KidMove

Interactive Prototype

Transporting children in autonomous vehicles

Assignment 3
IDEA9105 Interface Design
The University of Sydney

8Kteam

James Anderson
Creative Director

Haiyan Gao
hgao0237 | 510476436

Nancy Jian
hjia2135 | 510556691

Yancheng Zhang
yzha7774 | 520100756

📄 *Design Brief*

KidMove assigned young creatives to develop an automated kid transport service system for parents that highlights safety and communication.

Arranging transportation for kids to school is currently a practical challenge for many families due to busy schedules, multiple obligations, and demographic factors. Parents often opt for traditional methods of transportation such as cars, public transit, or school buses, which may come with **inherent risks** like human error, the danger of strangers, and unexpected accidents. **Shared autonomous vehicles** offer a viable alternative in the children's transportation market that addresses these concerns.

KidMove is an international company has the potential to transform the child commuting landscape by exploring a futuristic solution to the challenges brought by traditional industry. KidMove is dedicating to providing parents a **reliable** and **efficient** child transportation service with enhanced convenience but lower costs.

Young creatives were challenged to develop an automated transport service system for kids. Our task is to deliver the **user experience** from **parents' perspective** and provide them with a user-friendly **interface to book, monitor, and organize** their children's transportation. Safety and communication is expected to be prioritized in every journey throughout the system.

Our target users are those parents who prioritize their children's safety but may be unable to provide transportation themselves.

They are now seeking a reliable and convenient mode of transportation for their kids. As part of the concept proposing phase, we chose Sydney as the pioneering region for this project. After investigating marketing background, online posts, and competitors, we created Jobs-to-be-done Framework and user profiles. User needs and key features were generated.

User needs

A safe and efficient service with convenient communication

The access to the live updates of automated vehicles and monitor kids' status

A system to easily manage multiple kids' commute trips

UI/UX design features

Simple hierarchy, distinctive colors

Highlight safety and supervision/communication features

Indicate automated features

Multiple shortcuts for common and prime functions

Lisa's mom is juggling multiple kids and finds it challenging to personally drop off and pick up each of them from school due to the work commitments of her and her husband.

The safety concerns associated with public transportation and early departure times of school buses add to their worries.

That's where KidMove comes in.
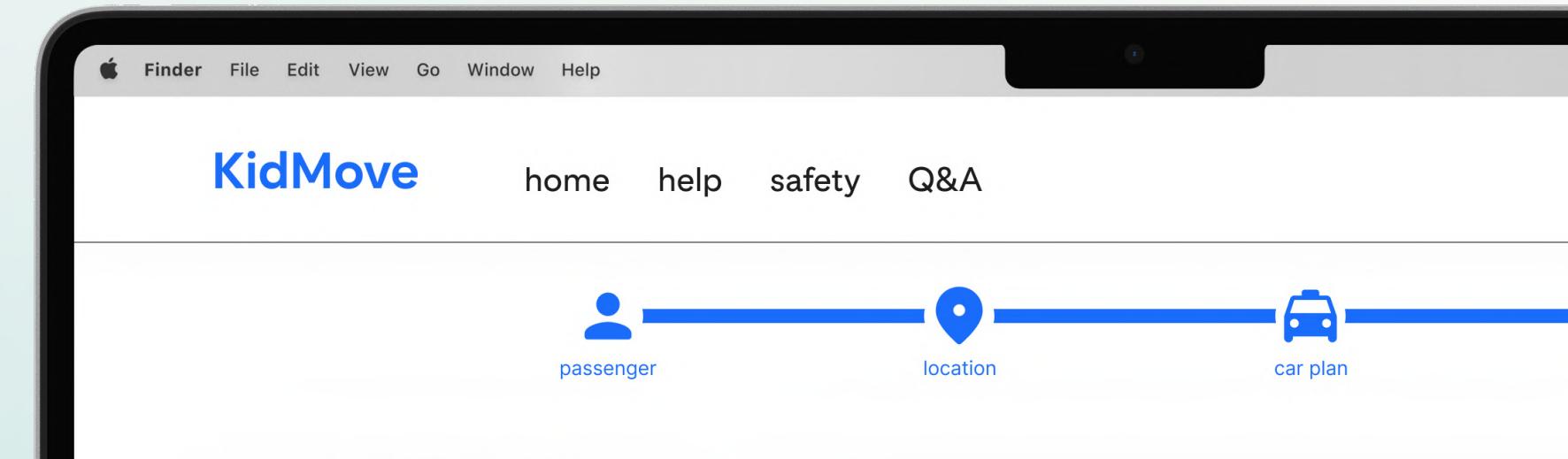
Design Solution

Desktop
Pre-journey | Haiyan Gao
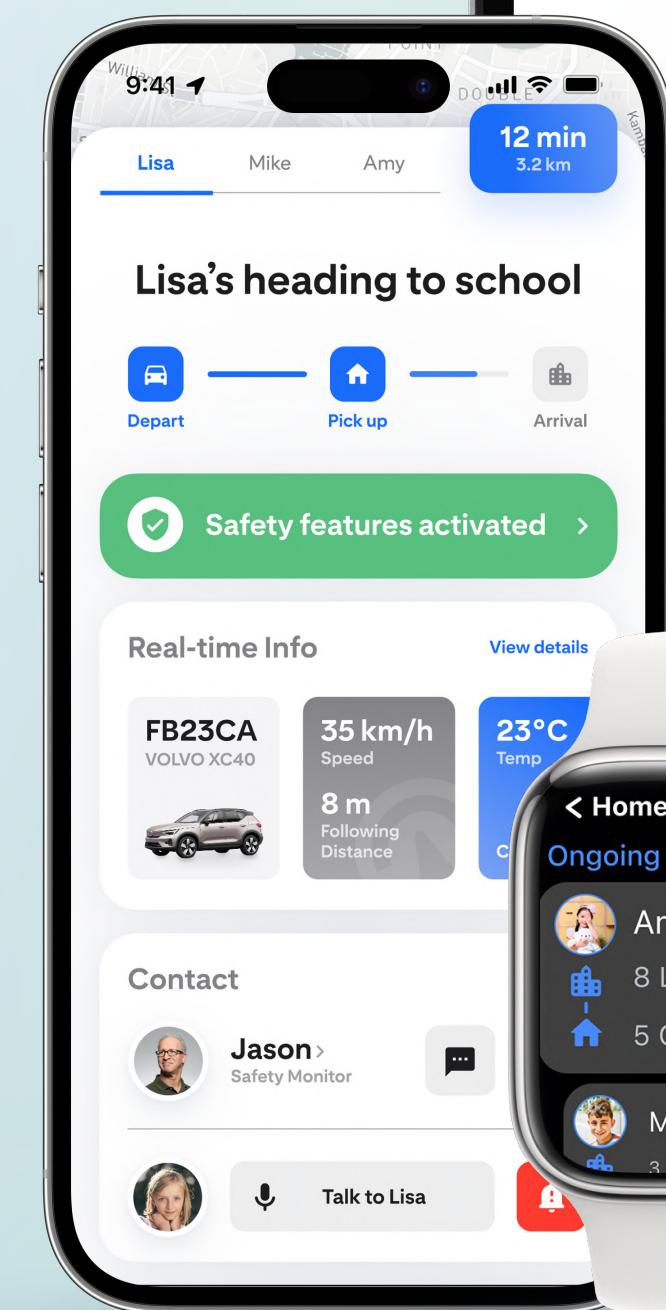
On Sunday evening, Lisa's mom used the KidMove website on her computer to book trips between schools and home for her different kids. With the **large screen and detailed information display**, she successfully arranged suitable KidMove vehicles and times for each child. She rested to sleep easy knowing everything is taken care of by KidMove.

