	UNIVERSITI MALAYSIA SARAWAK **Faculty of Computer Science and Information Technology**

Assignment/Project/Report Cover Sheet

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Course Code: TMT2713	Course Name: Human Computer Interaction
Assignment Title: ART Apps	Lecturer: Dr Amelia Jati Anak Robert Jupit
Due Date: 14 January 2025	Date Submitted: 14 January 2025

This cover sheet must be completed, signed and firmly attached to the front of the submission. All work must be submitted by the due date. If an extension of work is granted, an extension acknowledgement slip must be signed by the lecturer/tutor and attached to the assignment/project/report. Please note that it is your responsibility to retain copies of your assignment.

Plagiarism and Collusion are methods of cheating that are addressed in the Peraturan Akademik Universiti Malaysia Sarawak para 11: Etika Akademik

Plagiarism Plagiarism is the presentation of work which has been copied in whole or in part from another person's work, or from any other source such as the Internet, published books or periodicals without due acknowledgement given in the text.

Collusion
Collusion is the presentation of work that is the result in whole or in part of unauthorized collaboration with another person or persons.

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I also certify that I have taken proper case in safeguarding my work and have made all reasonable efforts to ensure that my work is not able to be copied.

MARK :

A. Usability Testing

Participant 1:

- Job: Student
- Age: 22
- Technical proficiency: Regular

TASK 1: Selecting a train route
"The interface looks neat."
"The color theme is also nice, very futuristic."
"This app is excellent in helping people to buy a ticket, so we don't need to go to the station."

Task 2: Purchasing a ticket
"Is there only two ways to make a payment?"
"Better if you add more options like e-wallet, touch&go, and online banking."

Task 3: View Routes
"How can I know where the bus is currently at?

Participant 2:

- Job: Store Manager
- Age: 40
- Technical proficiency: Beginner

TASK 1: Selecting a train route
"How do we go to the next page?"
"Do I just choose any?"
"Oh, you can view the map."

Task 2: Purchasing a ticket
"This is the QR is so that we can scan it, right?"
"Okay that was like the Grab app, it's easy to understand"

Participant 3:

- Job: Cashier
- Age: 25
- Technical proficiency: Regular

TASK 1: Selecting a train route
"This one is the same as search destination, right?"
"It's easy to use because you can view all the place that it will be headed."

Task 2: Purchasing a ticket
"We have to pay with a card? Oh there's Sarawak Pay also"

Participant 4:

- Job: Cashier
- Age: 36
- Technical proficiency: Regular

TASK 1: Selecting a train route
"From Kuching Airport to Unimas, at 8am?"
"(I could) choose it just like that."
"The map shows the route? Like that, okay understandable"

Task 2: Purchasing a ticket
"Oh this is how the payment looks like."
"After that just click checkout, right?"
"We scan this QR at the bus station? That's nice."
"It's very convenient for me with kids so I don't need to queue at the station"

Participant 5:

- Job: Mart Manager
- Age: 47
- Technical proficiency: Beginner

TASK 1: Selecting a train route
"How do I start?"
"What do I click after that?"
"Okay, I'm done"

Participant 6:

- Job: Student
- Age: 20
- Technical proficiency: Intermediate

TASK 1: Selecting a train route
"Why is it all the same?"
"This is all the trains that go at the same time?"
"Nice map."

TASK 2: Purchasing a ticket
"Wow I got 2% off! Oh its RM2"
"The app is pretty organized."
"It's easy to understand."

Participant 7 :

- Job : Student
- Age : 26
- Technical proficiency: Regular

TASK 1: Selecting a train route
"The app is user-friendly and makes it simple to view routes."
"The maps cannot zoom in, making it hard to select the right place."
"It would be easier if the app let you save your favourite stops so you can book faster next time."

TASK 2: Purchasing a ticket
"Being able to pay with Sarawak Pay or a credit card makes booking easier"

System Usability Scale (SUS):

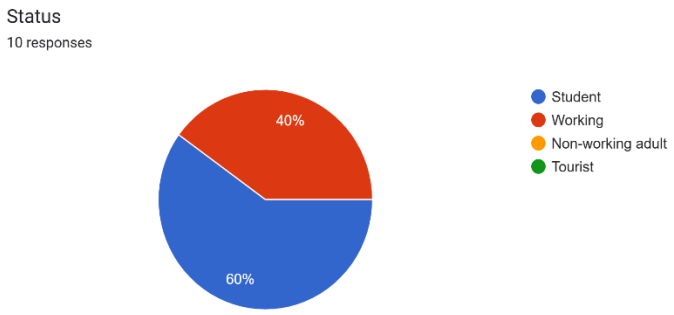


Figure 1: Demographic of Participant Status

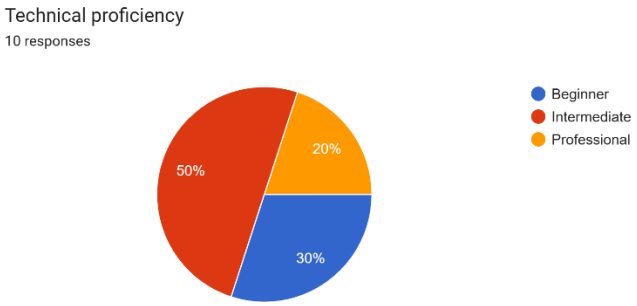


Figure 2: Demographic of Technical Proficiency

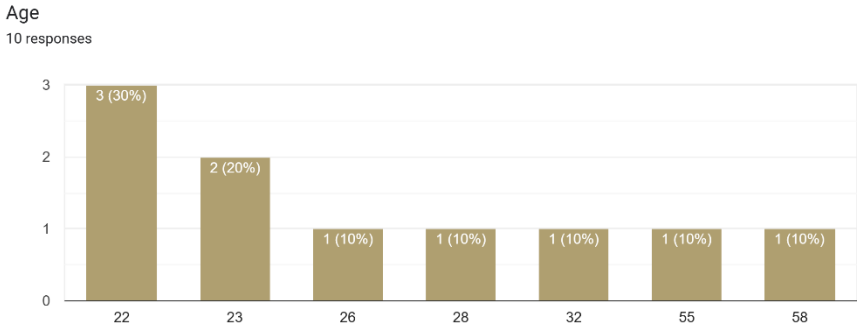


Figure 3: Demographic of Age

Results:

Scores = 38, 35, 35, 34, 27, 32, 31, 19, 23, 24

Scores (Normalized) = 95, 87.5, 87.5, 85, 67.5, 80, 77.5, 47.5, 57.5, 60

Average Score = 74.5 (good)

Summary of key findings

The usability testing of the train route and ticketing app highlighted both strengths and areas for improvement, supported by user feedback. Participants praised the interface, describing it as “neat” and with a “very futuristic” color theme, making it easy to “view all the places it will be headed.” The convenience of booking tickets through the app was emphasized, with one participant noting, “It’s very convenient for me with kids so I don’t need to queue at the station.” However, some areas need improvement. Payment options were a common concern, with comments like, “Better if you add more options like e-wallet, Touch&Go, and online banking.” Users also found the map functionality limited, stating that “The maps cannot zoom in, making it hard to select the right place.”

Additional suggestions included saving favorite stops, as one participant remarked, “It would be easier if the app let you save your favorite stops so you can book faster next time.” Some beginner users struggled with navigation, asking questions such as, “How do I start?” or “What do I click after that?” To address these issues, the app should expand payment options, enhance map interactivity by allowing zoom and dynamic route details, introduce personalization features like saving favorite stops, and provide a tutorial for new users. Clearer instructions, larger buttons, and better accessibility would also improve the experience, especially for less tech-savvy users.

The System Usability Scale (SUS) results achieved an average score of 74.5, which is considered "good" and aligns with the standards for usability. Individual scores ranged from 47.5 to 95, reflecting a varied user experience among participants with different technical proficiencies and age groups. The high scores indicate that most users found the app intuitive, easy to navigate, and suitable for frequent use. Lower scores, highlight areas where improvements are needed, particularly in supporting beginner users and addressing specific functionality of the application. The overall score suggests that the app has a strong foundation but needs minor updates to give a more consistent and smooth experience for all users.

B. Presentation

Prototype Link, Figma:

https://www.figma.com/proto/ob8pf1VPgfofSTYgpaEgaK/ART-apps?t=fIxpYRWGO3AwPmrV-1&scaling=min-zoom&content-scaling=fixed&page-id=9%3A333&node-id=69-1678&starting-point-node-id=69%3A1678

Presentation Link, Canva:

https://www.canva.com/design/DAGcAFpnks4/MdwJLbEtqeInQW5-Hw5v3Q/edit?utm_content=DAGcAFpnks4&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

AUTONOMOUS RAIL RAPID TRANSIT APP (ART)

