

OVERVIEW

The Sri Lankan Railway Department introduced the Sri Lankan Railway Reservation Mobile App for online train booking. This case study focuses on how enhancing the user experience (UX) of the entire mobile app.

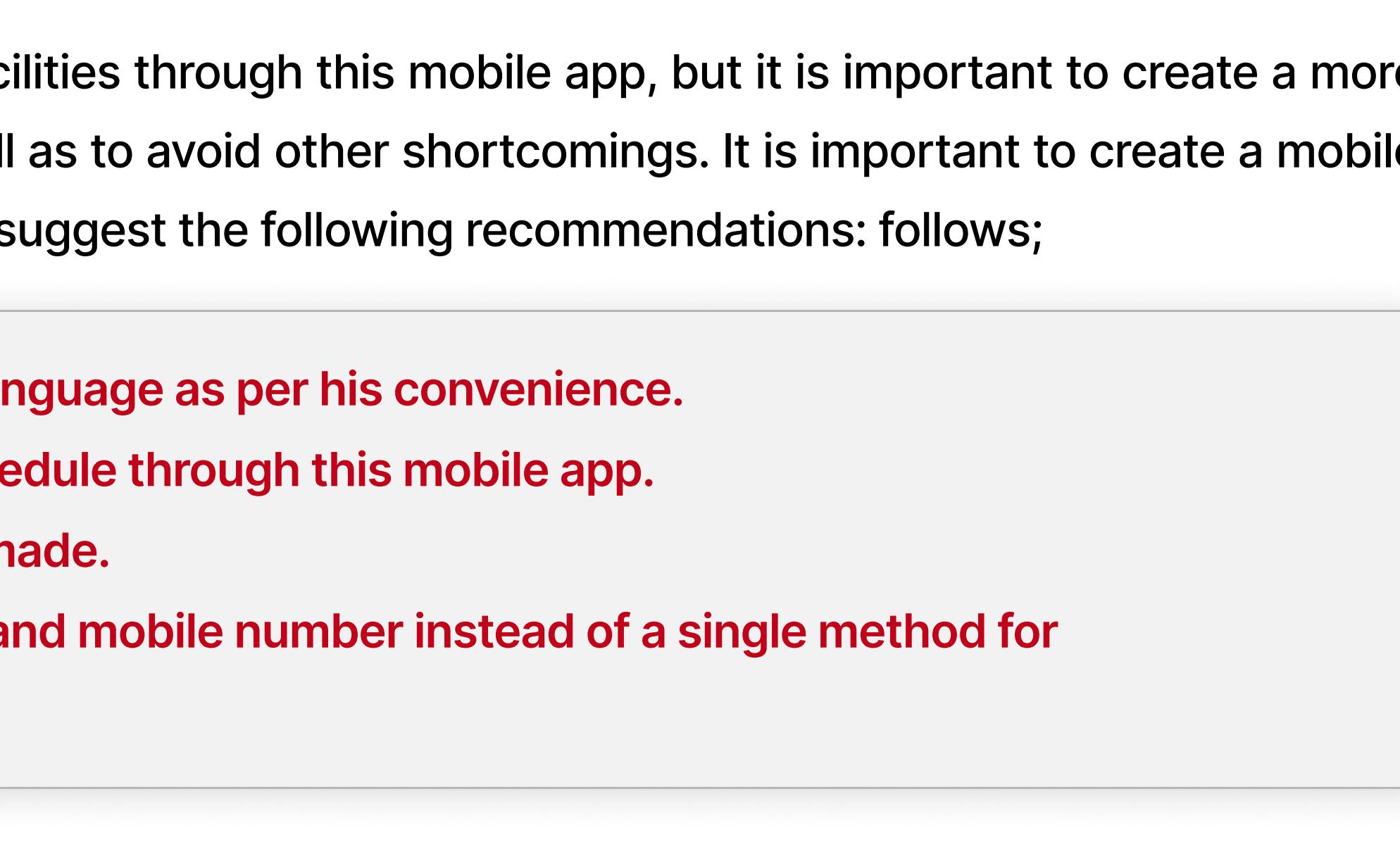
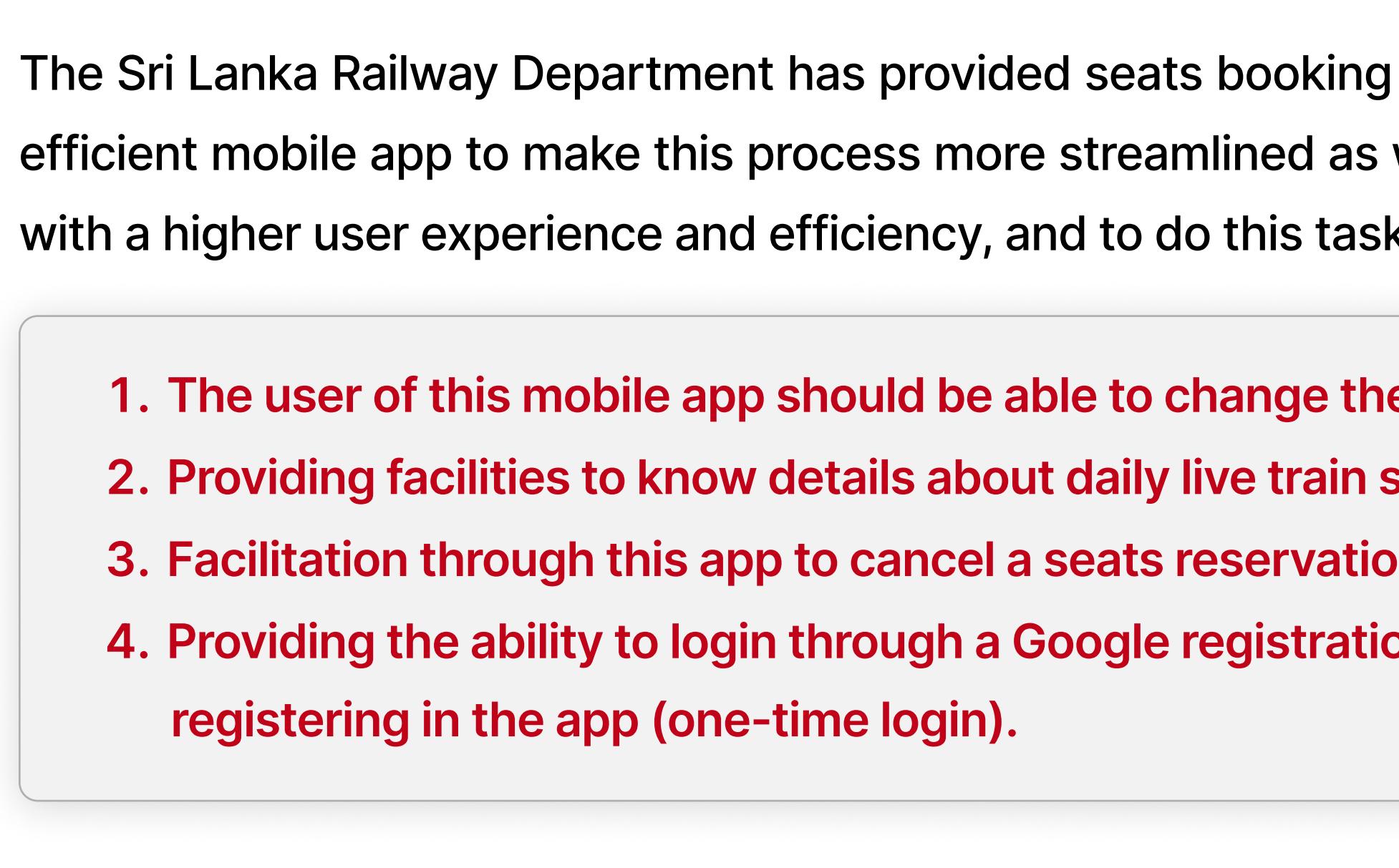
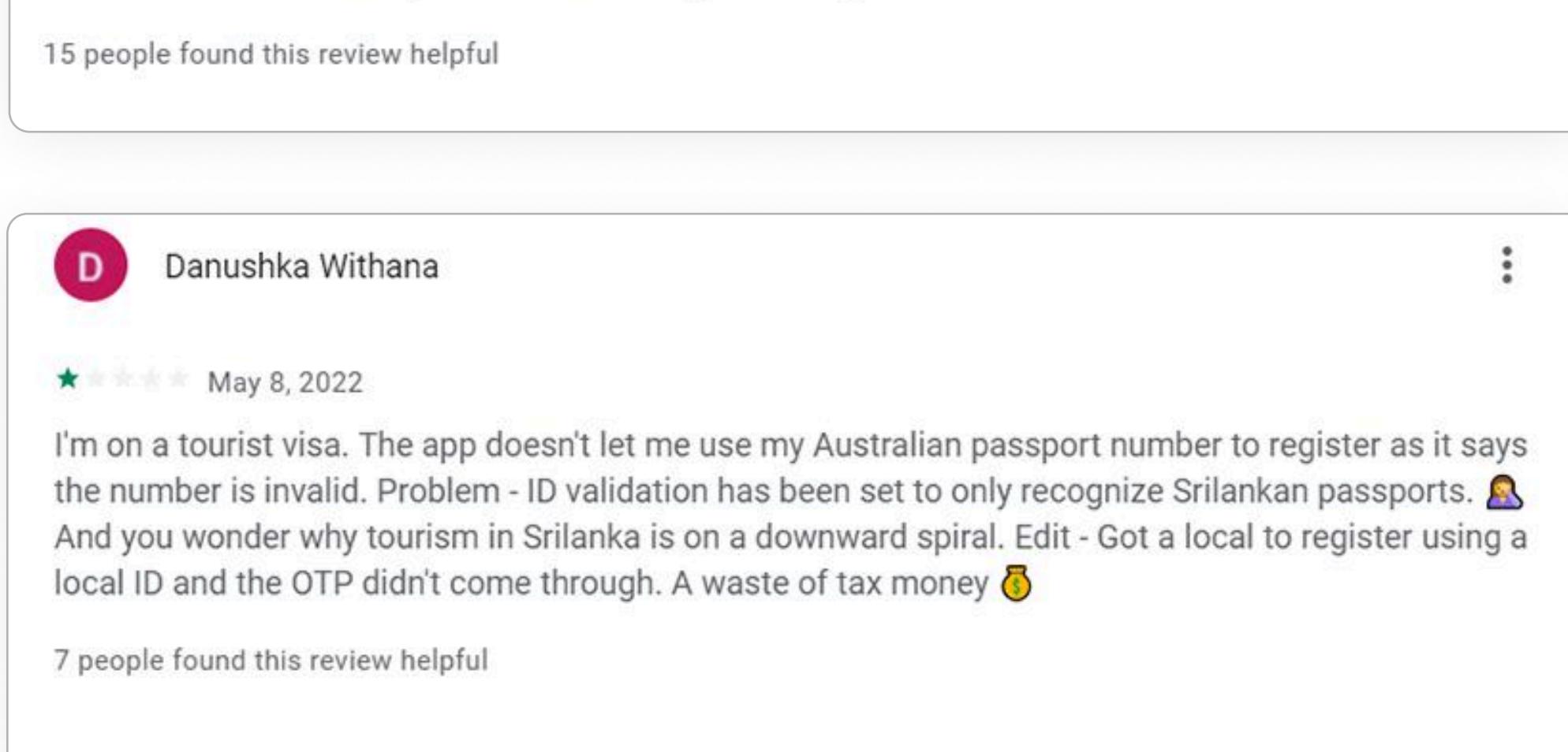