iOS App
Mid-journey | Yancheng Zhang
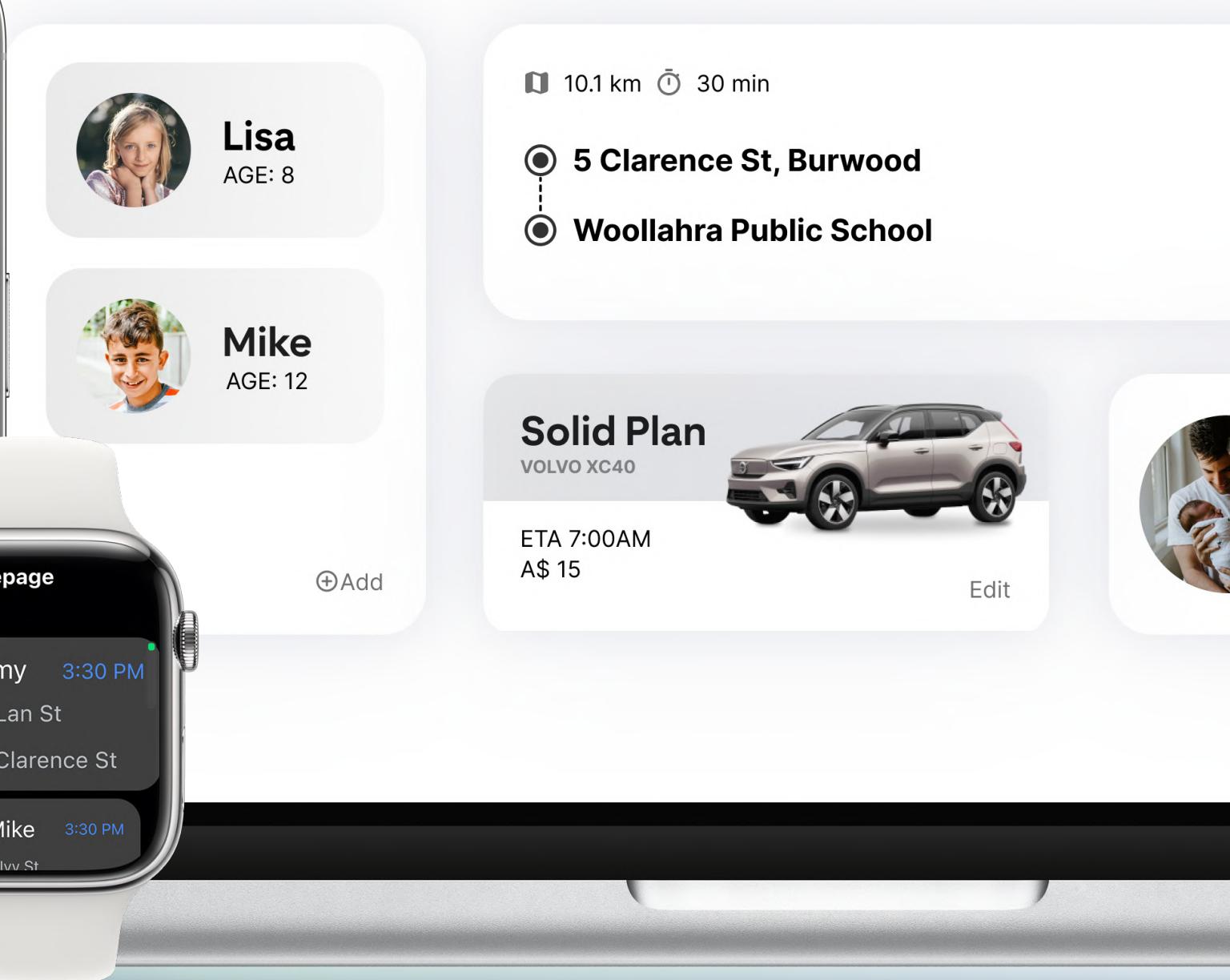
Finally, Lisa's mom doesn't have to wake up early to send the kids to school anymore. She's leisurely enjoying her morning coffee while the KidMove app **shows her the real-time status of her children's journeys**. She can effortlessly have a conversation with Mike who doesn't have a phone yet, and shared Amy's ongoing trip with her husband.

watchOS App
Post-journey | Nancy Jian

Today, Lisa's mom decided to take the bus to work. The morning rush hour bus was too crowded for her to even take out her phone. Luckily, the KidMove watchOS app sent her real-time updates about Lisa's ongoing trip. Once the trip was completed, she could **quickly check the trips** of her other children right on her Apple Watch.

#1A6CFA
KidMove Blue

We selected blue as the brand color for KidMove, as well as the primary color in our user interface.

In a color psychology perspective suggested by **Faber Birren**, blue is the proper color to convey a safe, reliable, and technological sense (Withrow, 2004). This is in line with our users' primary need and expectation of a **safe and reliable service**, and it also embodies the **high-tech** of automated vehicles.
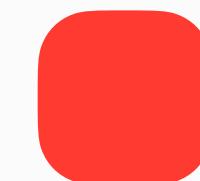
#478AFF for Watch

#58C07F | Accent
Green

To signify the status of progress, completion, success, and smoothness.

#FF3B30 | Accent
Red
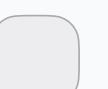
To indicate cancellation action, also used in urgency, and congestion-related elements.

Neutral colors for text and background

#1D1D1F   #838387   #EEEEEF   #F5F5F7

Aa.

Pinterest UI Pro
Pinterest Sans Pro
Headline / component / large body text

Inter
Medium, for body / note / chat use

SF Compact
For watchOS interface*
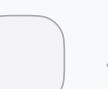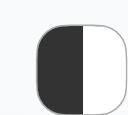
Contrast check
for mainly-used colors
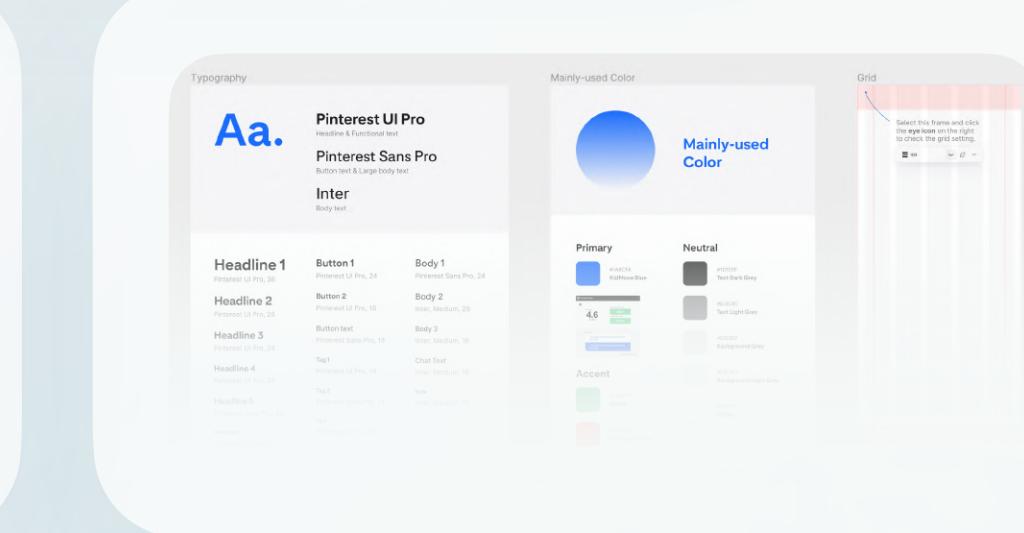
Normal Text Size   Large Text Size

