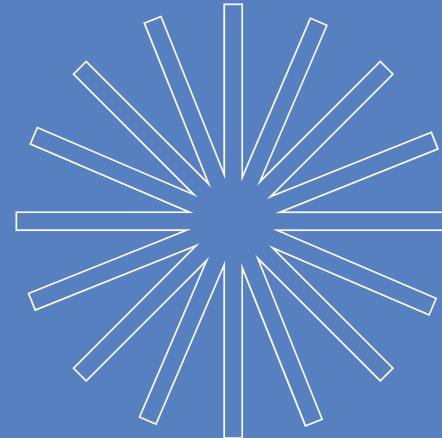
Problem	Smart Kiosk System	Application
Lack of Status Update	Displays machine status, queue position, and completion times on a screen.	Sends real-time updates, reminders, and notifications on cycle progress.
Confusion About Detergent Usage	Offers step-by-step instructions for detergent usage.	Provides tailored detergent recommendations based on load size and fabric type.
Limited Payment Methods	Supports cash, cards, and QR-based e-wallets.	Offers flexible payment options, including e-wallets like GrabPay and TNG.
Lack of AI Chatbots	Provides an AI-powered touchscreen system for troubleshooting.	Integrates an AI chatbot for 24/7 support and issue resolution.



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PROTOTYPE





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PROTOTYPE

After our discussion, we concluded that developing a new application would provide a better user experience and greater convenience compared to the Smart Kiosk System. We then discussed the design and features of our application, and began creating it using materials like A4 paper and pens. We sketched and developed a user interface for our application.

FEATURES OF APPLICATION

① Real Time Status Update

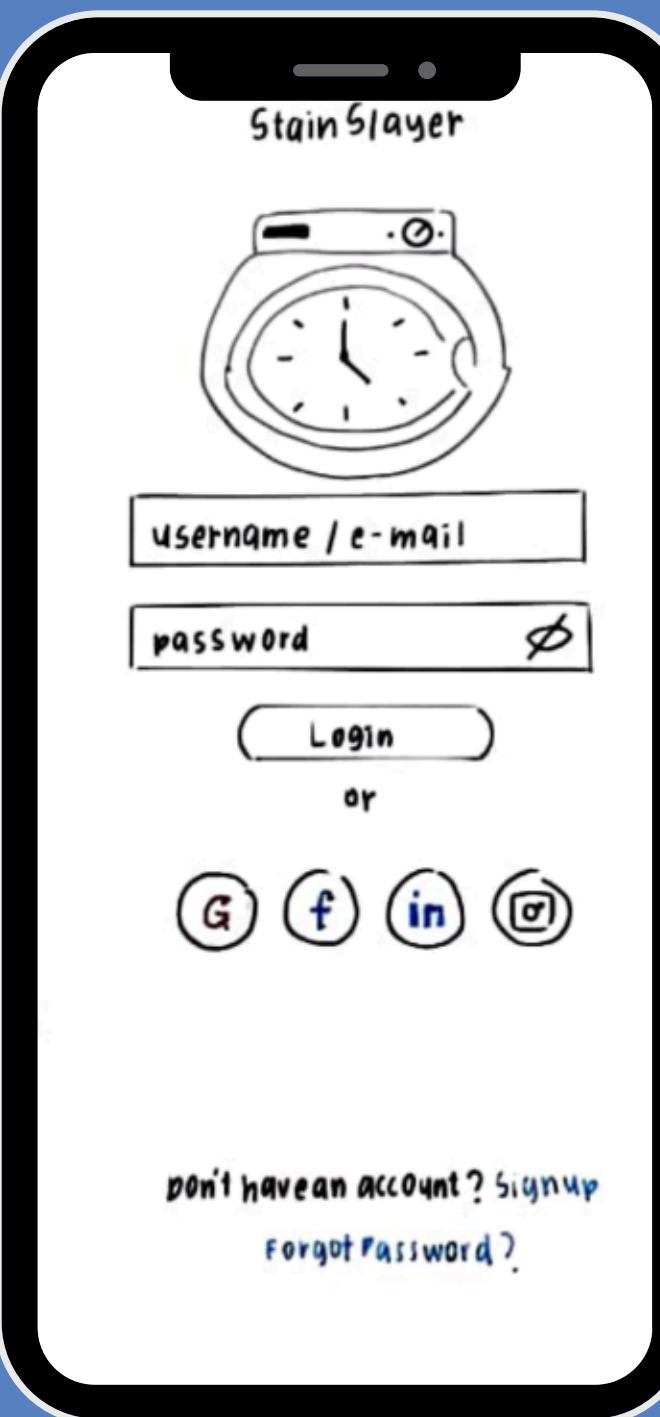
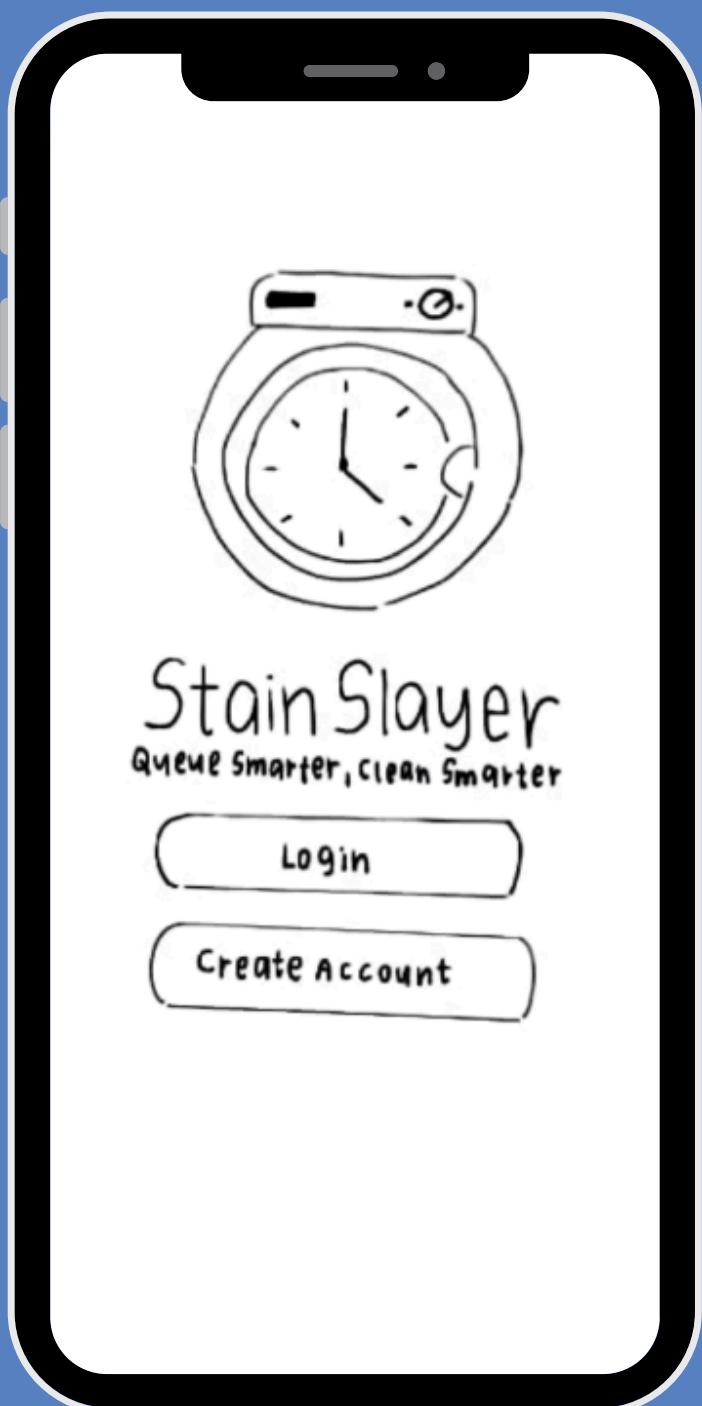
② Detergent Usage Recommendation