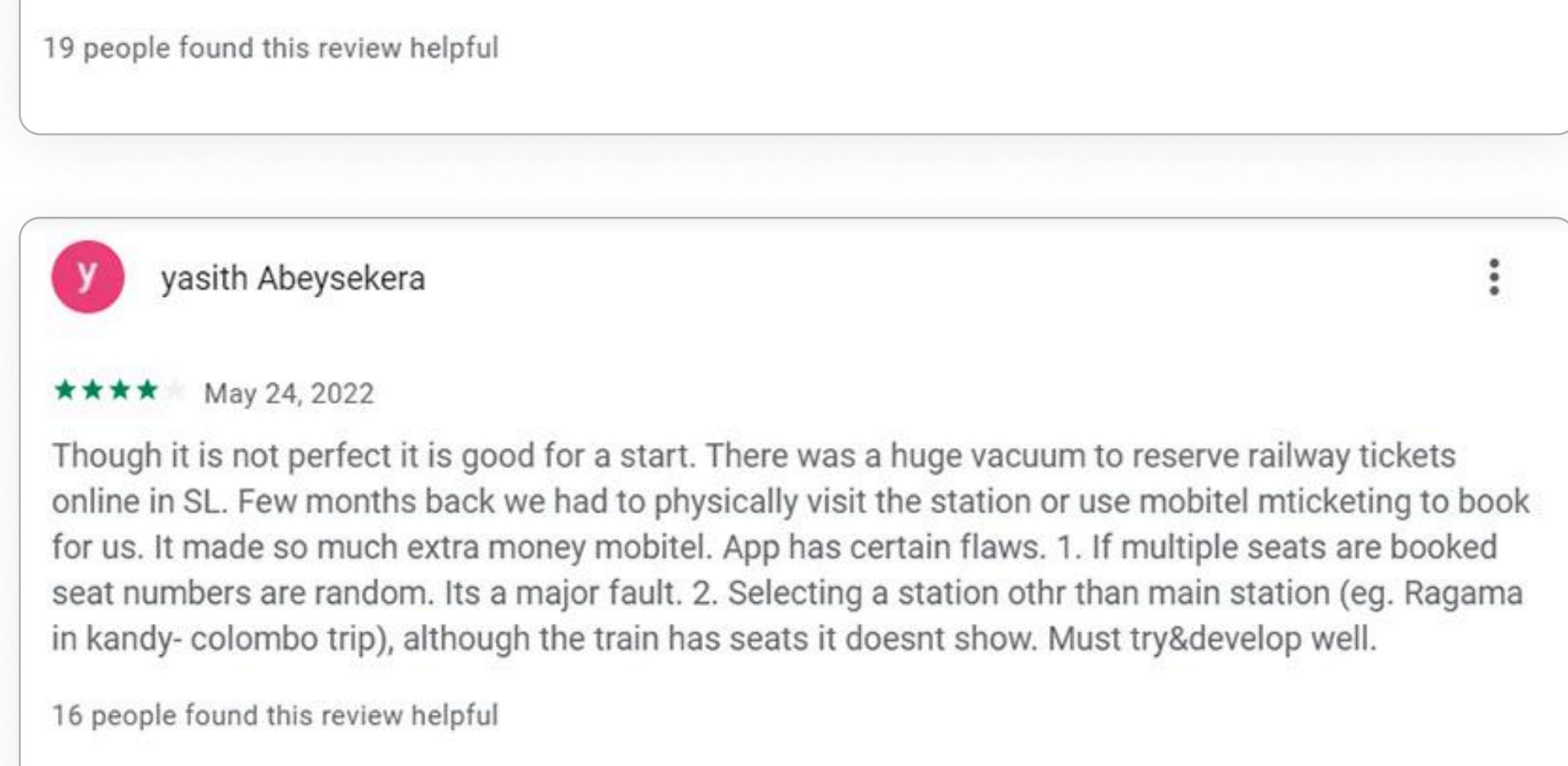
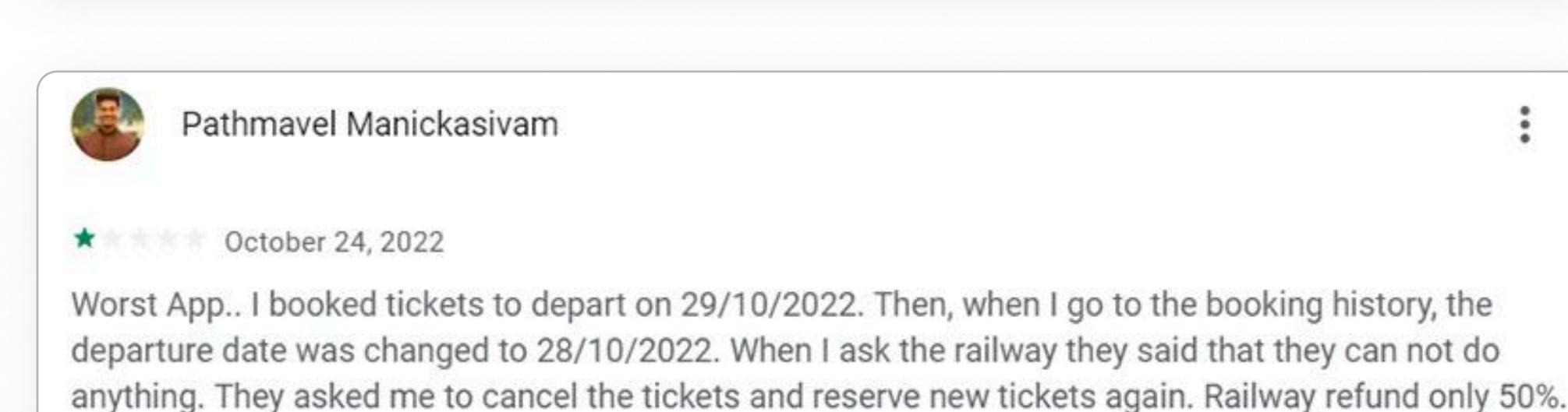
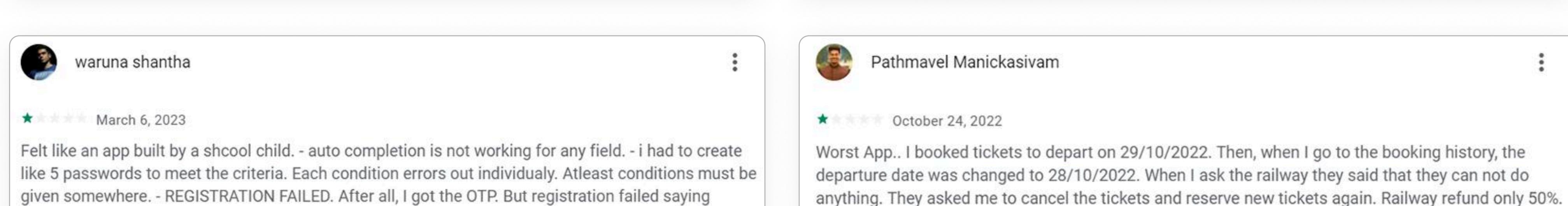
PROBLEM STATEMENT