AA ✓   AAA ✓

AAA ✓   AAA ✓
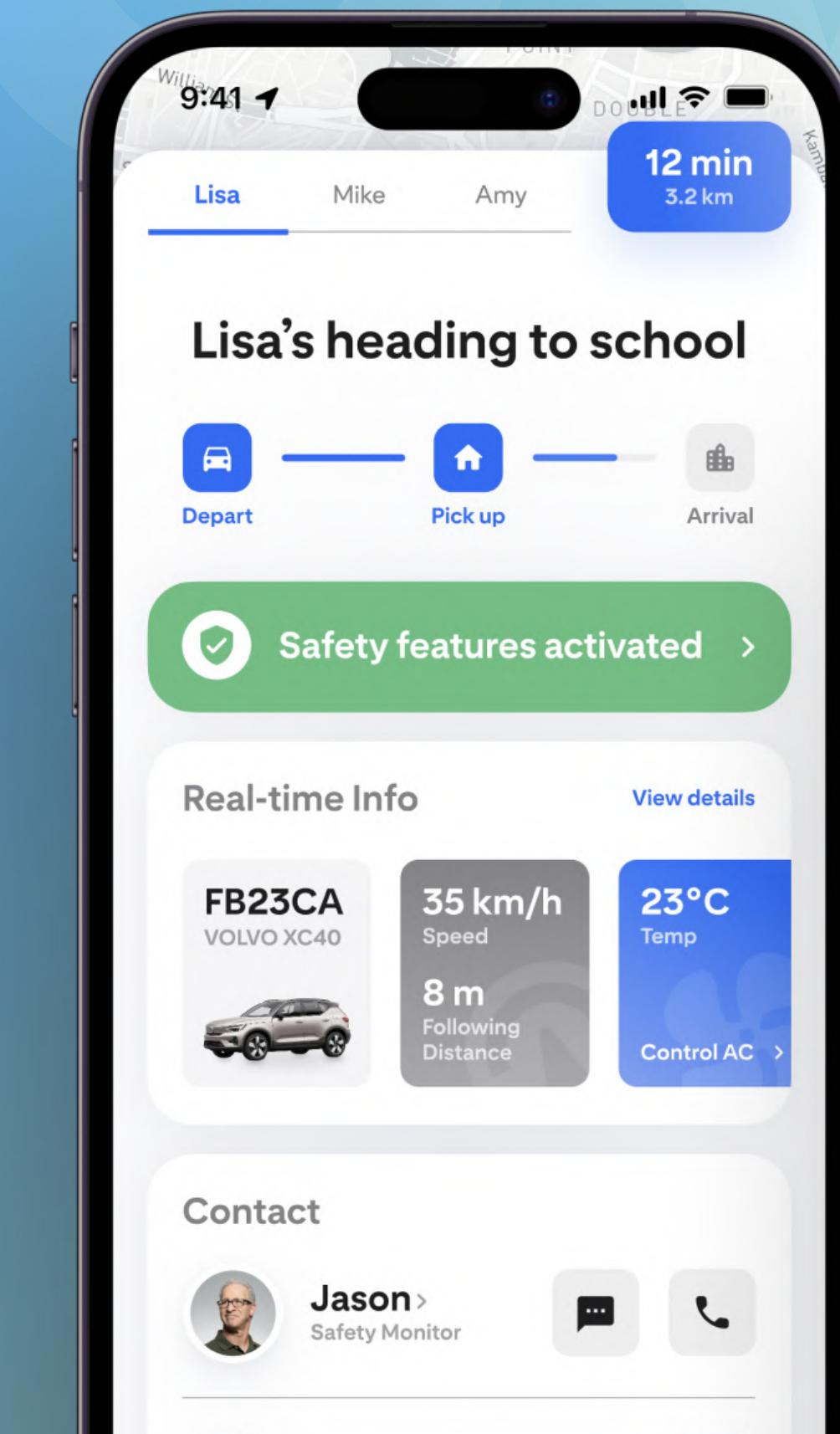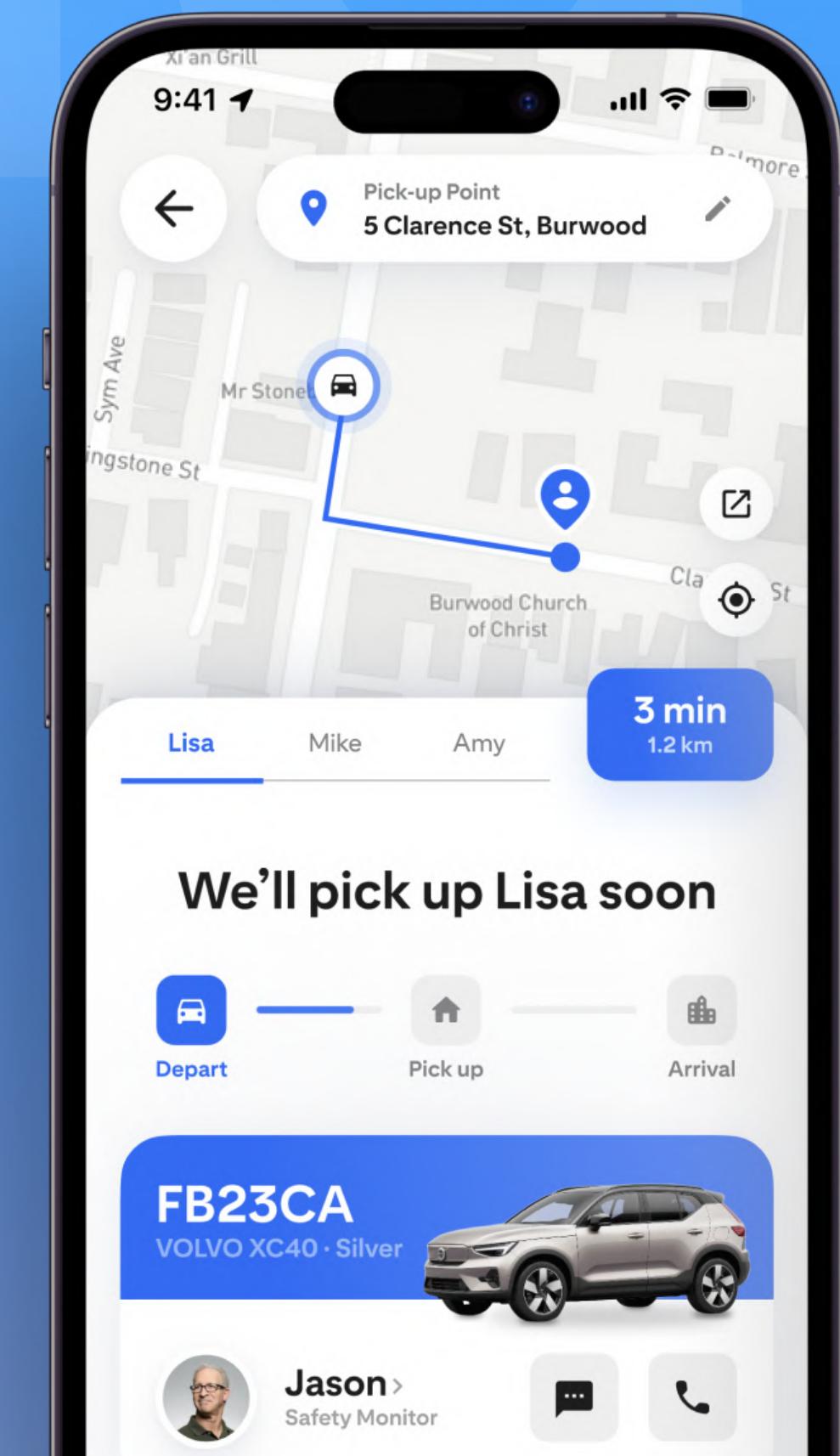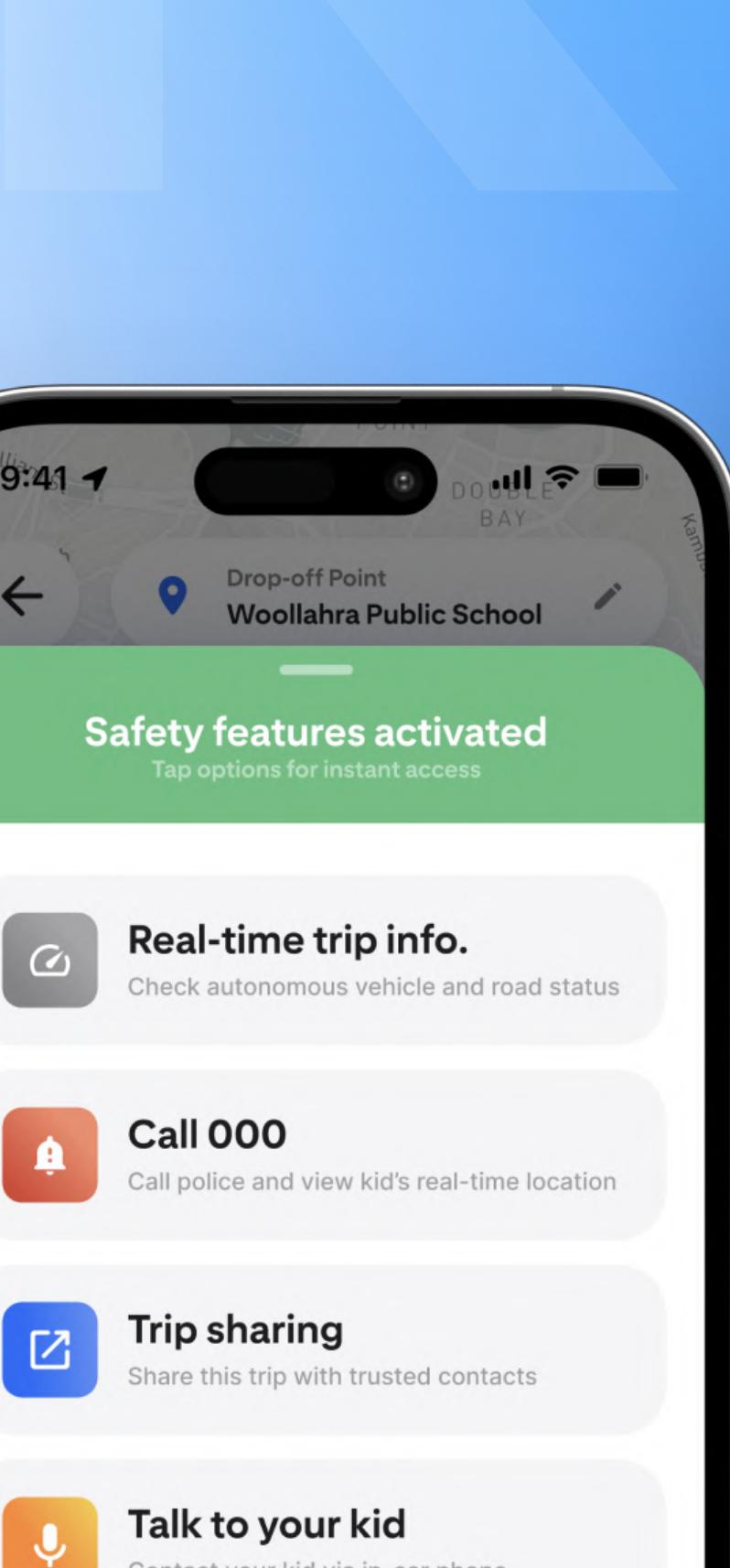
Please click on the following icons to Figma for detailed design systems for different devices.