③ Multiple Payment Methods

④ AI Chatbot

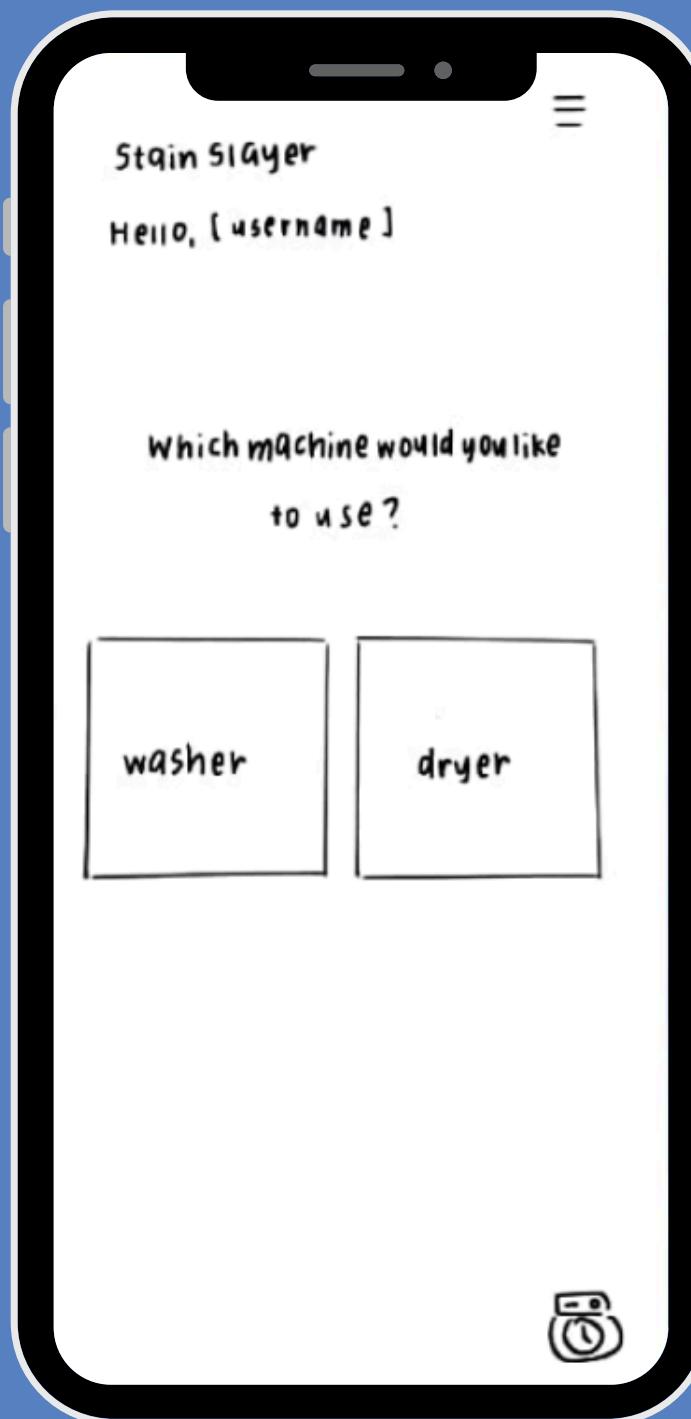
PROTOTYPE

Login Interface



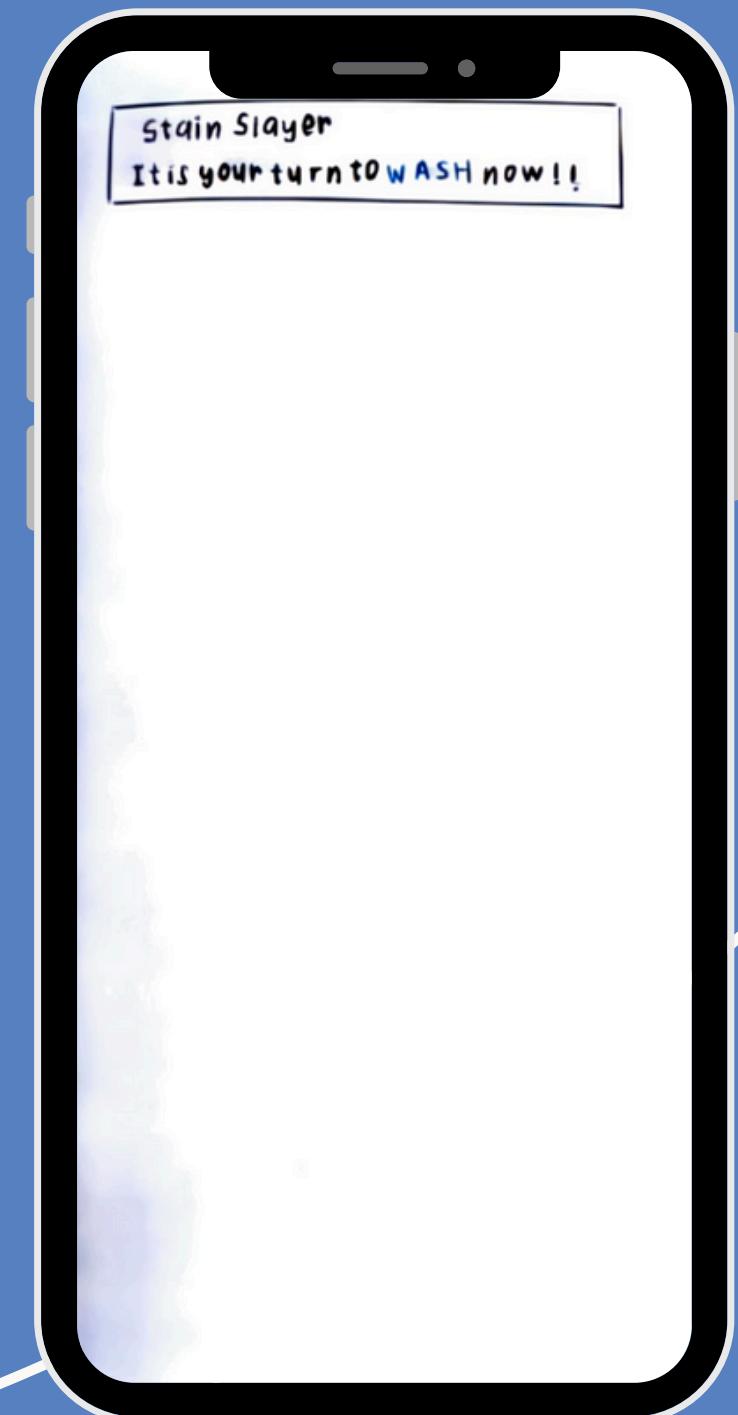
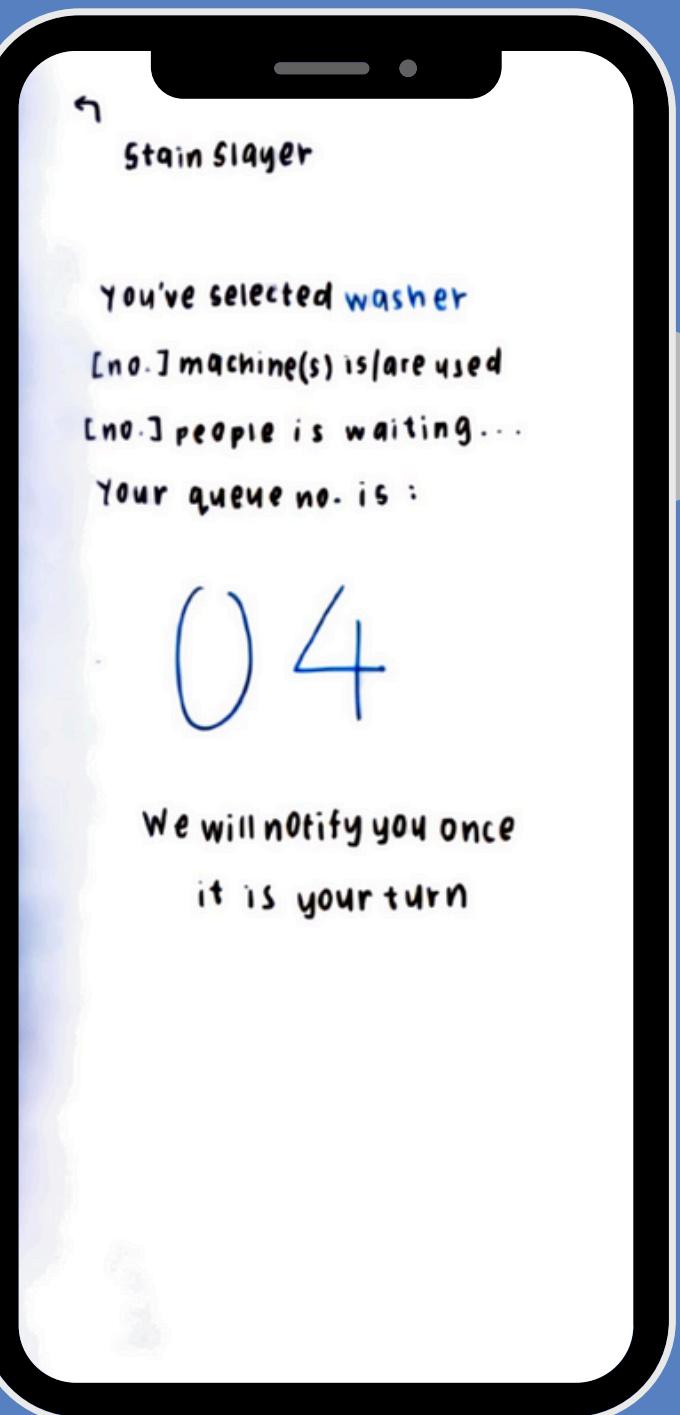
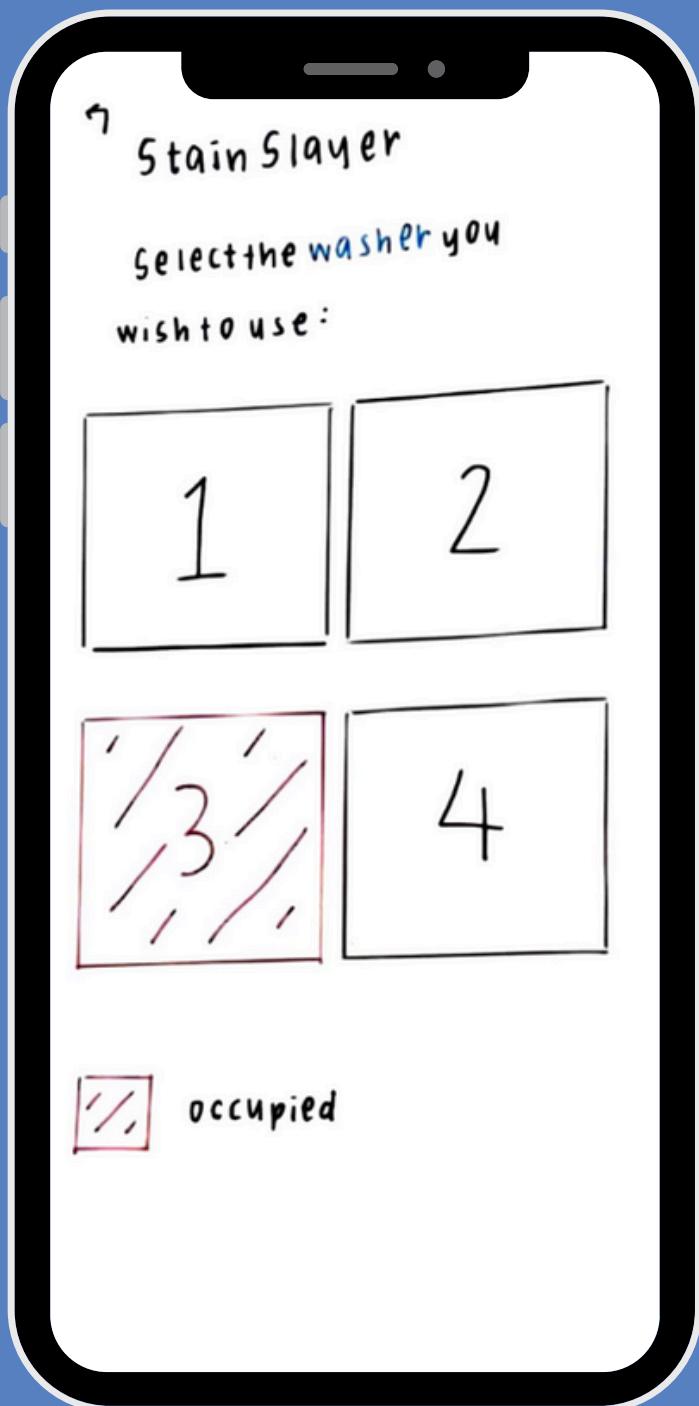
PROTOTYPE