When I was using the Sri Lanka Railways Reservation mobile app for seats reservations, I encountered various issues that directly affected the effectiveness of the app. So I identified UI and UX issues that could be present in this mobile app as follows:

1. The app does not provide a mechanism for the user to change the language at their convenience.
2. There is no system to view the live & available train schedule.
3. There is no reservation cancellation process in this app.
4. User login process is limited to one process only.

USER RESEARCH

In order to better understand potential customers' needs and concerns, we closely examined the evaluations provided by users on the Google App Store for the Sri Lankan Railway Reservation Mobile application. This study was undertaken to get important insights from the experiences and feedback offered by users across the app ecosystem.



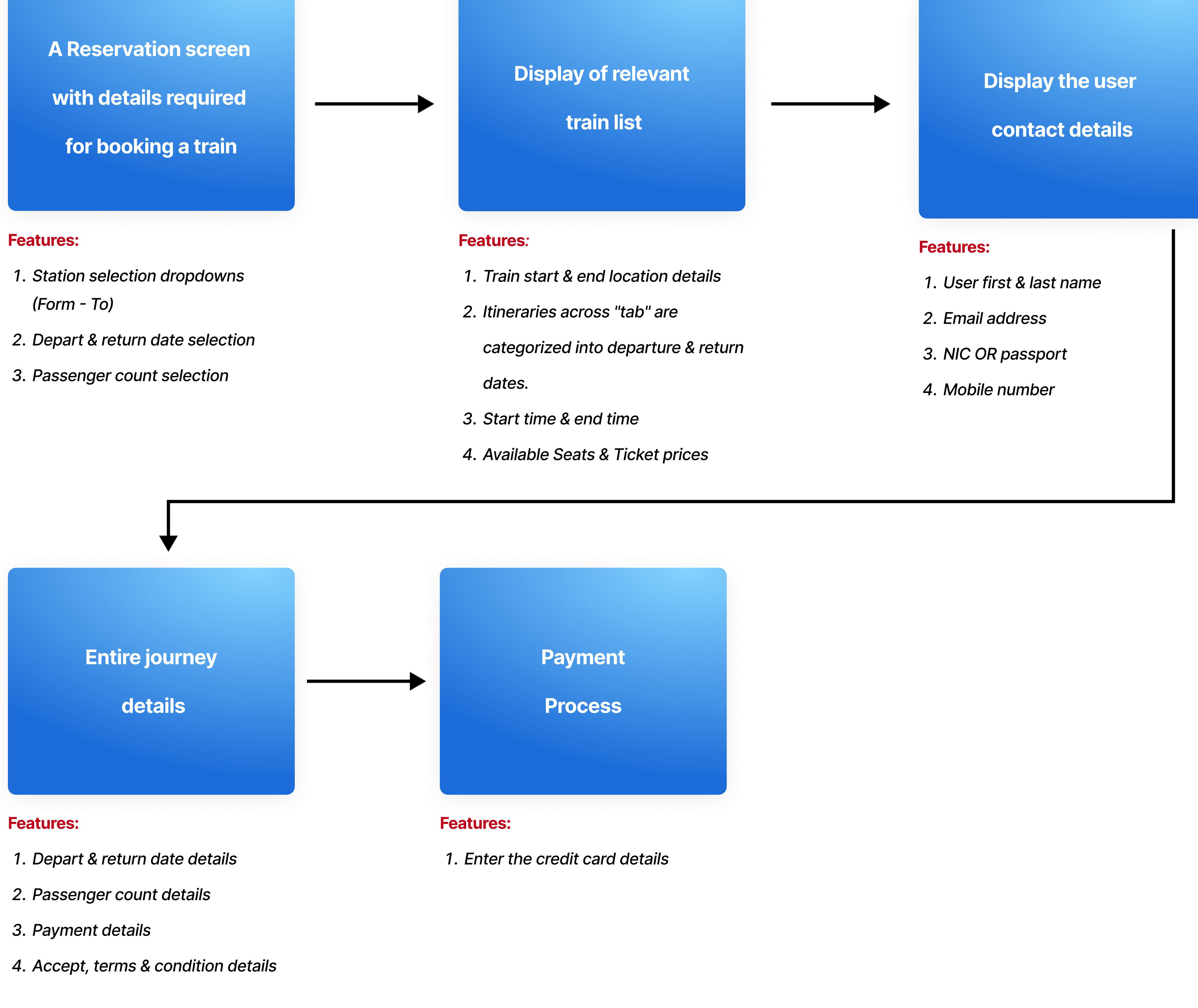
The Sri Lanka Railway Department has provided seats booking facilities through this mobile app, but it is important to create a more efficient mobile app to make this process more streamlined as well as to avoid other shortcomings. It is important to create a mobile with a higher user experience and efficiency, and to do this task, I suggest the following recommendations: follows;

1. The user of this mobile app should be able to change the language as per his convenience.
2. Providing facilities to know details about daily live train schedule through this mobile app.
3. Facilitation through this app to cancel a seats reservation made.
4. Providing the ability to login through a Google registration and mobile number instead of a single method for registering in the app (one-time login).

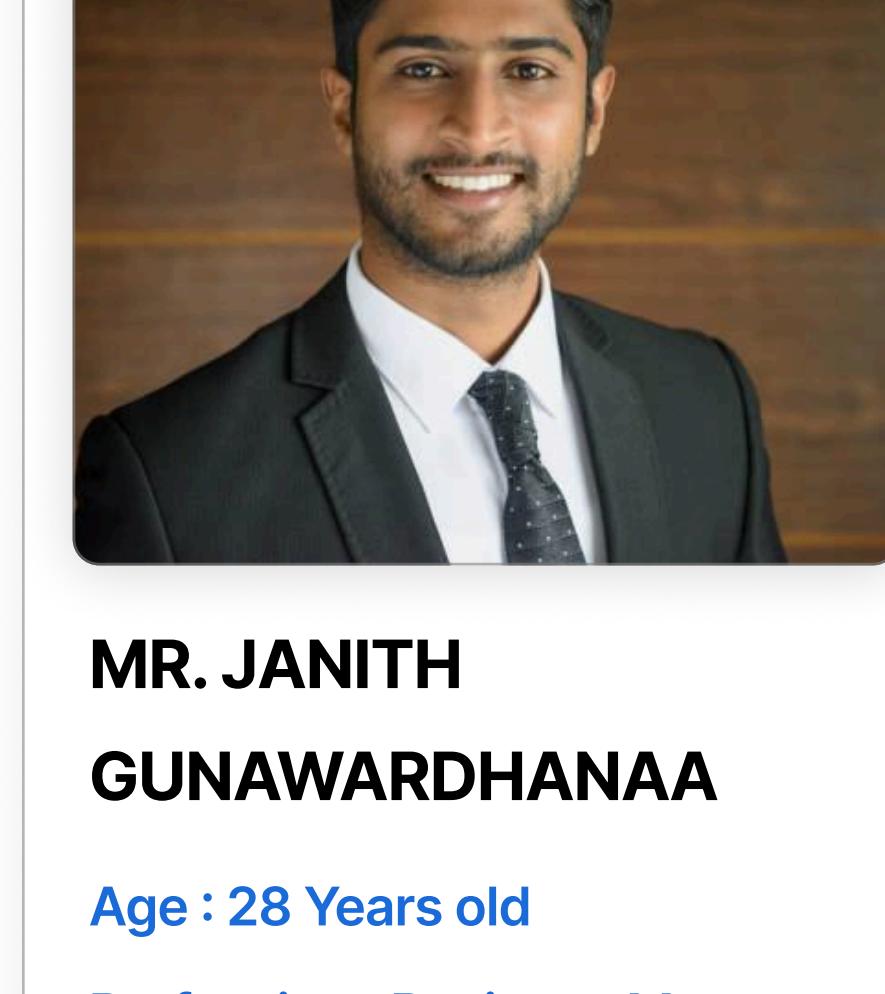
EXISTING SOLUTION BLUEPRINT

Prior to building user personas, I created an existing solution blueprint for the Railway Reservation Mobile application, which included the application's present site map. By outlining the current solution, I obtained a better knowledge of its strengths, limitations, and places for development. This foundation assisted in the later development of user personas, ensuring that suggested changes are closely aligned with the needs and preferences of target users.

USER JOURNEY MAPPING : Seats reservation process (Booking)



I divided the character into three major pieces. These personas give a view into the varying objectives, ambitions, and pain points of individuals in various target audience groups, providing significant insights for building bespoke solutions to improve their experience with the Railway Reservation Mobile application.