* Developer: SF Compact is the system font in watchOS, and apps can also use NY. In complications, watchOS uses SF Compact Rounded.

User testing
from peers and parent testers

I conducted 12 user tests (8 peers and 4 parents) to exam the user flow, components, and visual design of iOS interface.

User flow

- All participants found the user flow to be **clear and without any issues**.

Components
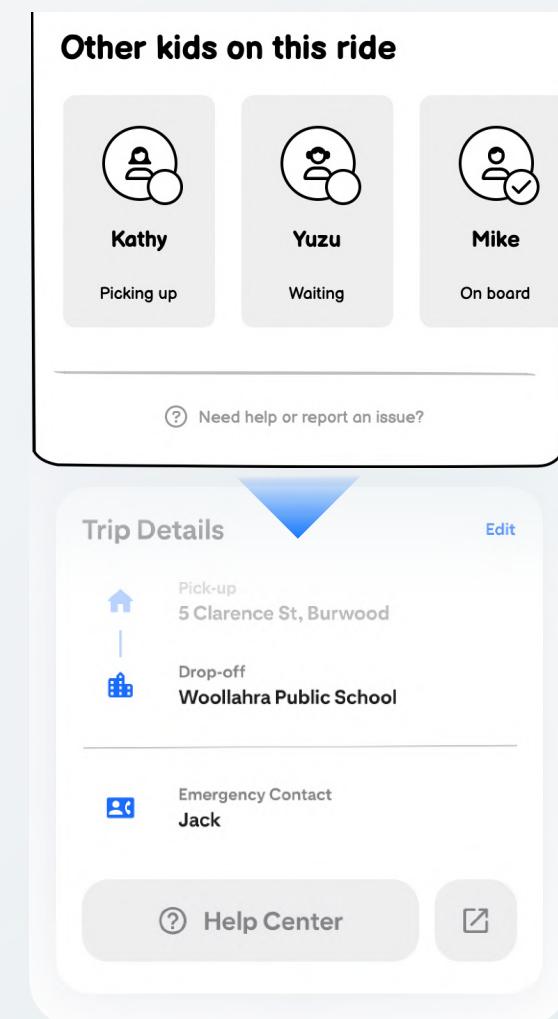
- 'Help' button could be more prominent.
- Parents would like to have more controls over the vehicle.
- Participants did not particularly care about the information of other kids in the same vehicle.

Visual design
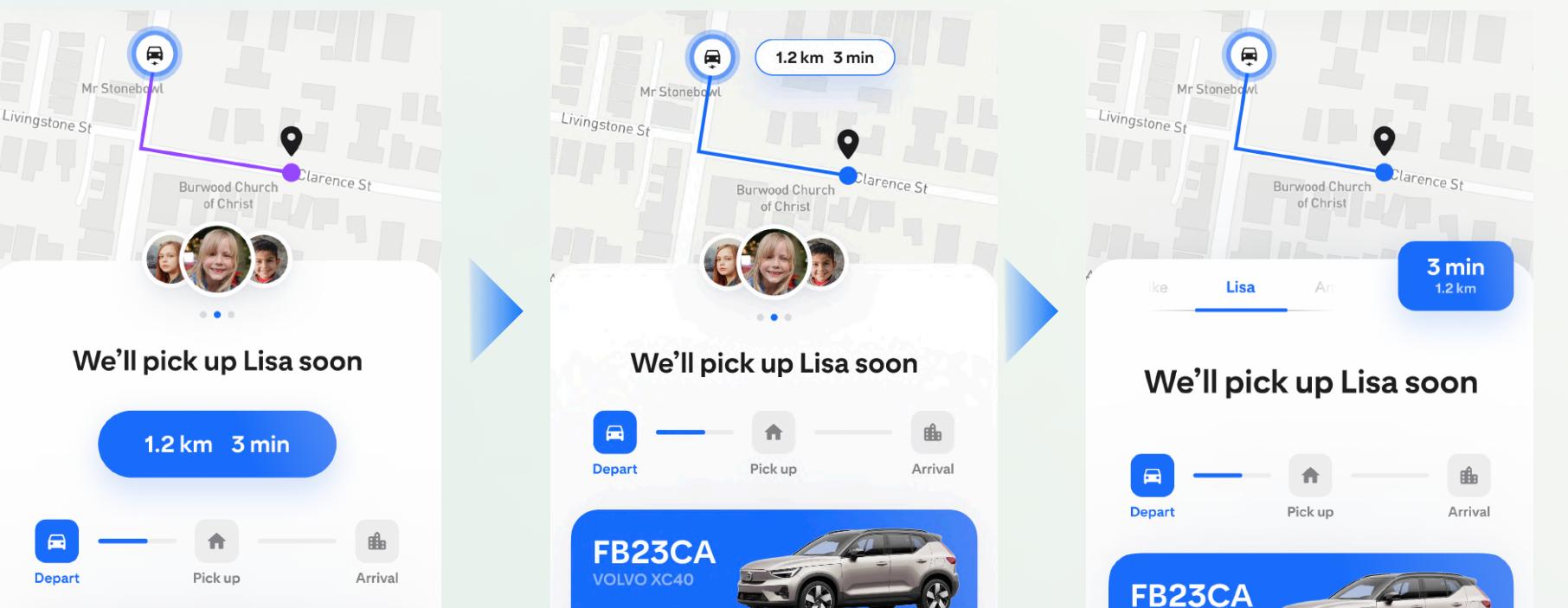
- The displayed information on each page is **very appropriate** in terms of content and hierarchy.
- I also did more tests for specific pages and elements to iterate with finer details, you're welcome to check my Figma page for detailed iterations.