Option Interface



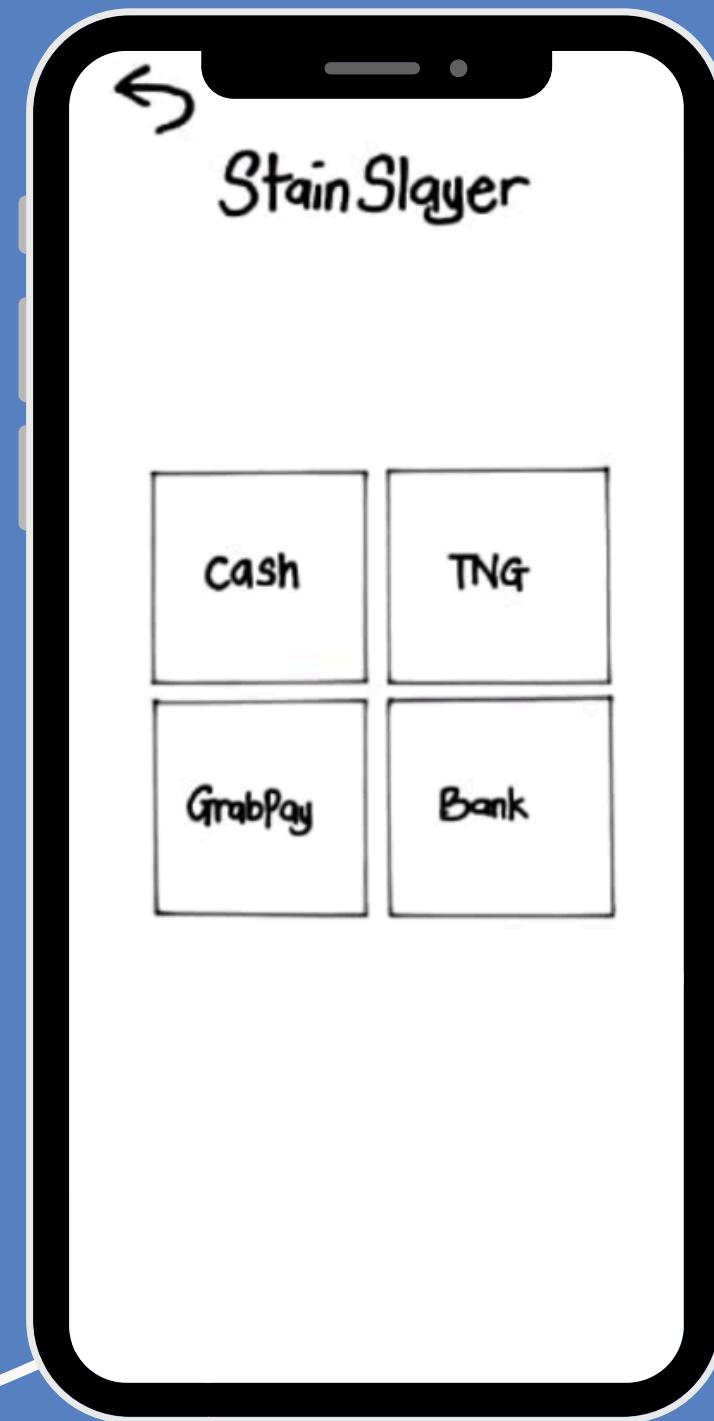
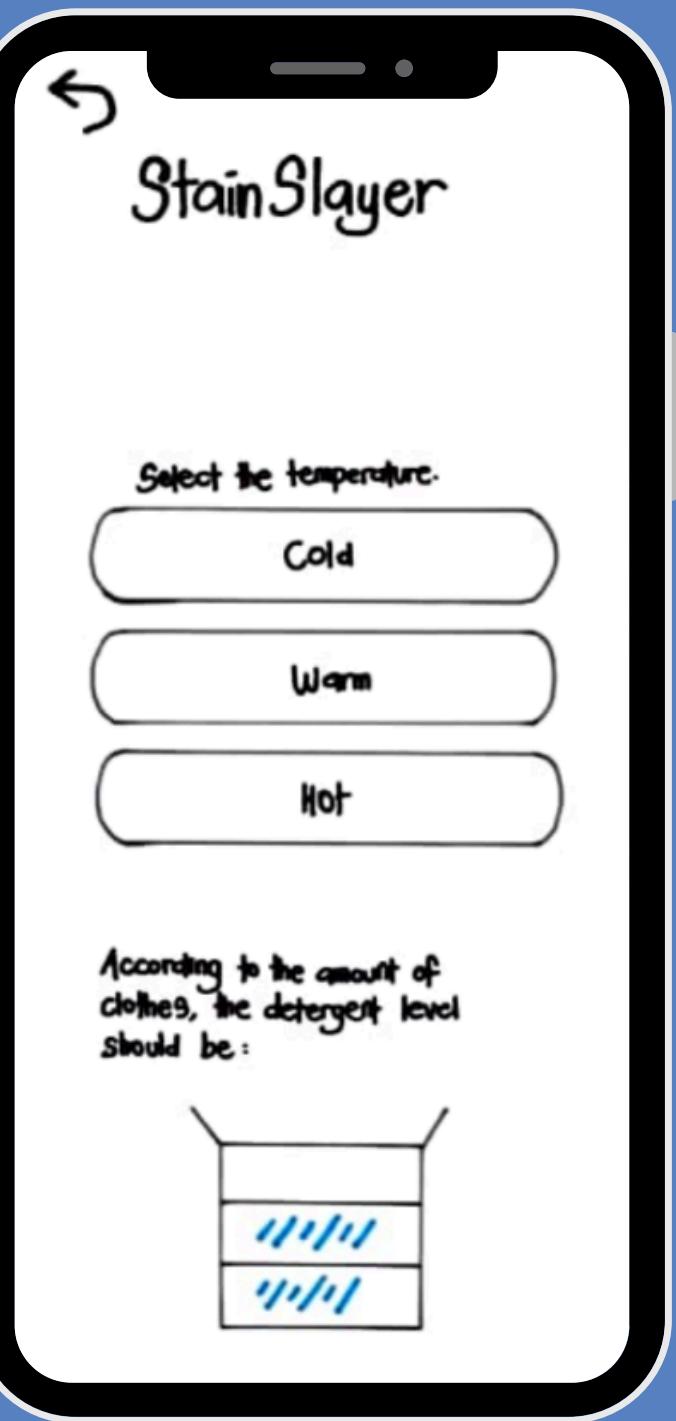
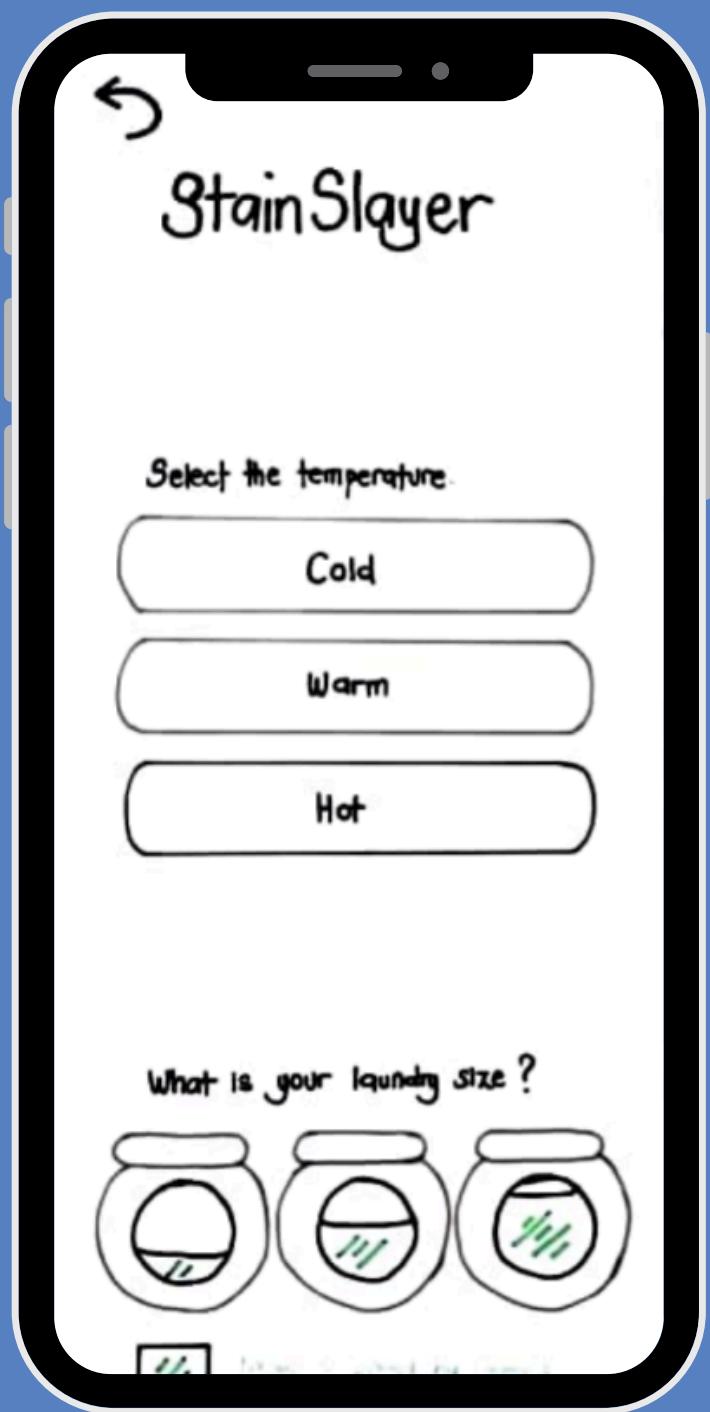
PROTOTYPE