Assignment 4

OUR TEAM

Nurul Adriana 100613

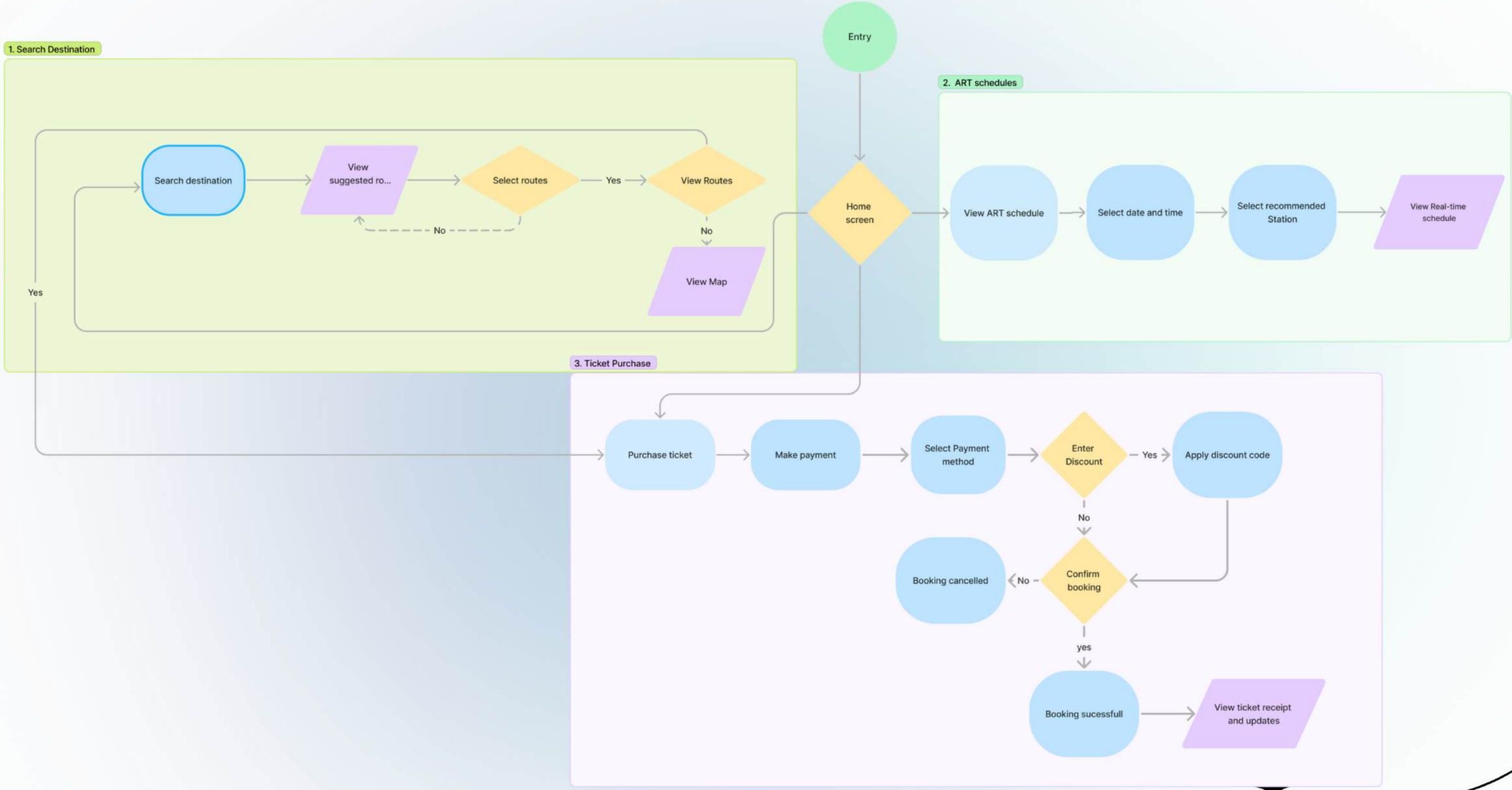
Dayang Siti Zakirah 98677

Nafisah Amani 97616

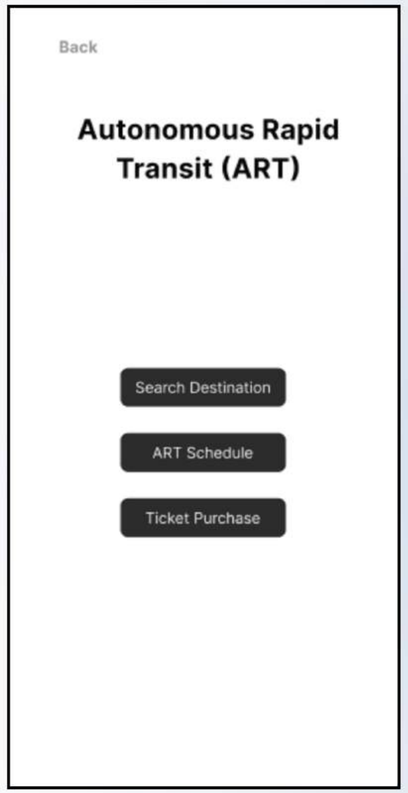
PROJECT OVERVIEW

This project focused on designing and evaluating an ART (Autonomous Rail Transit) app. The goal was to create an intuitive and user-friendly interface for tasks such as searching for train routes, viewing schedules, and purchasing tickets. The project emphasized usability, leveraging iterative testing to refine the design and improve user satisfaction.