Testing-driven iterations

Section and hierarchy

- Deleted 'Other kids on this ride' section between 'Trip Details' and 'Help Center' on the Picking-up Page and Ongoing Page.
- Elevated the Help Center to a dedicated button, rather than a bottom-line statement.

Presentation of information

- In the first image, the remaining arrival time and distance of the vehicle are displayed within a capsule. To highlight the information, I filled the capsule with the primary color for emphasis. However, peers have provided feedback that this module **looks like a button**, which may unintentionally prompt users to click on it.
- I then modified the presentation of this information as shown in the second image. I believe that the display of this information can be retained in the final version, but it still **lacks visibility**. Based on user testing and online ethnography research, I found that the remaining time and distance information of the vehicle are crucial for child transportation, especially during the time-sensitive mornings.
- I chose to present this information on the right side of the main card as the final solution, making it **prominent enough** without wasting screen space.
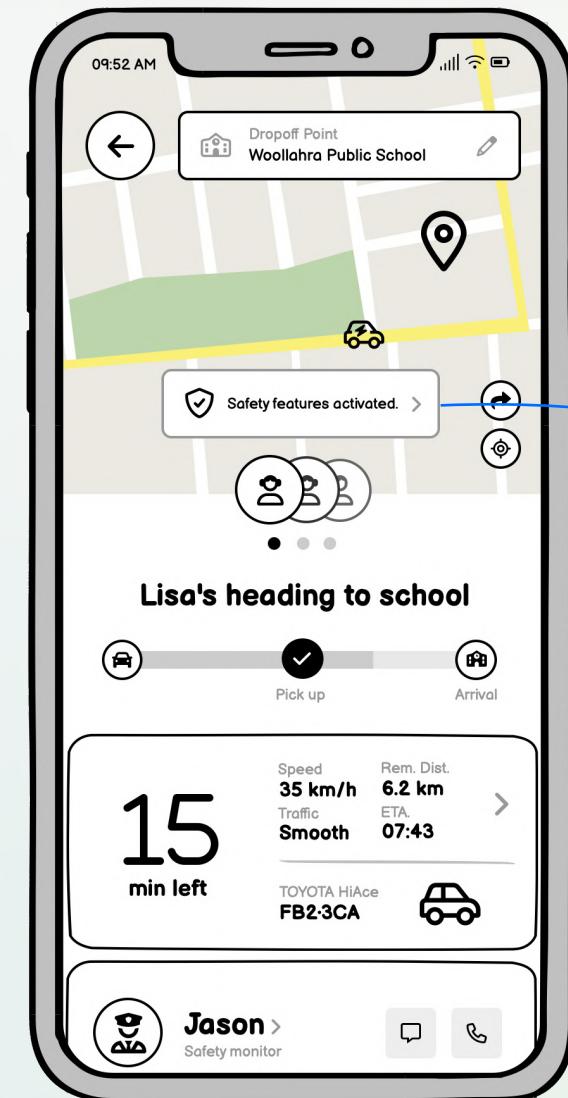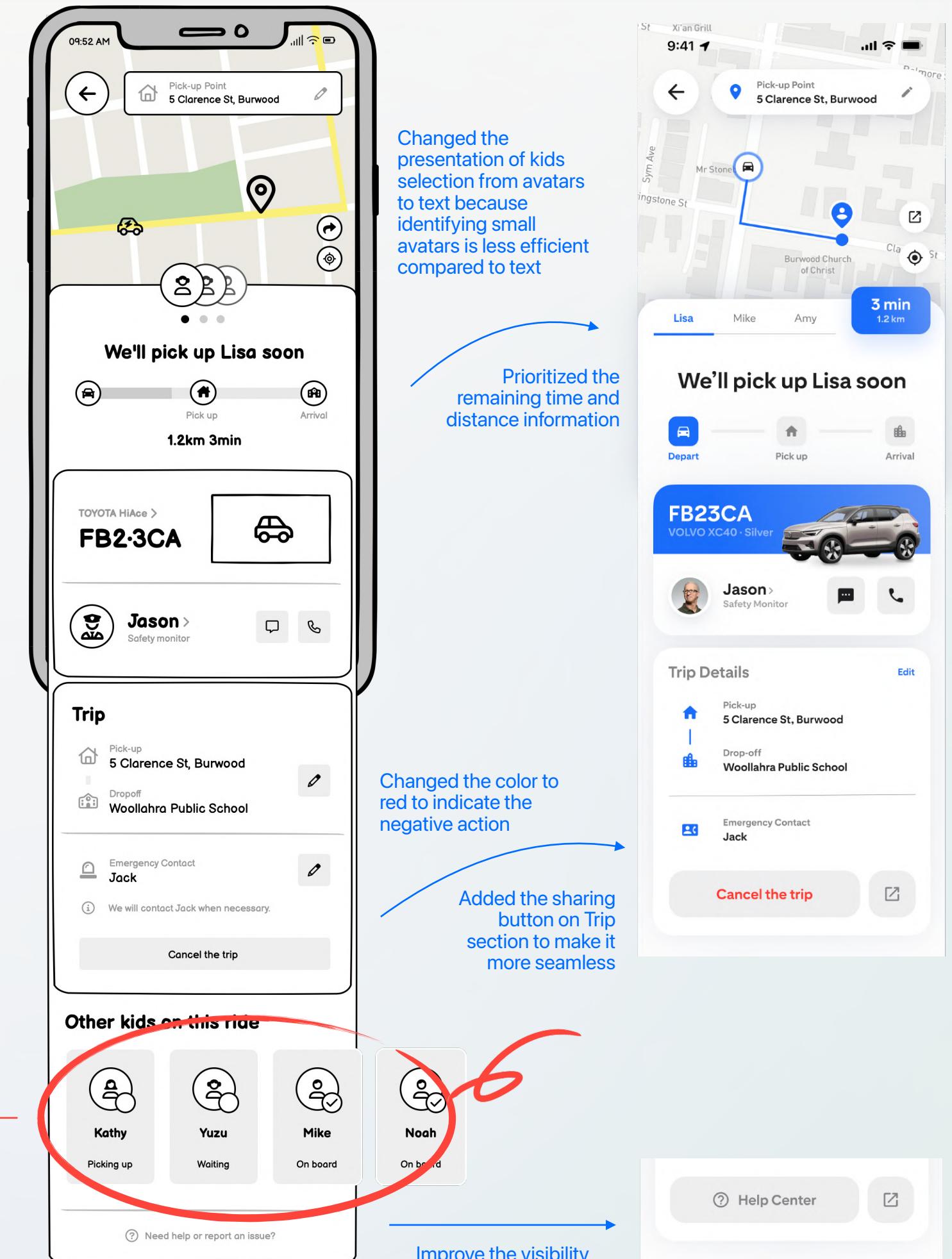
Prototype iteration