Washing machine queue status interface



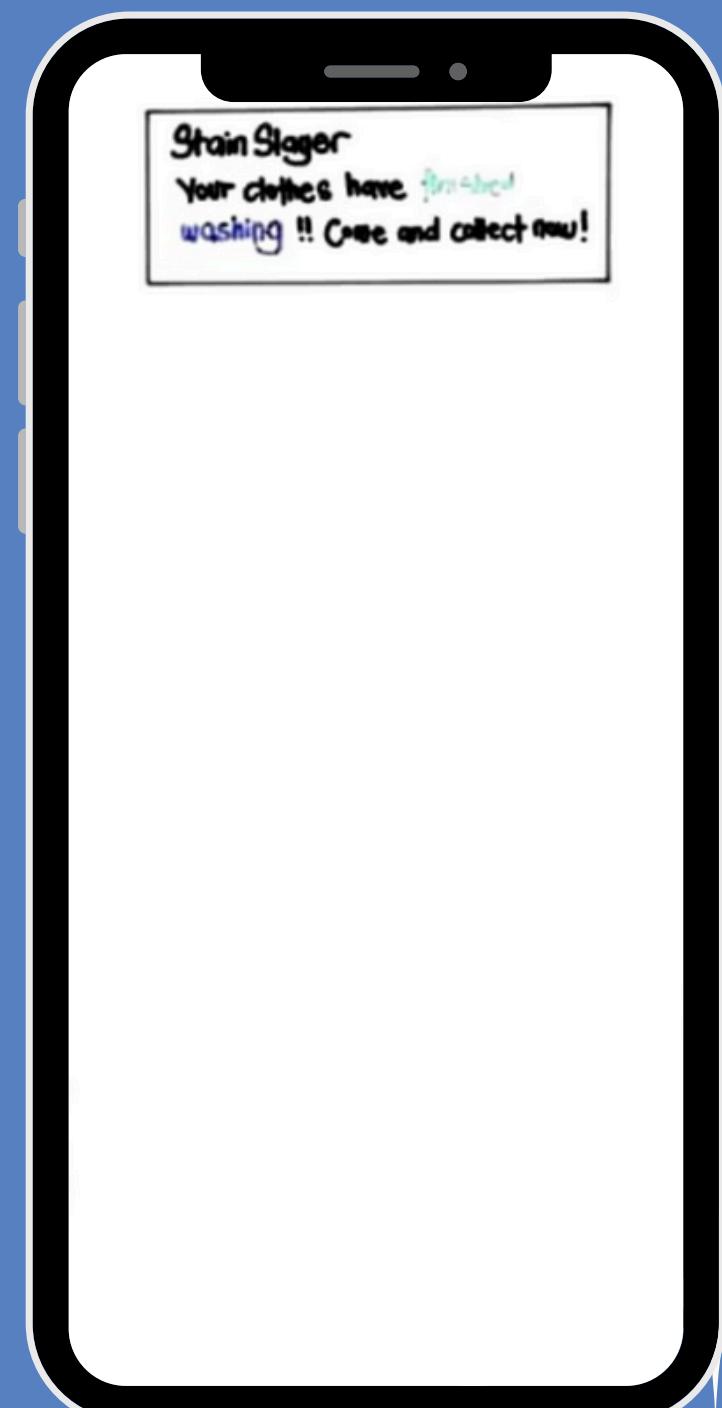
PROTOTYPE

Washer interface & payment option