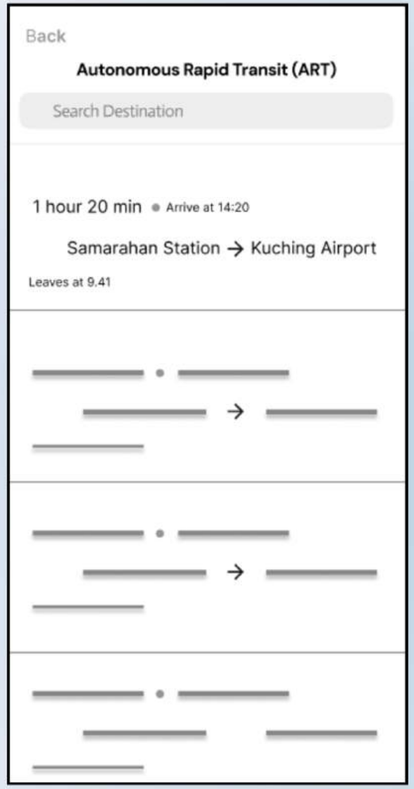
USER FLOW DIAGRAM



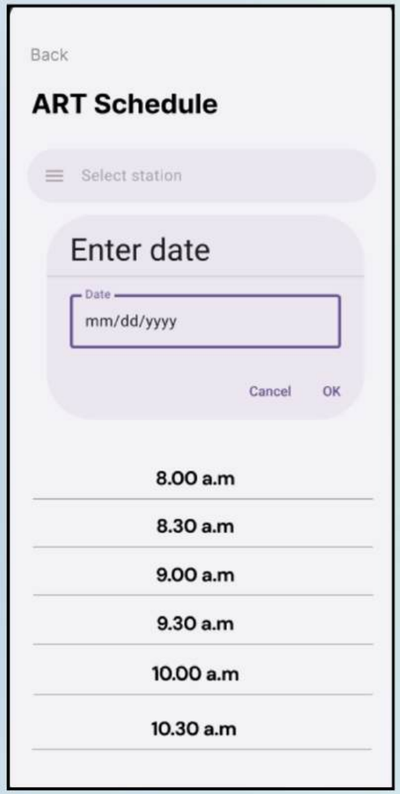
STORYBOARD



Homepage



Search Destination

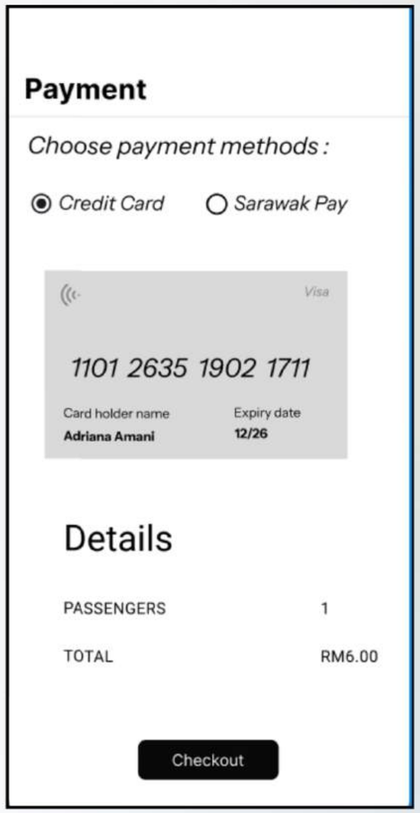


Art Schedule

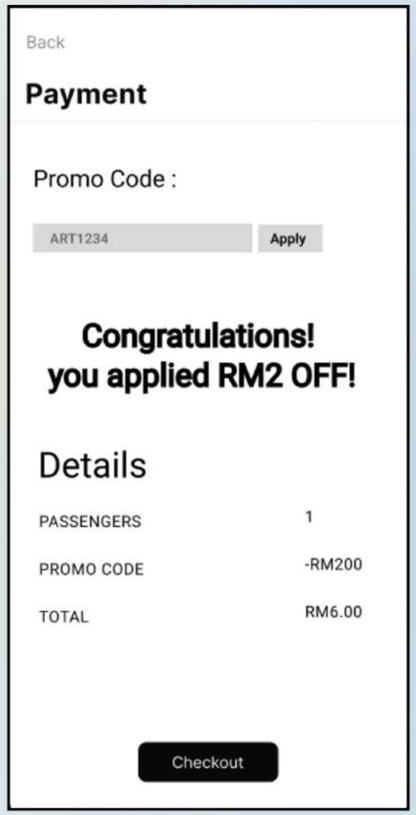
View Routes

View map

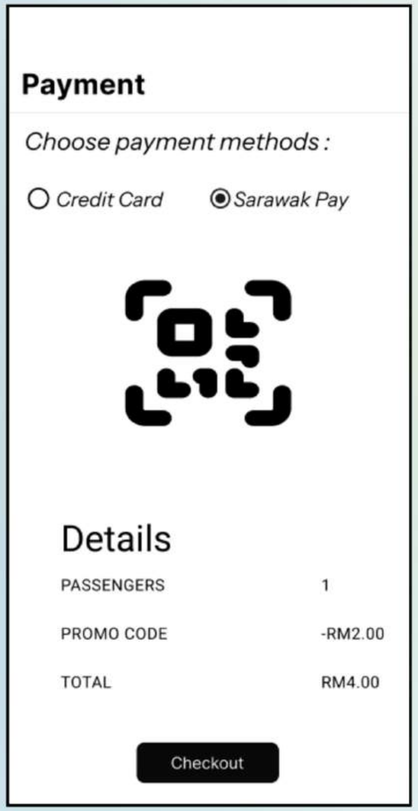
STORYBOARD



Pay with card



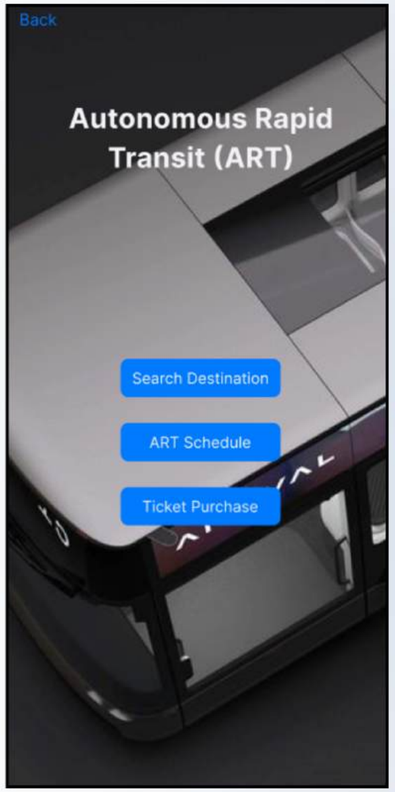
Discount applied