From **low**-fidelity to **high**-fidelity

For **detailed iterations,** I highly recommend you to see them on Figma because the report space is quite limited but I did lots of iterations.

https://www.figma.com/file/5fN5CogiRsCAKMswsyfB2S/KidMove---iOS?type=design&node-id=0%3A1&t=CAvWJ8fETW43Fay5-1

Changed the presentation of kids selection from avatars to text because identifying small avatars is less efficient compared to text

Prioritized the remaining time and distance information

Changed the color to red to indicate the negative action

Added the sharing button on Trip section to make it more seamless

Deleted this section

Improve the visibility and hierarchy

I placed the entry point for the integrated page of safety features in a prominent position within the main card, so that users won't miss it when scrolling up.

I differentiated it from the primary color by using green, creating a sense of activation and liveliness.

I chose to present real-time info. in the form of cards, and I adjusted the background color of the cards to reflect the content or status.

For example, I use our primary color to indicate when a feature or device is on, green to represent smooth road conditions, and red for congested roads, among others.

These visualized and categorized display of information can provide users with a more intuitive understanding of the real-time information of the trip.

Latest high-fidelity prototype
Yes, I'll keep refining it.

I sincerely expect you to scan this QR Code to experience the prototype on your phone :)
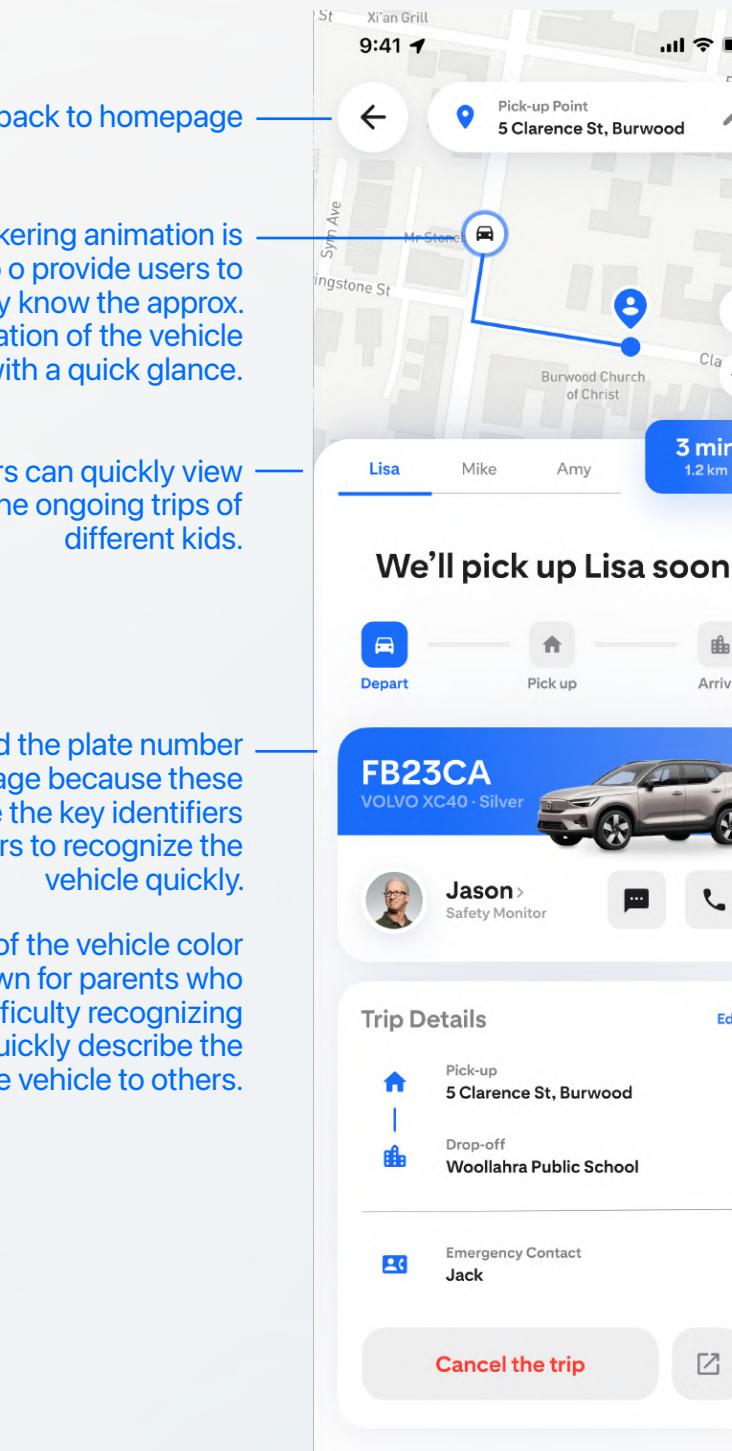
You can also click the following link to view the website version.

https://www.figma.com/proto/5fN5CogiRsCAKMswsyfB2S/KidMove---iOS?page-id=0%3A1&type=design&node-id=8-2&viewport=160%2C374%2C0.2&scaling=scale-down&starting-point-node-id=8%3A2&show-proto-sidebar=1

Picking up
Main page

Go back to homepage

A flickering animation is used to o provide users to easily know the approx. location of the vehicle with a quick glance.
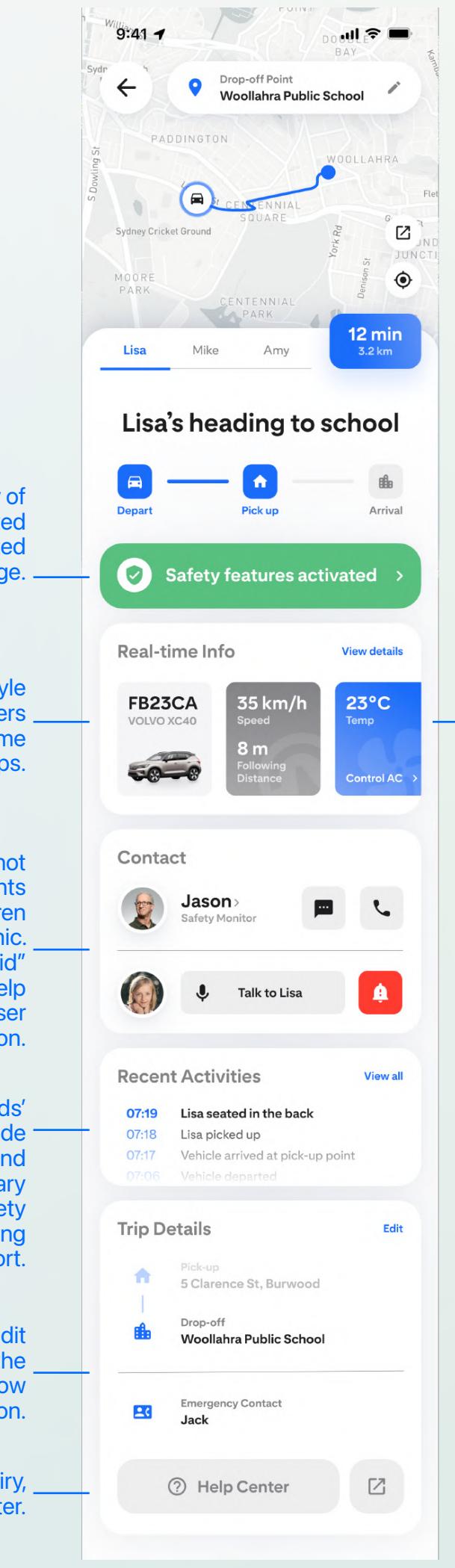
Users can quickly view the ongoing trips of different kids.