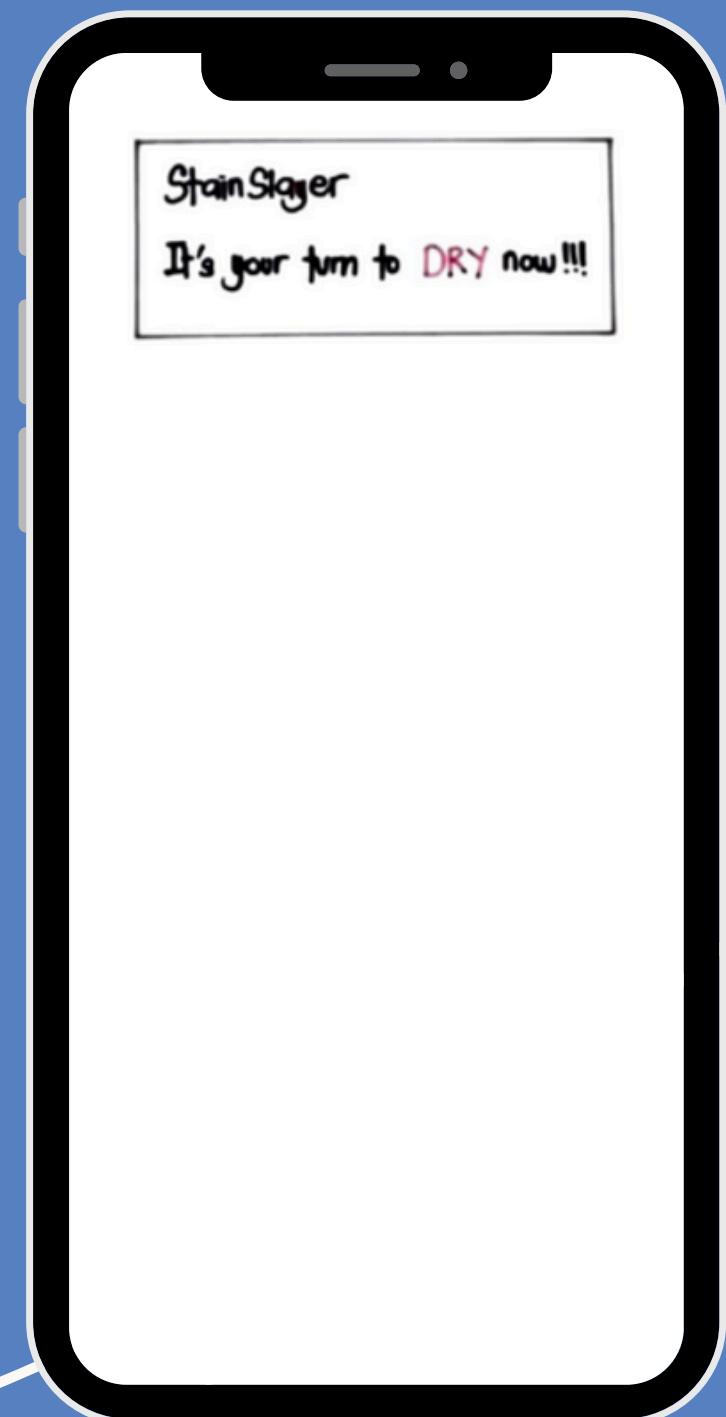
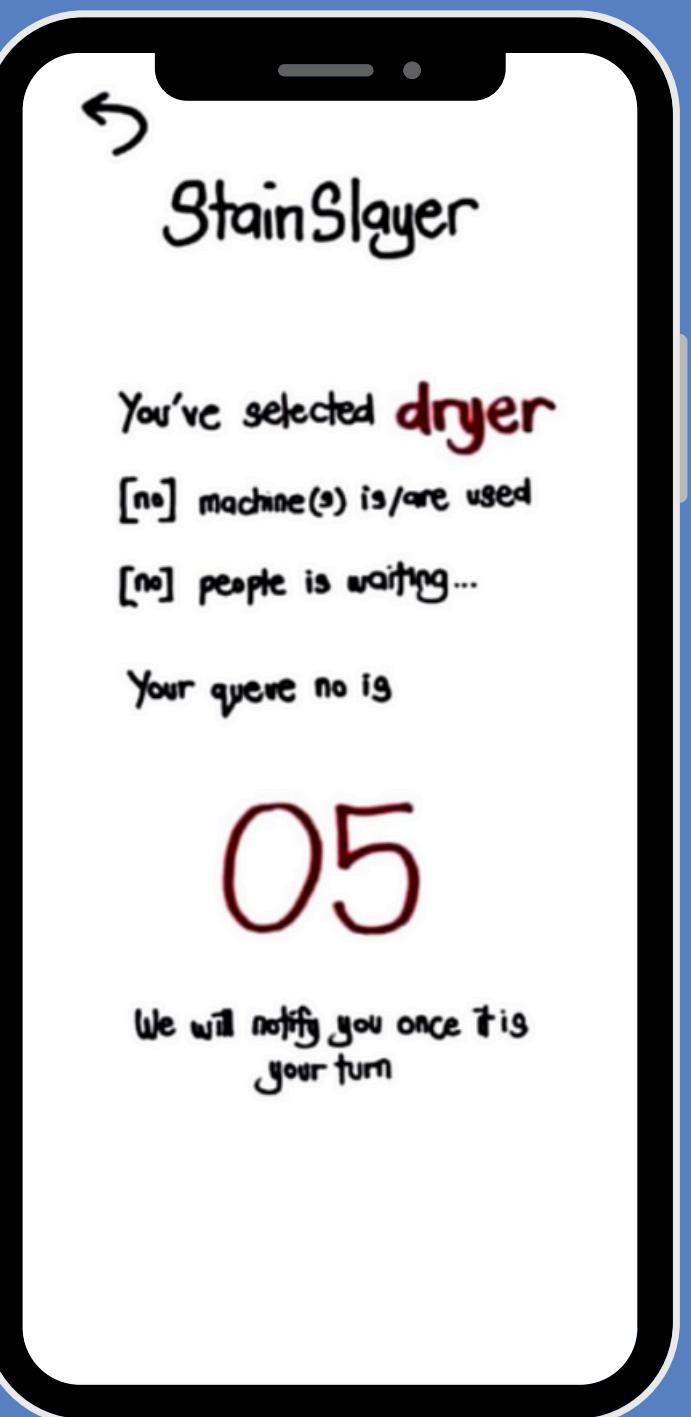
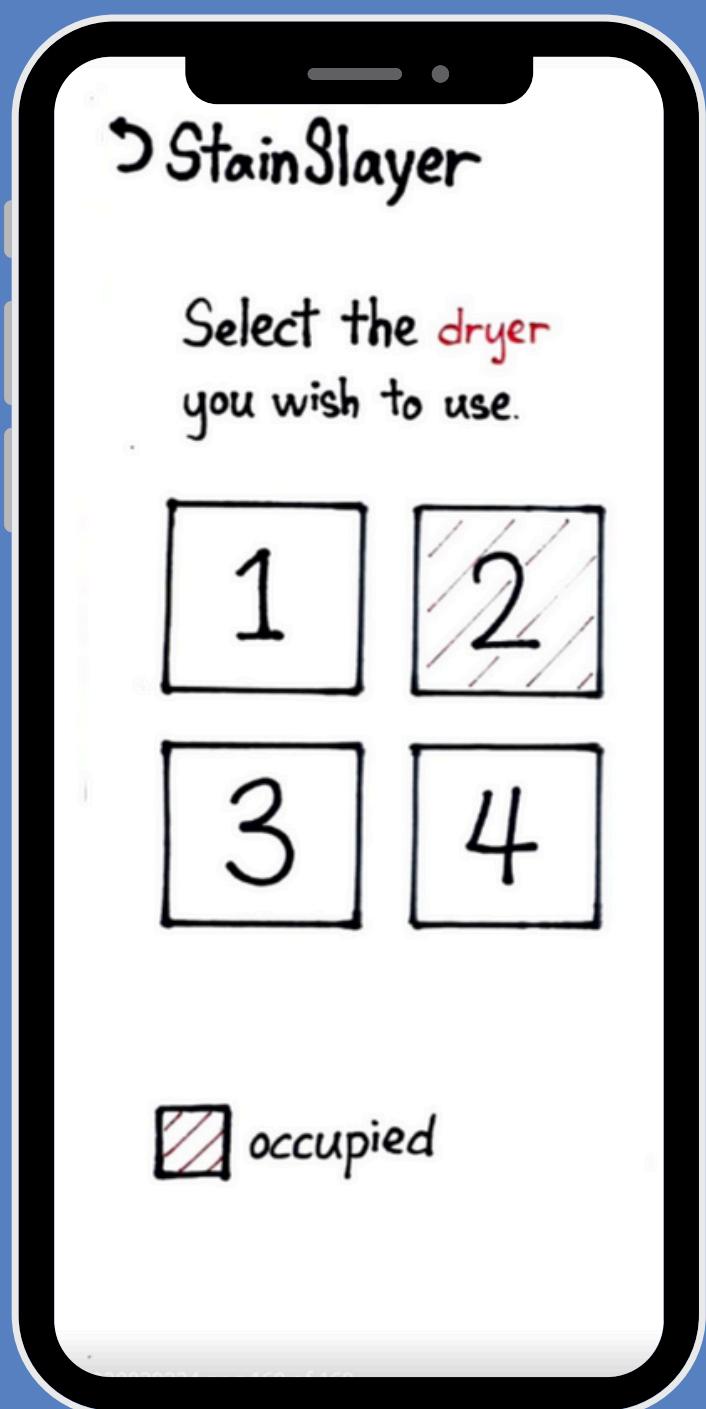
PROTOTYPE