MR. JANITH GUNAWARDHANAA

Age : 28 Years old
Profession : Business Man
Location : Galle
Tech savviness : High

BIO & SCENARIO

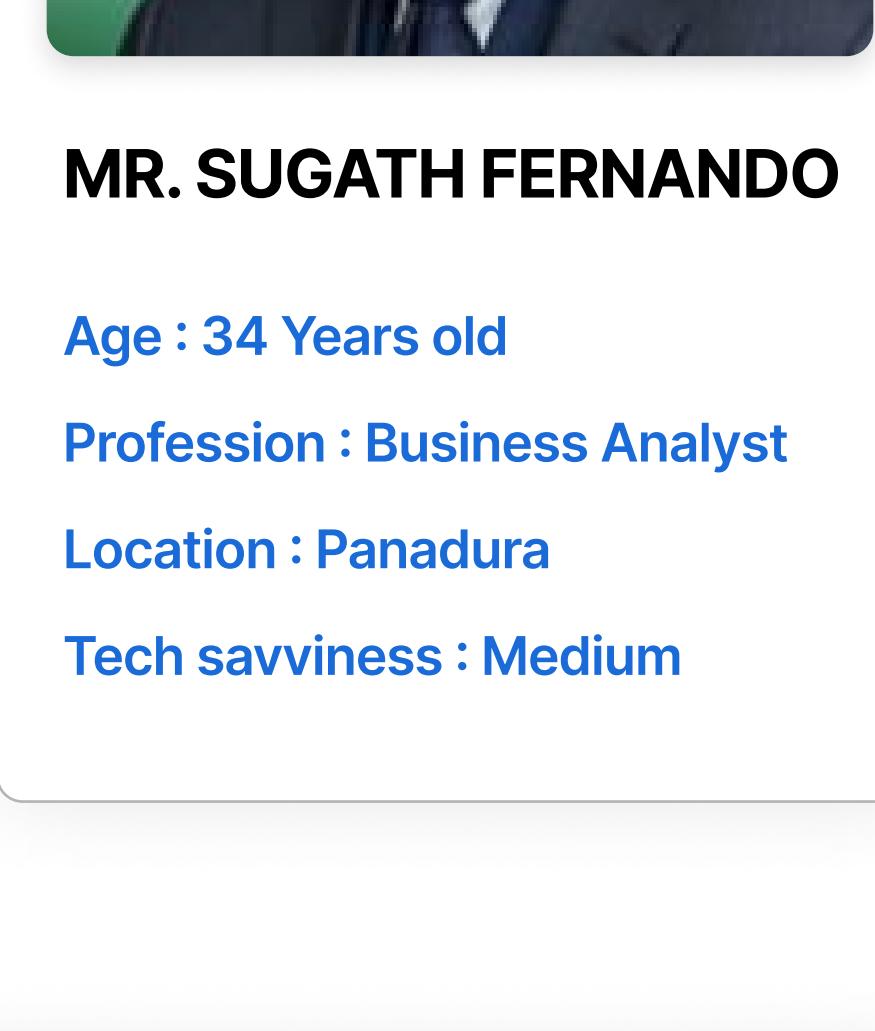
Mr. Janith Gunawardena is a garment businessman, and his main business network is located in Colombo. He uses the train to go from Galle to Colombo three to four times a week. Here, he cannot change the date he booked to another date while booking the train tickets.

PAIN POINTS

Even if I want to cancel a seat booked by me and put the booking on another date, there is no process in this app to do that.

MOTIVATION & GOALS

Facilitation through this app to cancel a seats reservation made.



MR. SUGATH FERNANDO

Age : 34 Years old
Profession : Business Analyst
Location : Panadura
Tech savviness : Medium

BIO & SCENARIO

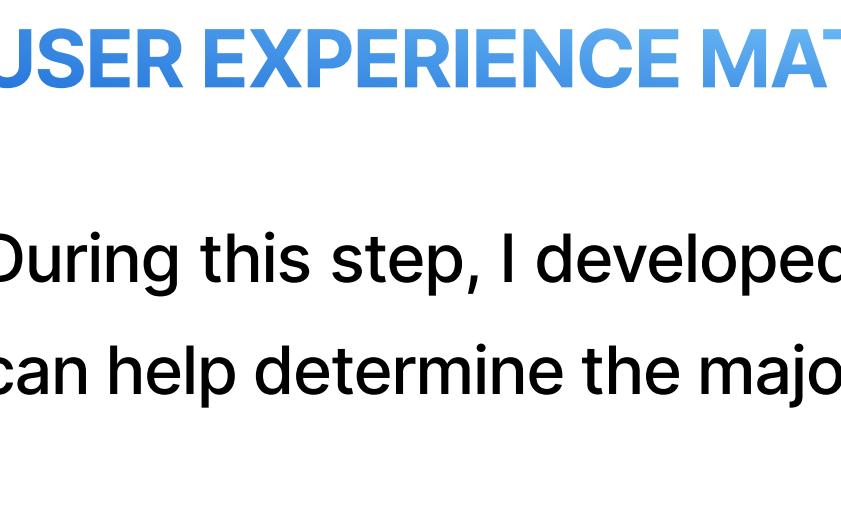
Mr. Sugath Fernando is an employee of a private company in Colombo area and uses the train to go to his daily work activities. He finds it difficult to know the daily train timings and other train details through this app.

PAIN POINTS

I wanted to see the current live train schedule using this app, but I was uncomfortable that the feature was not available in this app.

MOTIVATION & GOALS

Providing facilities to know details about daily live train schedule through this mobile app.



MR. KAMAL PERERA

Age : 43 Years old
Profession : Chief Clerk
Location : Kaluthara
Tech savviness : Low

BIO & SCENARIO

Mr. Kamal perera works in the government sector, and he is unable to register for this app because he does not have an email account. As a result, he had this app with him when he went to book a train seat to go to Badulla during the holidays, but he did not get any benefit from it.

PAIN POINTS

I don't have an email account, and that is a necessary factor to register here. I tried to register through my mobile number, but the required features are not available here.

MOTIVATION & GOALS

Providing the ability to register through a Google login and mobile number instead of a single method for registering in the app.

USER EXPERIENCE MATRIX

During this step, I developed a UX Matrix by analysing the existing solution blueprint and studying user personas. This information can help determine the major areas to be covered in this study.

1. USER JOURNEY : Authentication process (Registration / Login)

FLOW	User login	User registration	Forgot password
CHANNELS	Mobile Application		
Existing business data	User login process is limited to one process only. That means each user needs to login based on his or her email. No other specific methods are mentioned in this app.		There is no separate page related to resetting the password in this app. That is, a misleading popup message is given to the user to fill the email input in the login page.
User behavior & tracking data	One shortcoming of this case study is the lack of user behaviour monitoring data. Nevertheless, having access to this information would considerably boost the study's depth and efficacy.		

2. USER JOURNEY : Seats reservation process (Booking)

FLOW	Booking a train	Booking cancellation	
CHANNELS	Mobile Application		
Existing business data	When making a reservation, User does not show which seats are currently reserved & remaining & user has no way to reserve the remaining seats as needed.	Users are not able to cancel a reservation made through this mobile application.	
User behavior & tracking data	One shortcoming of this case study is the lack of user behaviour monitoring data. Nevertheless, having access to this information would considerably boost the study's depth and efficacy.		