I enlarged the plate number and car image because these two info. are the key identifiers for users to recognize the vehicle quickly.

The name of the vehicle color is also shown for parents who have difficulty recognizing colors quickly describe the color of the vehicle to others.

Pick-up Point 5 Clarence St, Burwood

Lisa Mike Amy   3 min 1.2 km

We'll pick up Lisa soon

Depart   Pick up   Arrival

FB23CA VOLVO XC40 · Silver

Jason Safety Monitor

Trip Details   Edit

Pick-up 5 Clarence St, Burwood

Drop-off Woollahra Public School

Emergency Contact Jack

Cancel the trip

Ongoing Trip
Main page

A red dot badge will show when there are updates of other kids' ongoing trips, and a popover notification will also appear.

Kids' safety is the priority of users and us, so I highlighted this entrance of integrated safety features page.

Through card-style information display, users can quickly access real-time info. about their kids' trips.

Since some kids may not have a cell phone, parents can contact their children through the in-car mic. Writing "talk to your kid" directly in text can help reduce the cost of user awareness of this function.
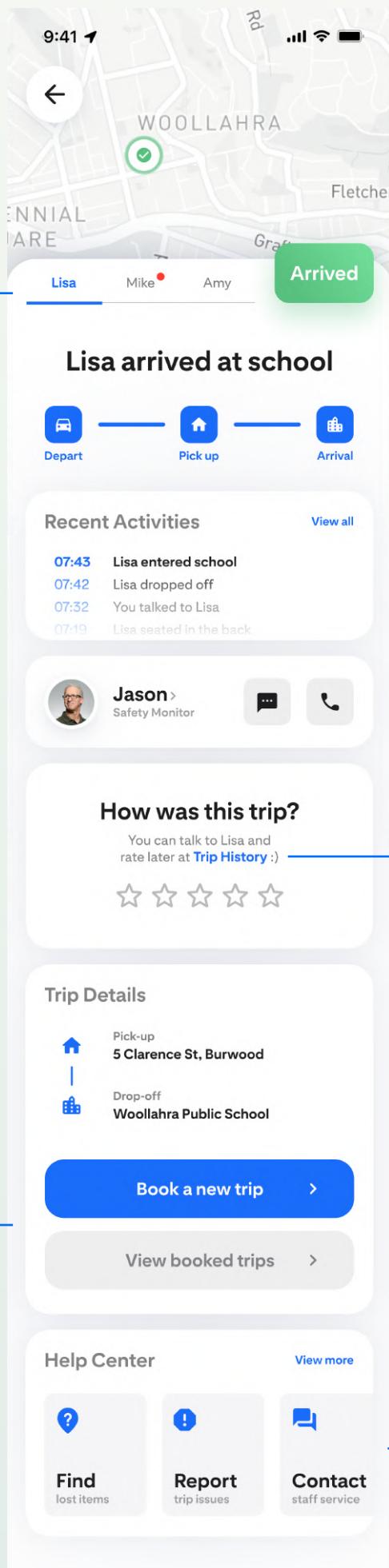
Clear presentation of kids' recent activities can provide parents with insurance and minimize unnecessary communication with safety monitor and kids, saving users' time and effort.

Users do not need to edit the pick-up point during the trip, but they need to know the information.

For further needs and enquiry, users can check the Help Center.

Drop-off Point Woollahra Public School

Lisa Mike Amy   12 min 3.2 km

Lisa's heading to school

Depart   Pick up   Arrival

✓ **Safety features activated** >

Real-time Info   View details

FB23CA VOLVO XC40   **35 km/h** Speed   **23°C** Temp

8 m Following Distance   Control AC >

Contact

Jason > Safety Monitor

Talk to Lisa

Recent Activities   View all

07:19 Lisa seated in the back
07:18 Lisa picked up
07:17 Vehicle arrived at pick-up point
        Vehicle departed

Trip Details   Edit

Pick-up 5 Clarence St, Burwood

Drop-off Woollahra Public School

Emergency Contact Jack

? **Help Center**

When there is only one kid on this trip, parents have control over the car's air condition. This allows parents to adjust the temperature based on their past experience and understanding of kids' habits, reducing the risk of health issues such as colds that may arise from temperature settings by safety monitors in reaction of kids' request.

Parents can quickly access the trip booking and viewing functions.

Arrival
Main page

Lisa Mike Amy   **Arrived**

Lisa arrived at school

Depart   Pick up   Arrival

Recent Activities   View all

07:43 Lisa entered school
07:42 Lisa dropped off
07:32 You talked to Lisa

Jason Safety Monitor

How was this trip?
You can talk to Lisa and rate later at Trip History :)
☆ ☆ ☆ ☆ ☆

Trip Details

Pick-up 5 Clarence St, Burwood

Drop-off Woollahra Public School

Book a new trip >

View booked trips >

Help Center   View more

? **Find** lost items

! **Report** trip issues

Contact staff service

Since parents are not on this KidMove trip, they may learn about their kids' experiences through afterwards conversations with them. At such times, parents may have additional thoughts or feedback to share.

After the trip is completed, the commonly used features of Help Center are presented in card format. Since the Arrival Page doesn't have much information, having a bit more content at the bottom won't result in information redundancy.

High-fidelity Prototype
Mid-journey · iOS *by* Yancheng Zhang

Intro   Design System   Desktop   iOS   watchOS   Conclusion   Ref. & Appx.   KidMove
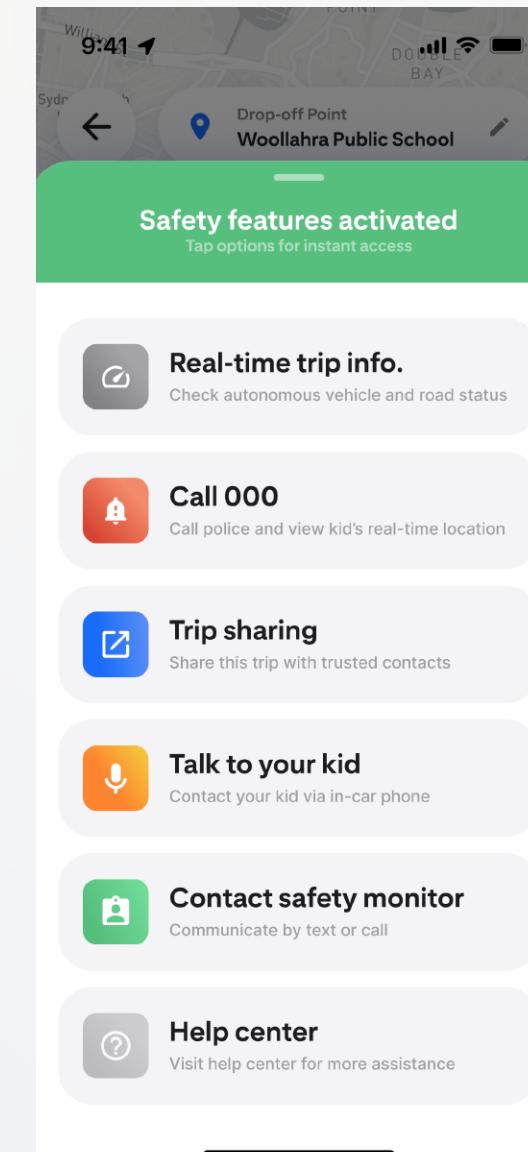
Latest high-fidelity prototype
of subpages and overlays