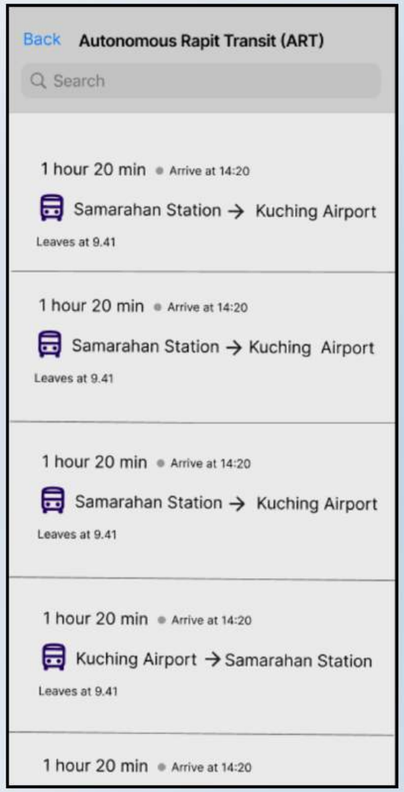
Pay with Sarawak pay

Art ticket

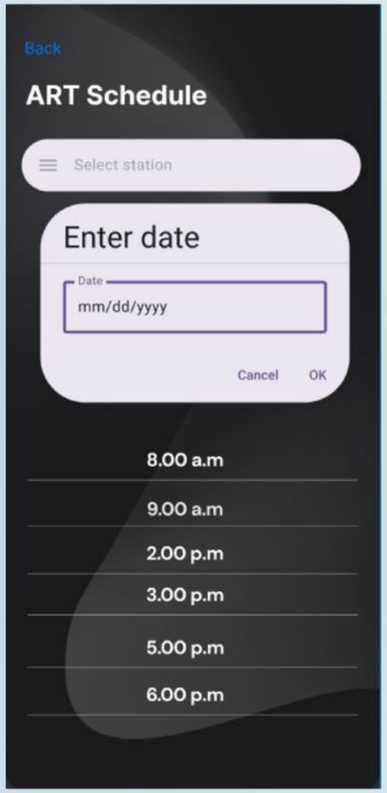
PROTOTYPE



Homepage



Search Destination

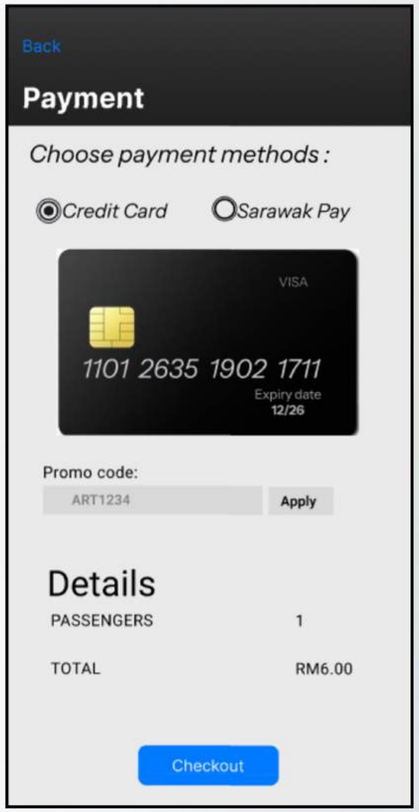


Art Schedule

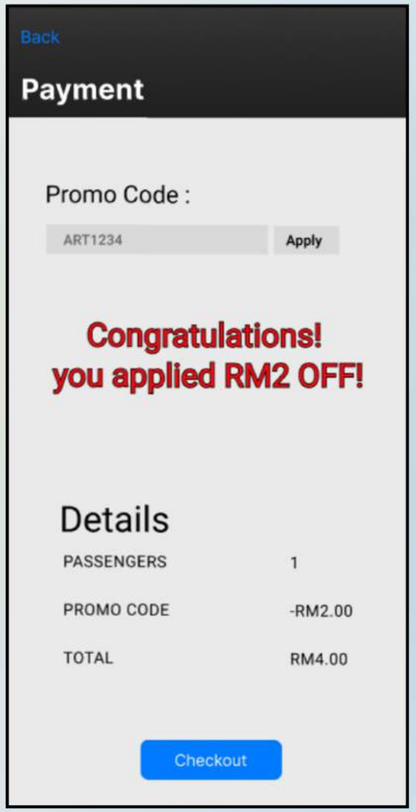
View Routes

View map

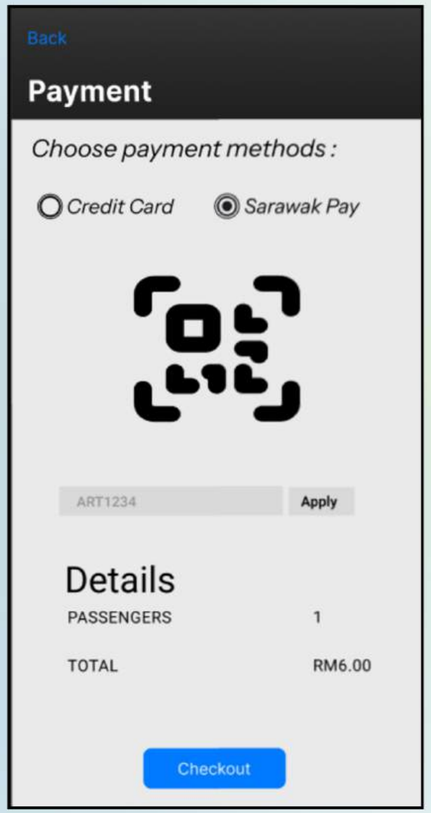
PROTOTYPE



Pay with card



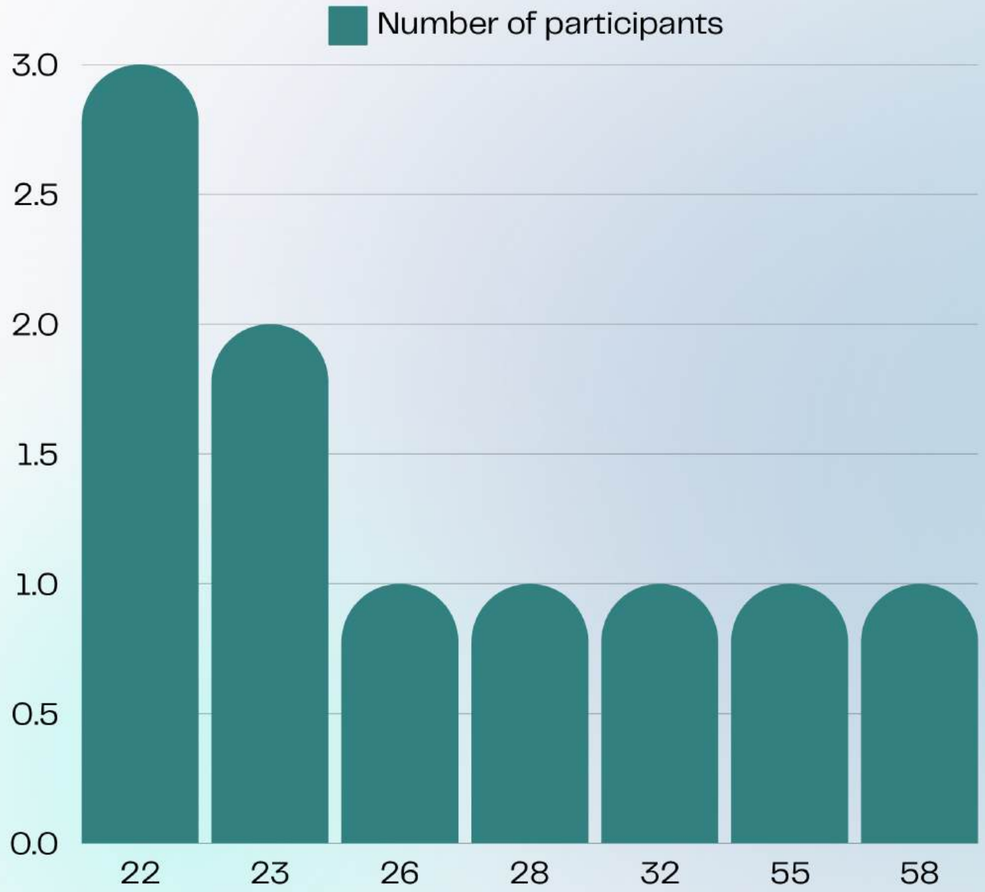
Discount applied