3. USER JOURNEY : Language selection process

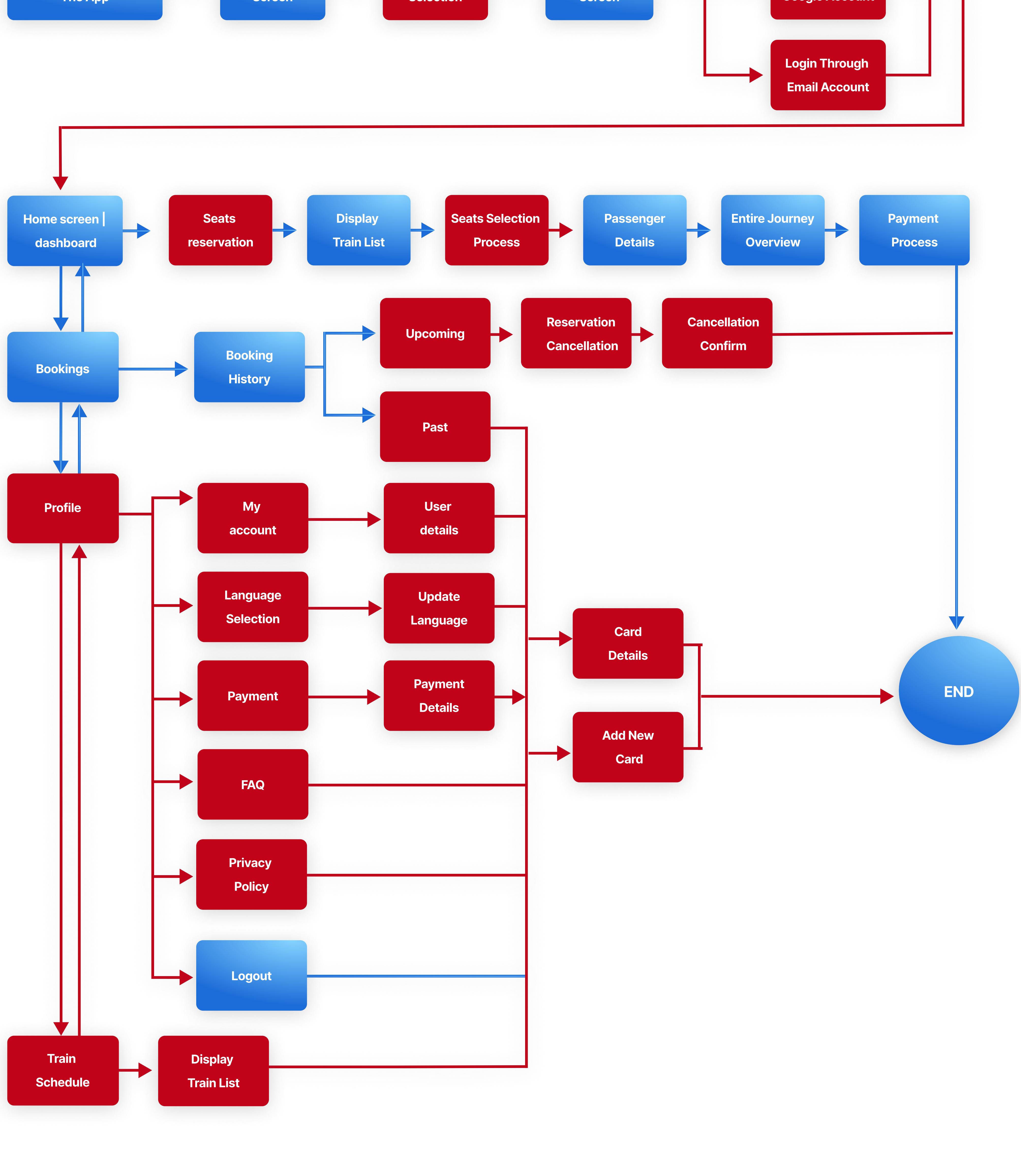
FLOW	Language selection process
CHANNELS	Mobile Application
Existing business data	It is not possible for users to change this mobile app to any (SINHALA,TAMIL,ENGLISH) language users wants.
User behavior & tracking data	One shortcoming of this case study is the lack of user behaviour monitoring data. Nevertheless, having access to this information would considerably boost the study's depth and efficacy.

4. USER JOURNEY : View available train schedule

FLOW	View available train schedule
CHANNELS	Mobile Application
Existing business data	Does not providing facilities to know details about daily live train schedule through this mobile app.
User behavior & tracking data	One shortcoming of this case study is the lack of user behaviour monitoring data. Nevertheless, having access to this information would considerably boost the study's depth and efficacy.