Chat
Subpage

During user testing with different parents, I discovered that they are highly concerned about the qualifications of safety monitors. Therefore, I directly displayed the verification information of safety monitors on the chat page with them, ensuring that parents can always feel reassured.
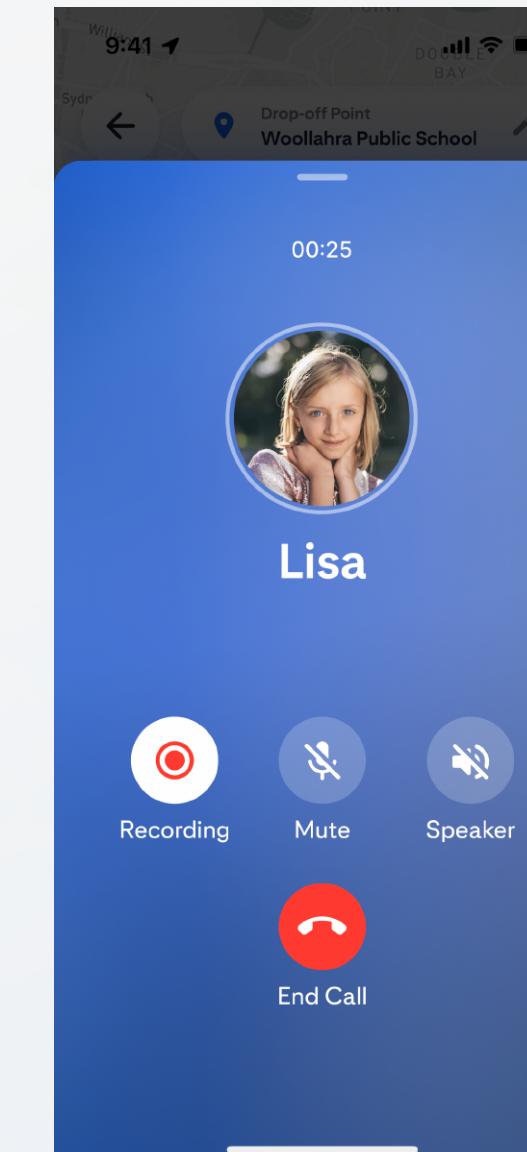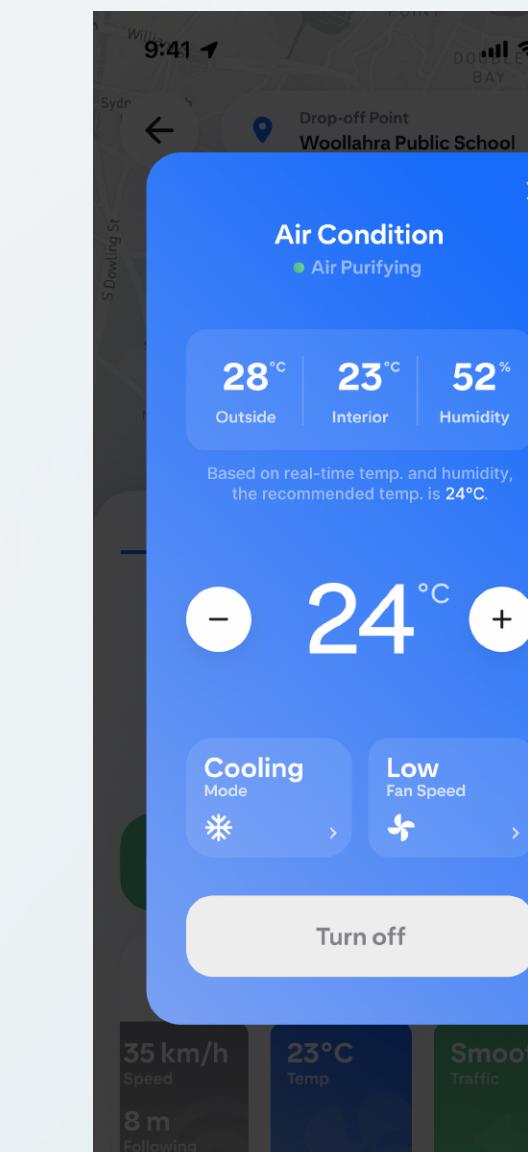
Safety Features
Overlay

I integrated all safety-related features on a single page for quick access, enhancing the convenience for users. Additionally, the 'Safety features activated' heading does not use a shield icon as shown on the entry button because specific safety features already use respective icons. Having too many icons could overwhelm users and cause visual clutter.

Talk to Kid
Overlay

A flickering halo animation is used around the kid's avatar to indicate an ongoing status.

AC Control
Overlay

I emphasized the intelligent and high-tech aspect of KidMove to strengthen the brand image, such as air purification and temperature recommendations.

Notification
Pop-up

A flickering halo animation is also used around kid's avatar. More detailed information shown on this card is helpful to enhance parents' feeling of assurance.

Due to the abundance of safety-related information in this section, I displayed the number plate in different colors and added a border to make it easier for parents to locate the vehicle information while checking real-time information. This facilitates communication with police or other personnel in case of emergencies.

Real-time Info
Subpage

A flickering halo is used to indicate where the kid is sitting.

While viewing real-time information, parents have the option to share the itinerary and directly communicate with their child through the in-car microphone.

References

Interaction Design Foundation. (2019). *What is Heuristic Evaluation?* The Interaction Design Foundation. www.interaction-design.org/literature/topics/heuristic-evaluation

UX Movement. (2023, January 13). *How to Use Surface Elevation to Elevate Your Interface.* Medium. uxmovement.medium.com/how-to-use-surface-elevation-to-elevate-your-interface-e788d022ffc3

Withrow, R. L. (2004). The use of color in art therapy. *The Journal of Humanistic Counseling, Education and Development, 43*(1), 33-40.

Apple Developer. (n.d.). Fonts for Apple platforms. Apple. Retrieved on May 10, 2023, from developer.apple.com/fonts/

Apple Developer. (n.d.). SF Symbols 4. Apple. Retrieved on May 24, 2023, from developer.apple.com/sf-symbols/

Eldrieny, O. (n.d.). iPhone 14 Pro Mockups. Figma. Retrieved on May 27, 2023, from www.figma.com/community/file/1195941020099864601

Made Thought, & Pinterest. (n.d.). Pinterest UI Pro, Pinterest Sans Pro. Retrieved on May 10, 2023, from www.madethought.com/work/pinterest

Mantel Group, Zhadan, A., Cadman, C., Jack, & Lai, S. (n.d.). iOS 16 UI Kit (By Itty Bitty Apps). Figma. Retrieved on May 15, 2023, from www.figma.com/community/file/1172051389106515682/iOS-16-UI-Kit-(By-Itty-Bitty-Apps)

Material Design. (n.d.). Material Design Icons. Figma. Retrieved on May 10, 2023, from www.figma.com/community/file/971632569763234669/Material-Design-Icons

Mockuuups Studio. (n.d.). iPhone 14 Pro Mockups. Retrieved on May 27, 2023, from mockuuups.studio/mockup-generator/iphone-14-pro

Scribrostd. (2022, November 23). Phone 14 Pro Screen Mockup. Behance. www.behance.net/gallery/157622483/Phone-14-Pro-Screen-Mockup

Volvo. (n.d.). XC40. Volvo Car Corporation. Retrieved on May 15, 2023, from www.volvocars.com/au/cars/xc40/

We created maps using Mapsicle.

We selected avatar images using Unsplash.

We selected supplemental icons using iconfont.

Appendix 2. iOS Iterations

Figma can show iterations in a better version—
PDF is quite limited.

https://www.figma.com/file/5fN5CogiRsCAKMswsyfB2S/KidMove---iOS?type=design&node-id=0%3A1&t=CAvWJ8fETW43Fay5-1