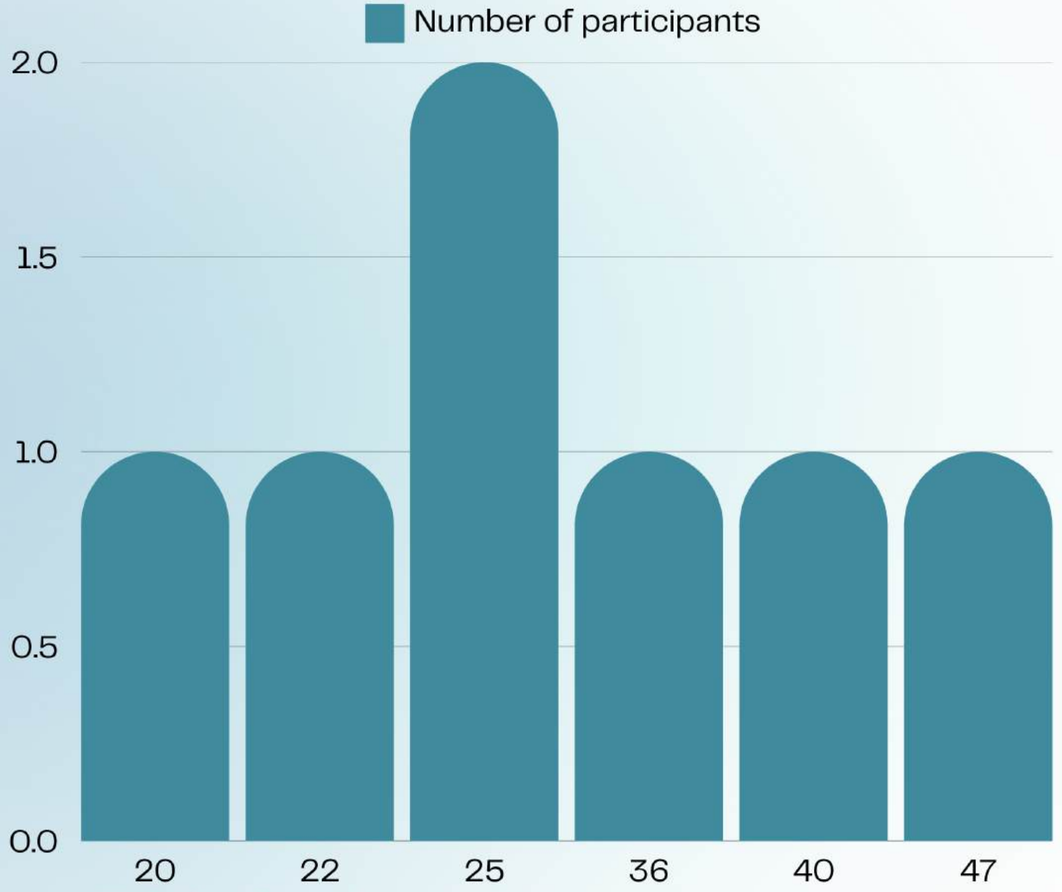
Pay with Sarawak pay

Art ticket

DEMOGRAPHIC : AGE

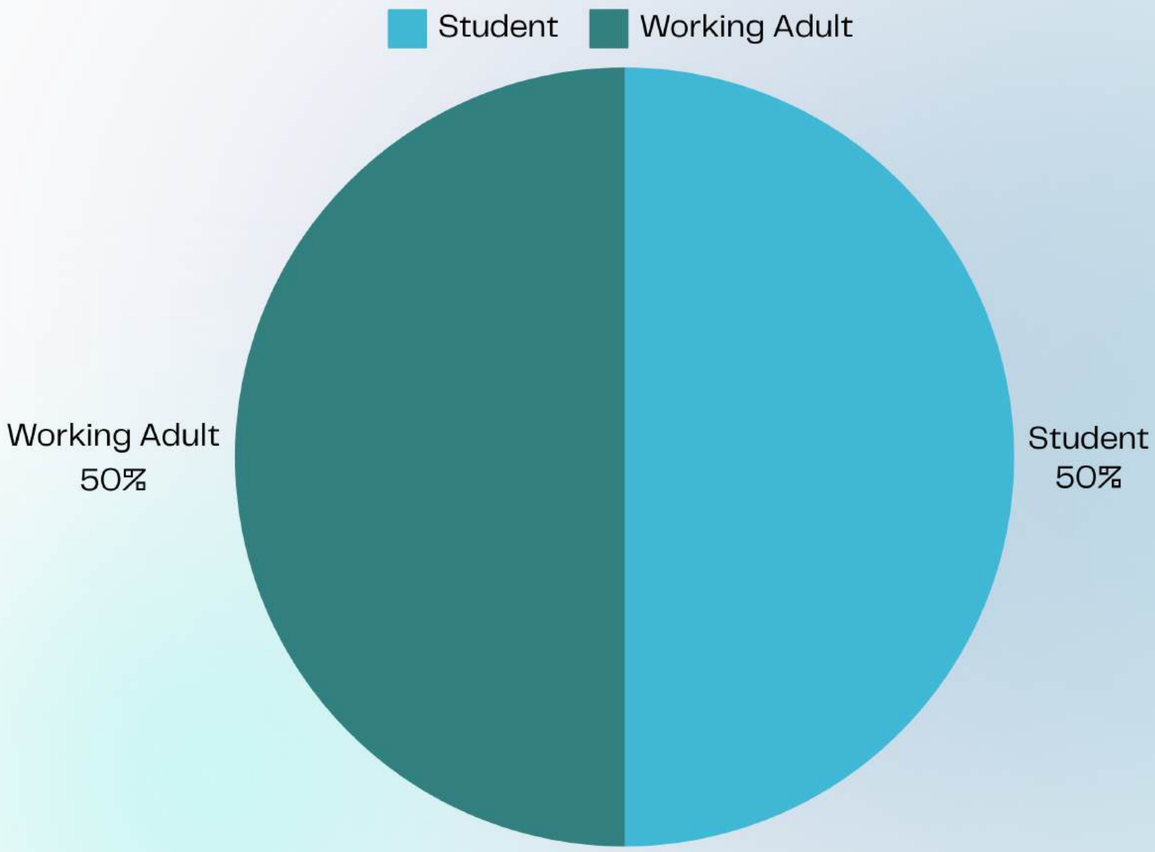


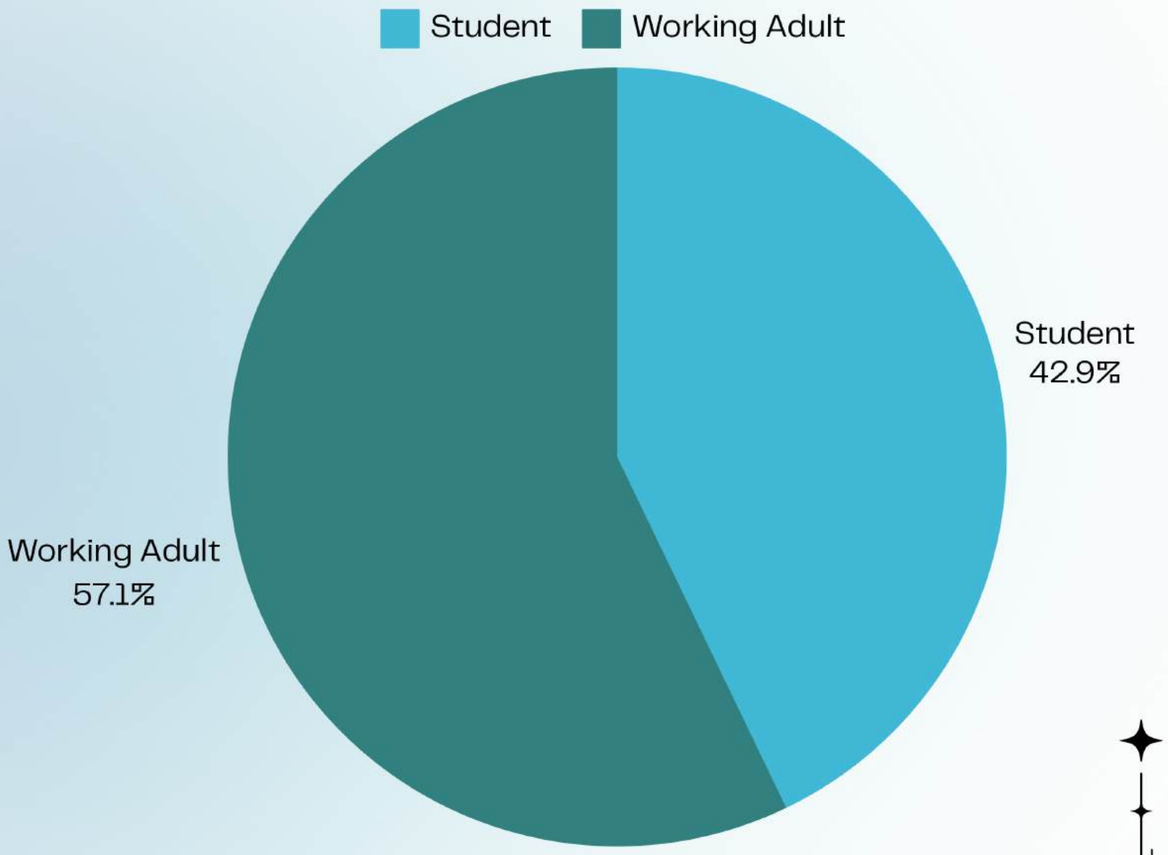
SUS participants



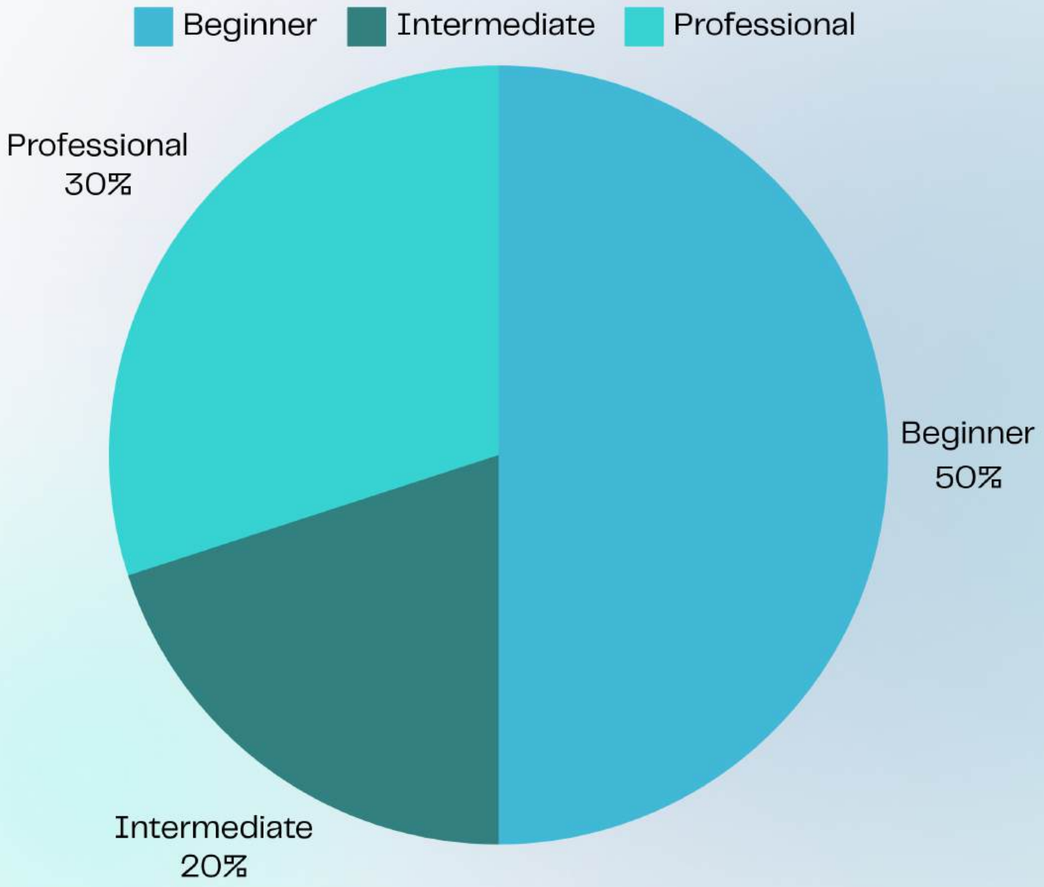
Think-aloud interviews

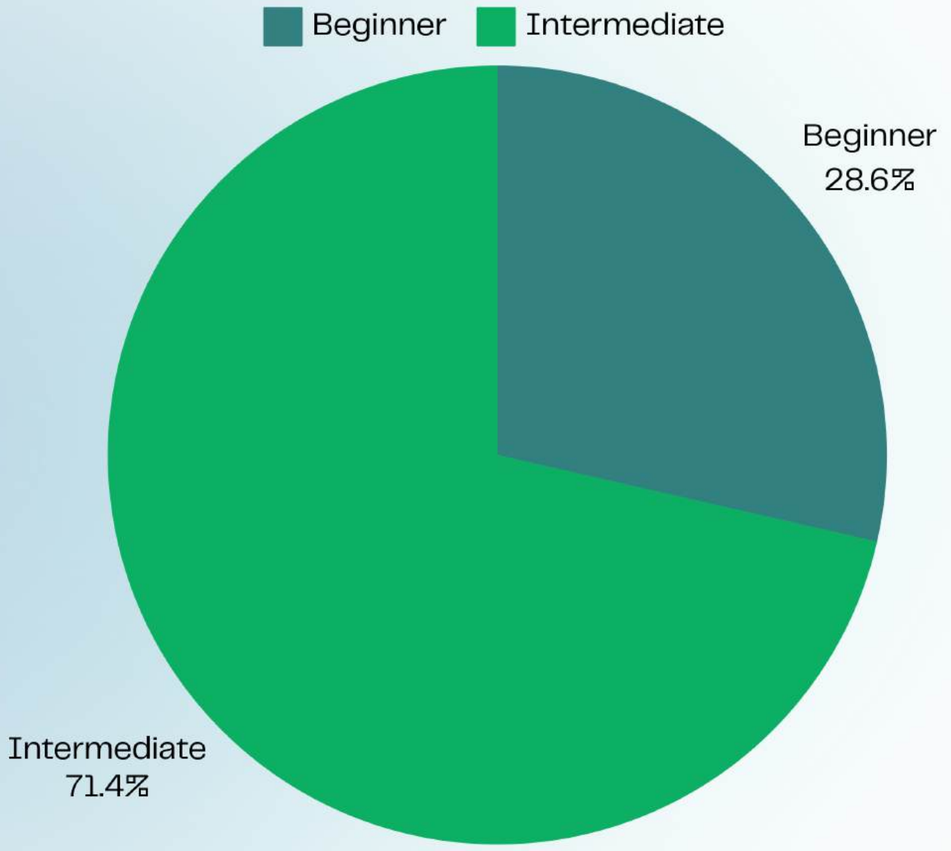
DEMOGRAPHIC : STATUS





DEMOGRAPHIC : TECHNICAL PROFICIENCY





THINK-ALOUD FINDINGS

“This app is excellent in helping people to buy a ticket so we don’t need to go to the station.”

“It’s easy to use because you can view all the place that it will be headed.”

“The maps cannot zoom in, making it hard to select the right place.”

“ It would be easier if the app let you save your favourite stops so you can book faster next time. ”

SUS FINDINGS

scores

38, 35, 35, 34, 27, 32, 31, 19, 23, 24

scores (normalized)

95, 87.5, 87.5, 85, 67.5, 80, 77.5, 47.5, 57.5, 60

average score

74.5 (good)

CONCLUSION

The system built is convenient enough for users of different ages and technical proficiencies to use. Navigating the app is easy and flow of the system is smooth and direct. Target of this project is met, as users feel the app interface is neat and suitable for daily use.

THANK YOU

LINK PROTOTYPE