PROPOSED UPDATE FOR REFORM

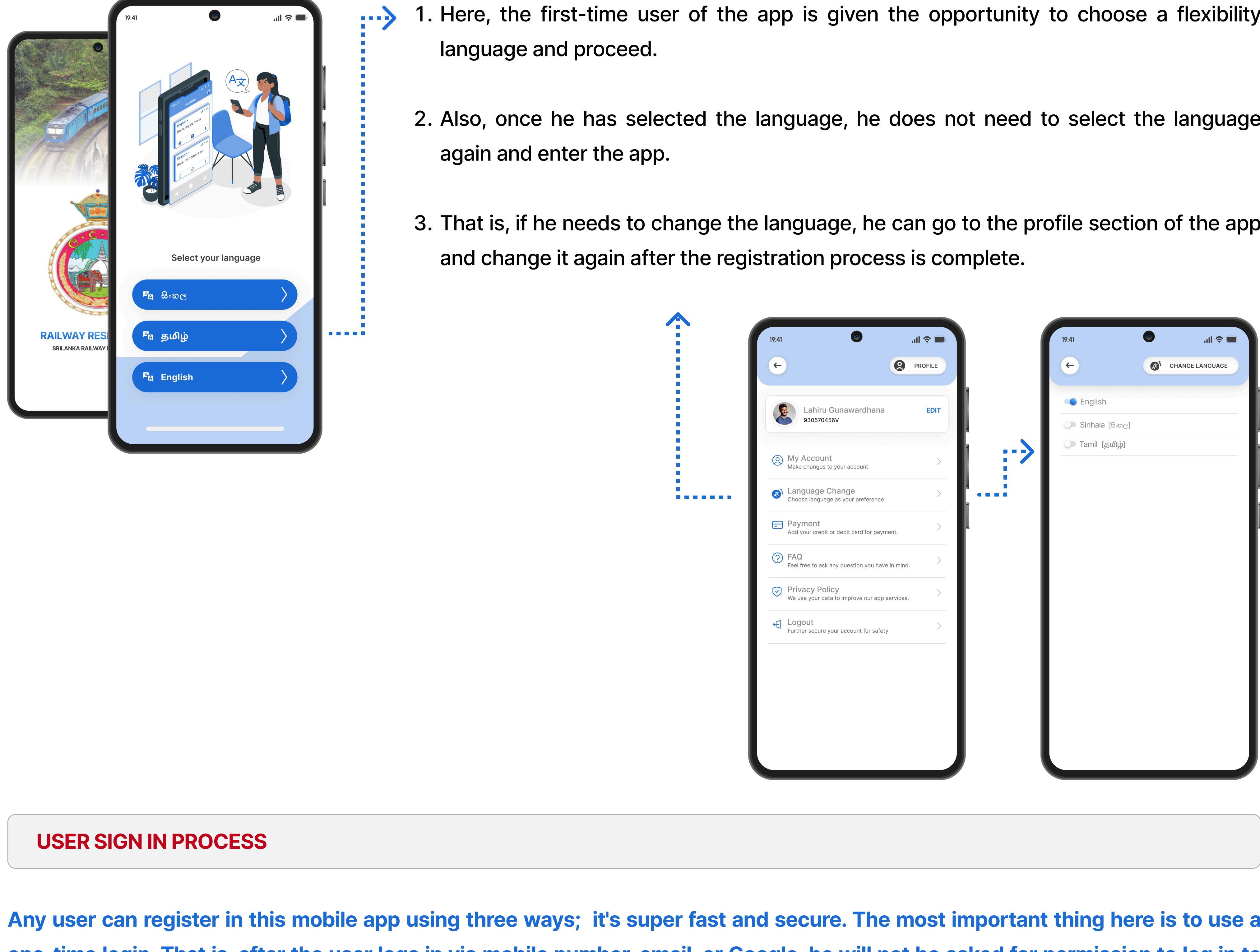
After gathering the relevant information, I created a new solution blueprint for the Sri Lanka Railway Reservation app. Red boxes denote the newly added features concurrently. This plan incorporates findings from user research, feedback analysis, and upcoming market trends. I envisioned a revamped user interface with improved navigation and usability. Overall, the new solution plan is expected to improve the Railway Reservation app experience by enabling better user communication and growth.



LET'S GET STARTED LOOK INTO THE SOLUTION

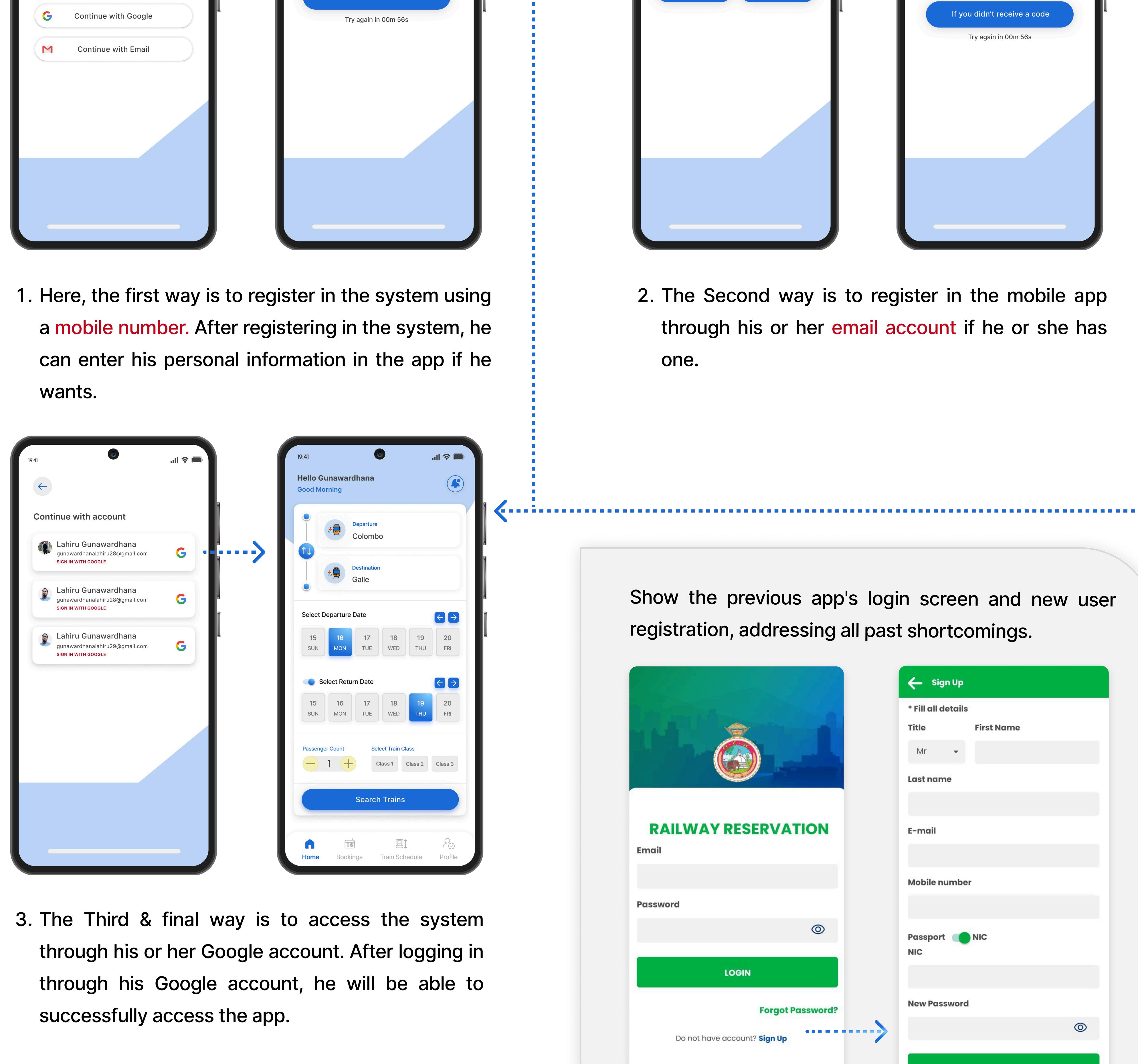
Here are the recommended remedies from my case study. My case study contains recommended solutions that have been thoughtfully created to handle the above-described difficulties. Examine the details to see how these solutions might improve the user experience in the railway reservation app and encourage creativity.