Washing status
interface



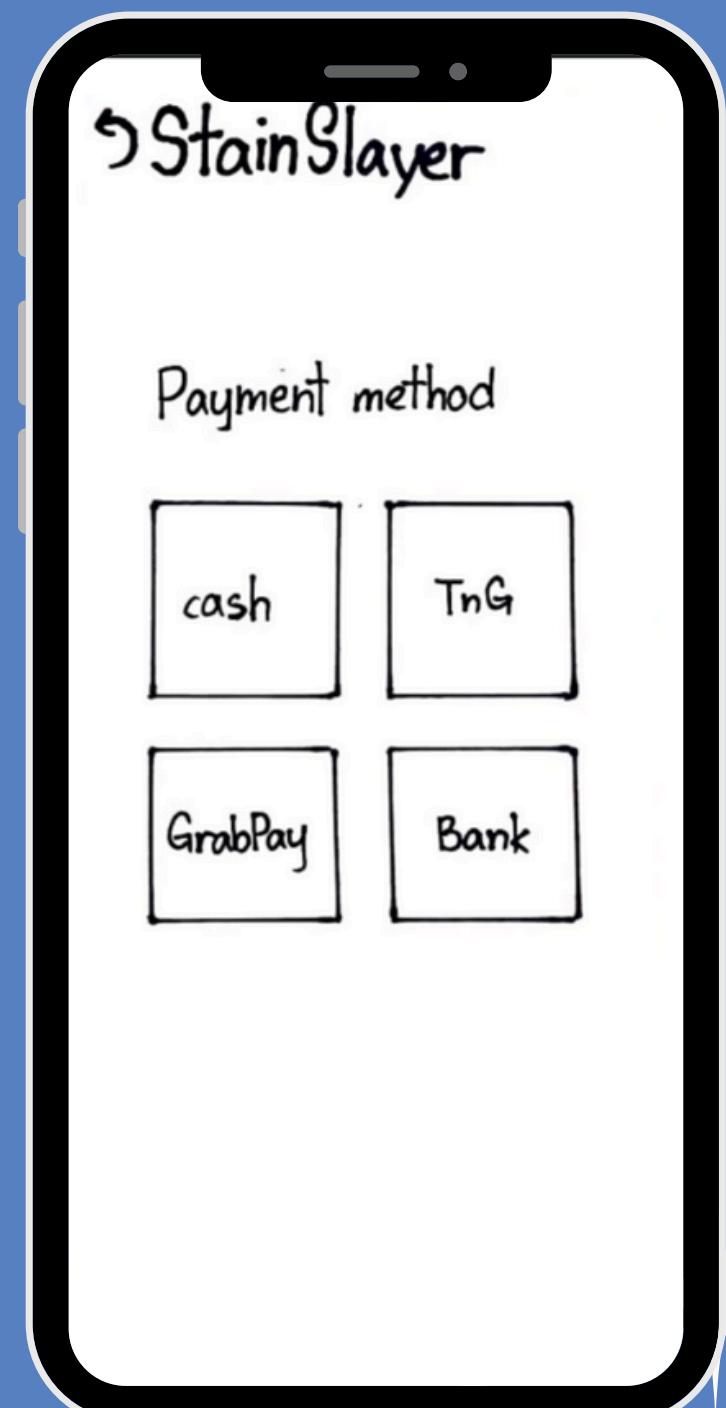
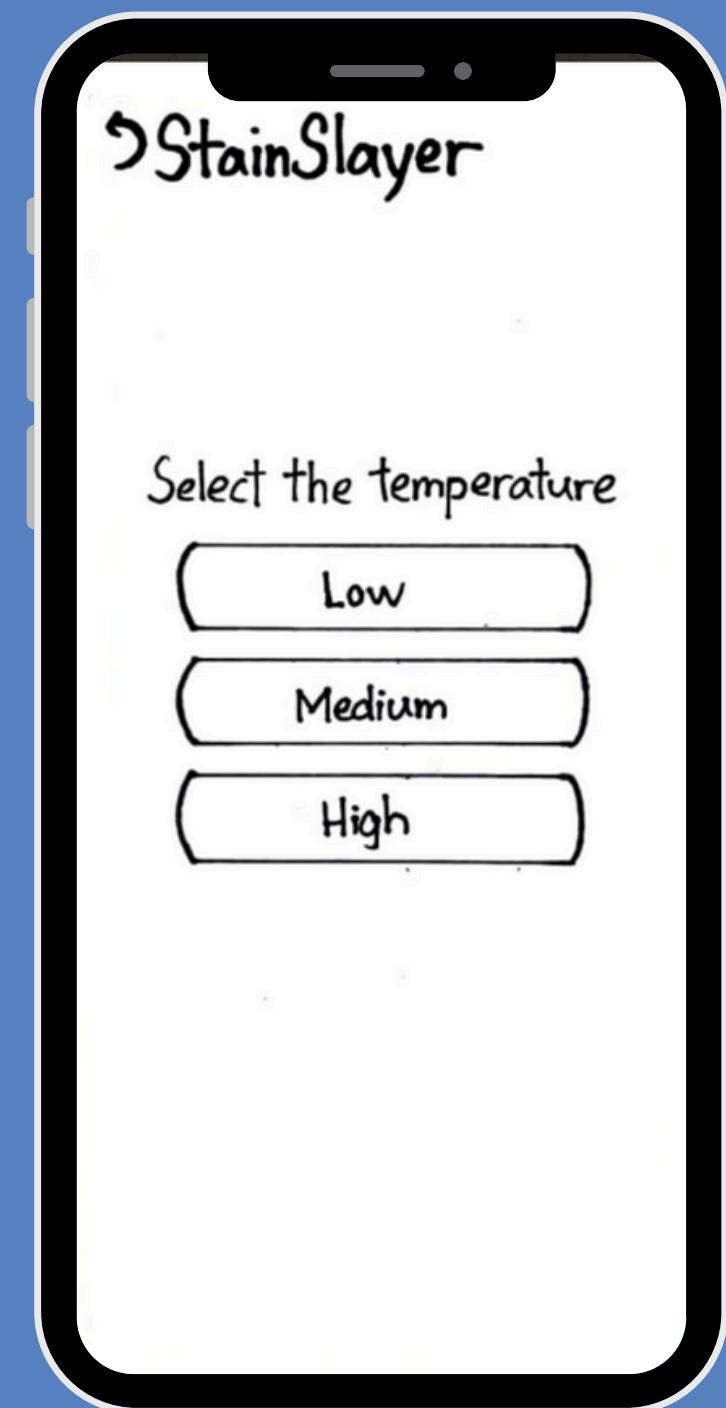
PROTOTYPE

Dryer queue status
interface



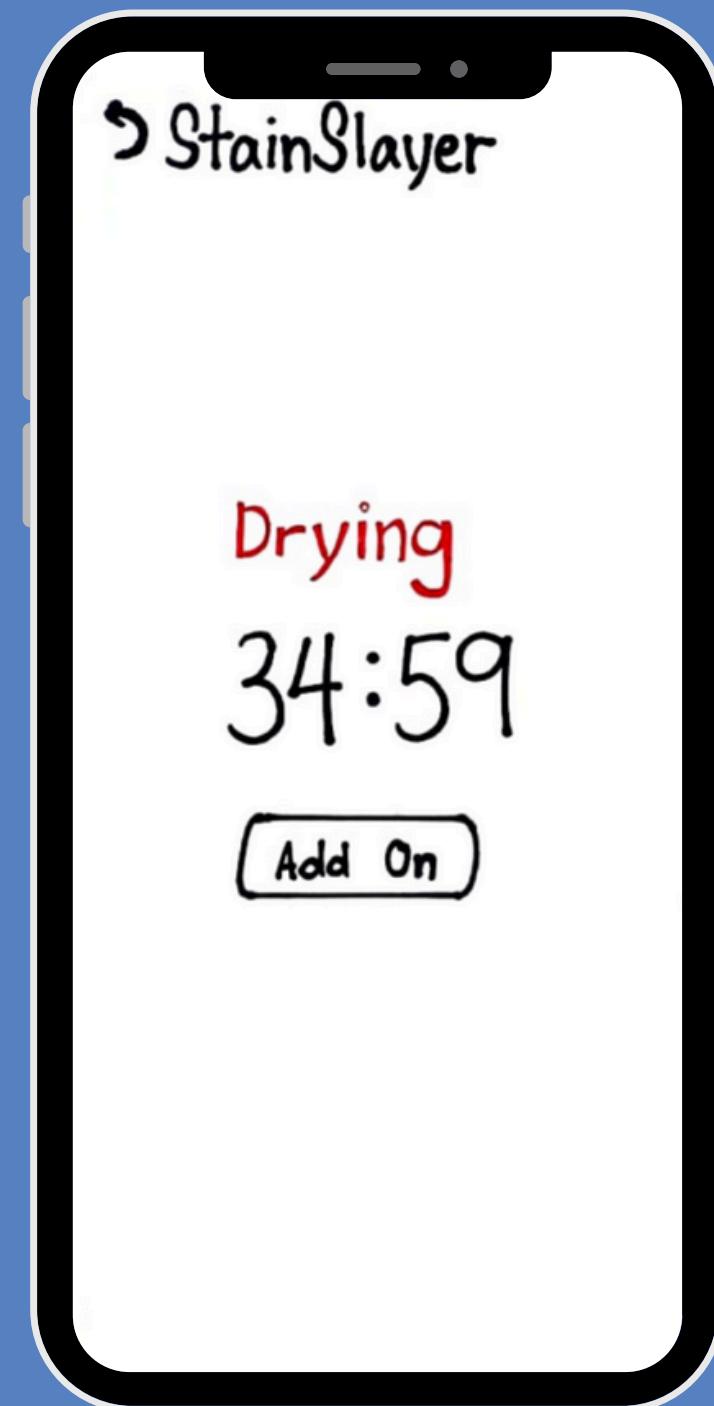
PROTOTYPE

Dryer interface &
payment option



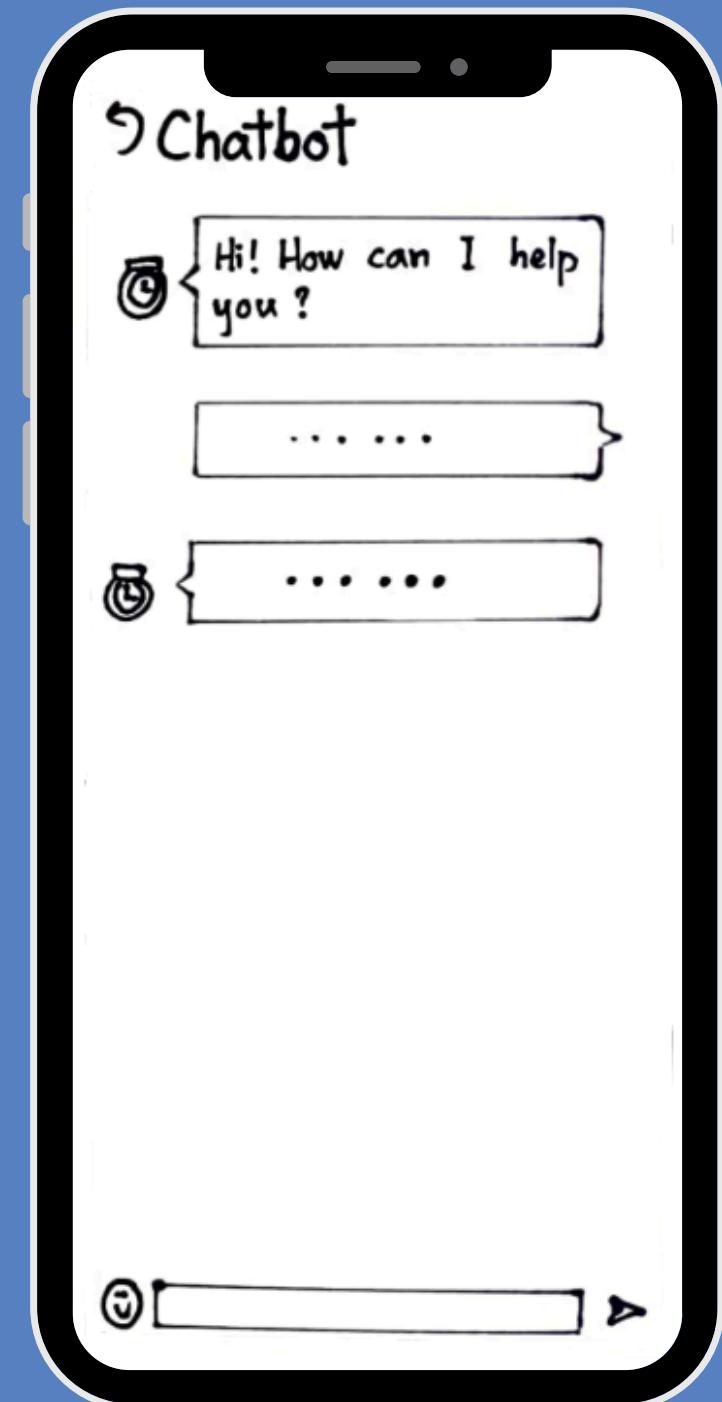
PROTOTYPE

Drying status interface

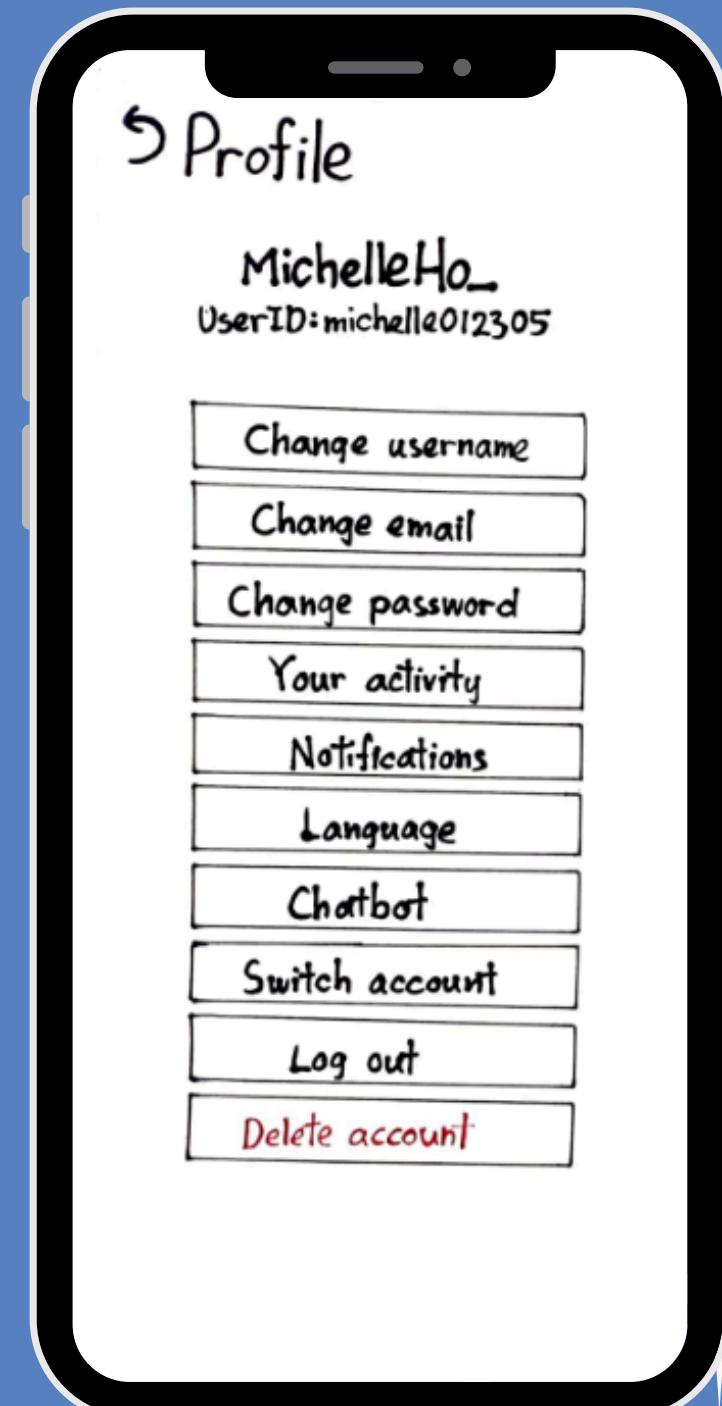


PROTOTYPE

ChatBot



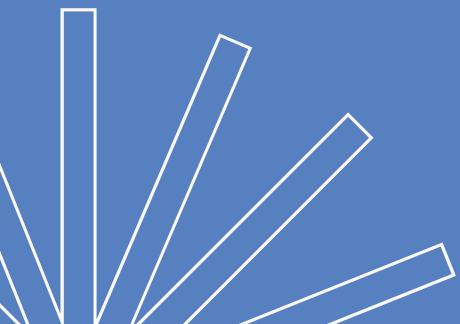
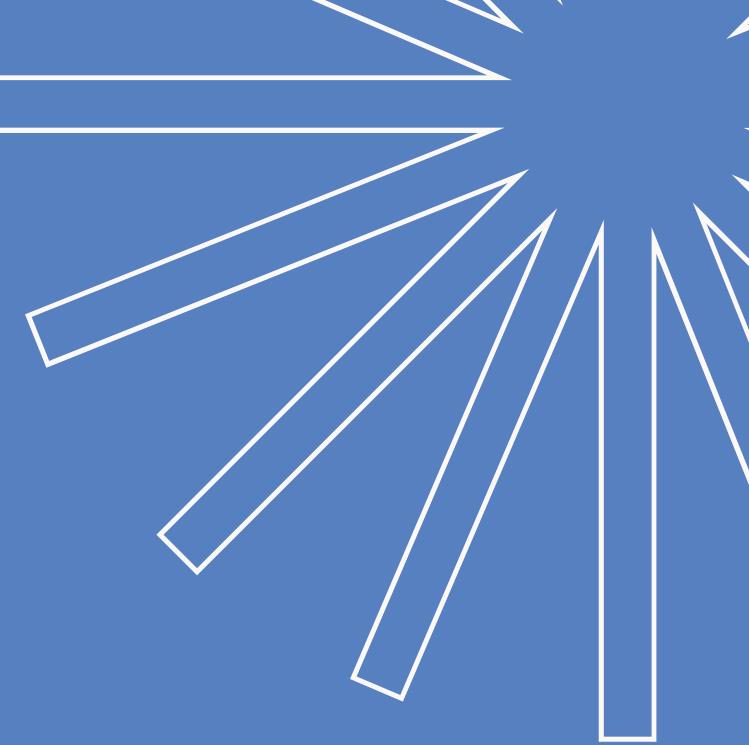
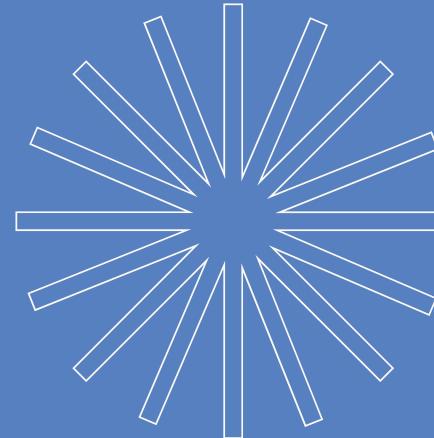
User Profile





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TESTING





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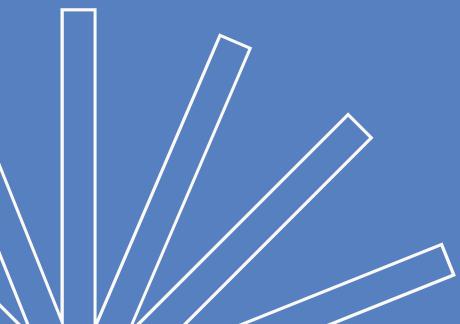
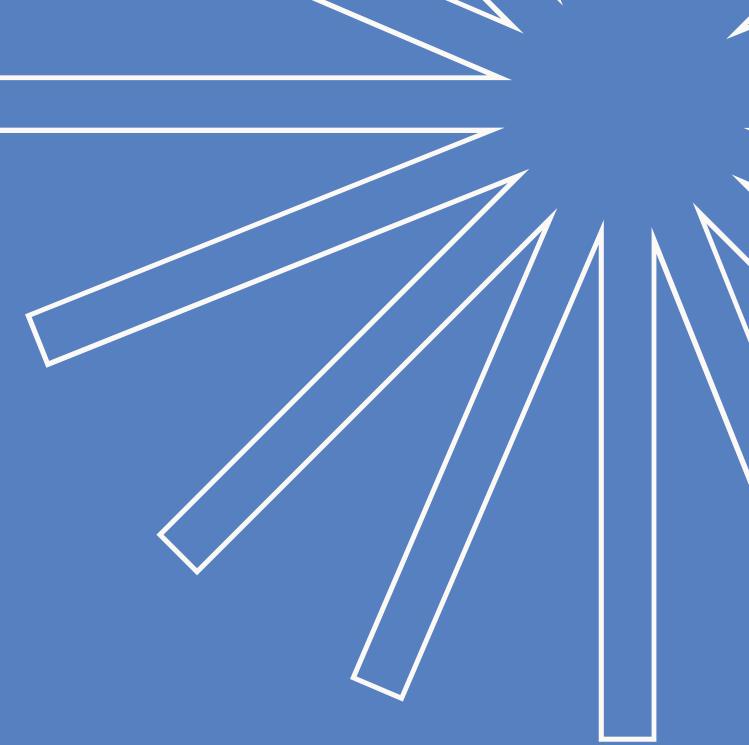
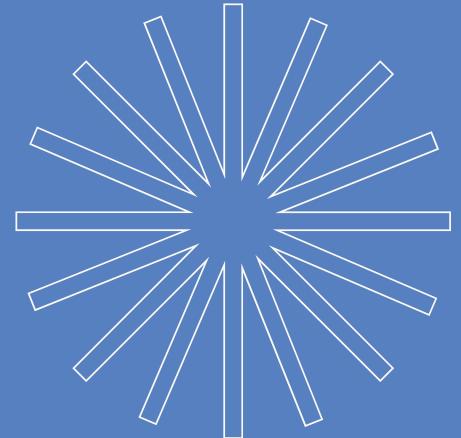
TESTING

With testing, it allows us to identify areas for improvement and make necessary adjustments. The team members observe on how our user (Miss Xin Ying) interact with the prototype and take note on any comments provided by the user to ensure that the user needs and expectations is meet. While miss Xin Ying is interacting with the prototype we also thoroughly explain each features and functions to highlight how it addresses each user needs. Thankfully, she was impressed with our work and provided positive feedback, commending the design and functionality.



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CONCLUSION



CONCLUSION

In conclusion, the "StainSlayer" laundry tracking app is a promising solution to address the common problems experienced by users when using laundry system and aims to improvise one laundry experience. By incorporating features such as real-time status updates, detergent usage recommendations, multiple payment options, and an AI-powered chatbot, Through the design thinking process, we identified user problems and challenges, following that we also as a team work together to brainstorm and build our problem solving skills through this design thinking project and as a result lead to the development of this application. The outcome of the project proves that we managed to successfully meets most the users expectations.



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AND A

THANK
YOU