LANGUAGE SELECTION PROCESS



USER SIGN IN PROCESS

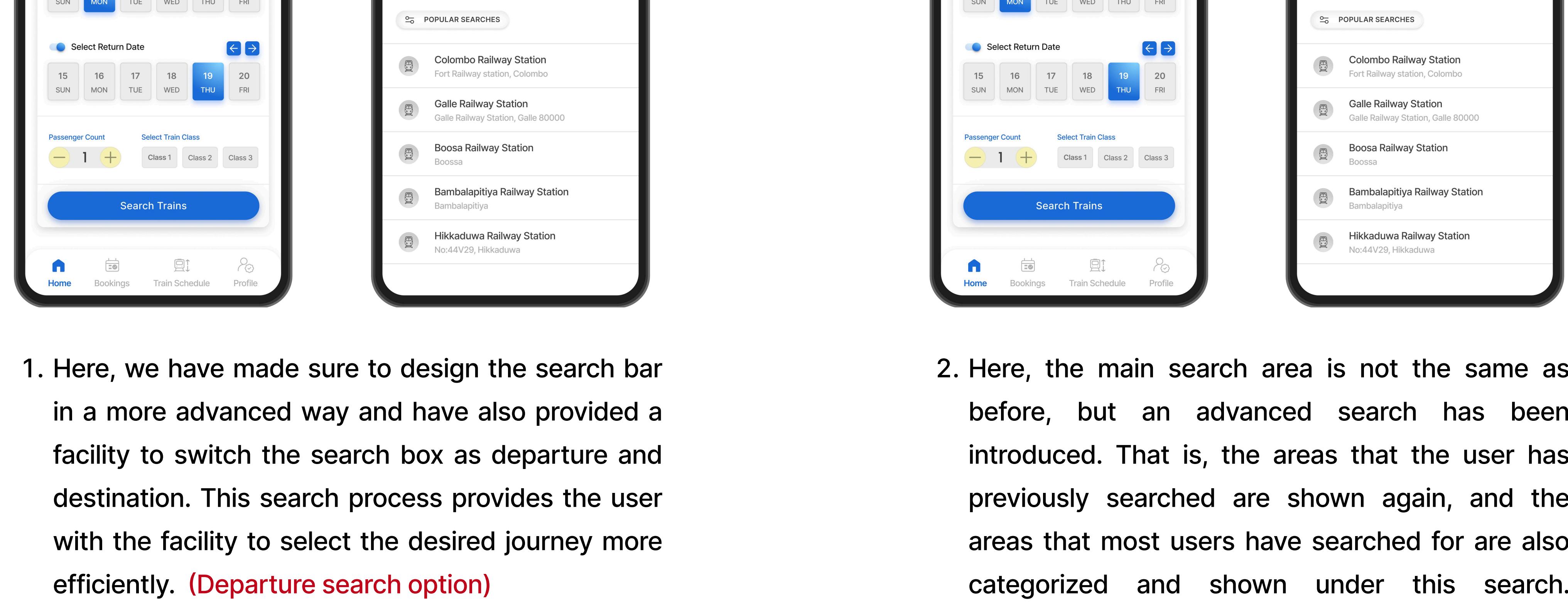
Any user can register in this mobile app using three ways; it's super fast and secure. The most important thing here is to use a one-time login. That is, after the user logs in via mobile number, email, or Google, he will not be asked for permission to log in to the app again and again. That is, he will be kept in the app until he logs out of the app.



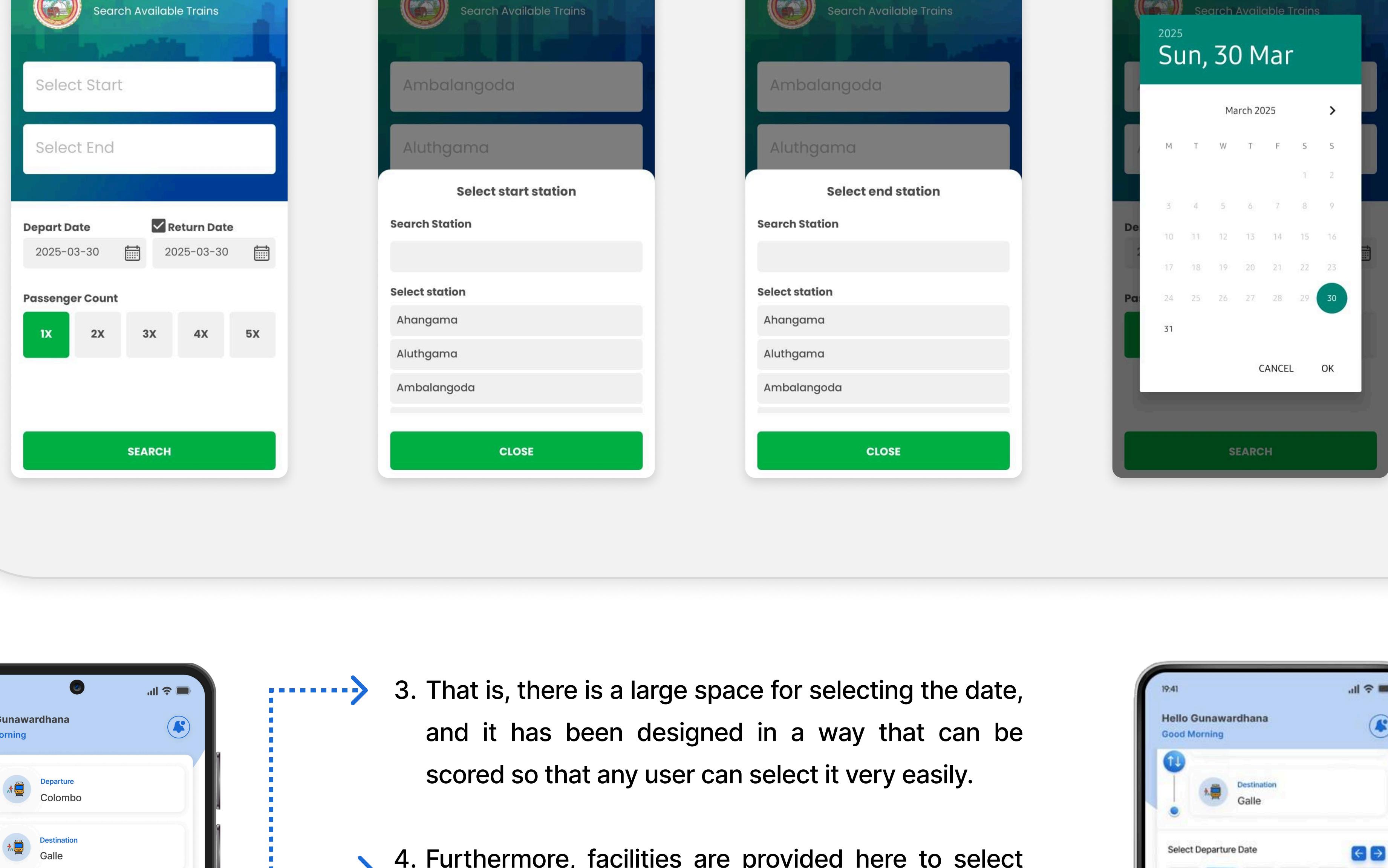
Show the previous app's login screen and new user registration, addressing all past shortcomings.

THE UPDATED DASHBOARD & ADVANCED SEARCH PROCESS

Here, even though the previous app had a dashboard, we made sure to design it in a way that is easier to use.



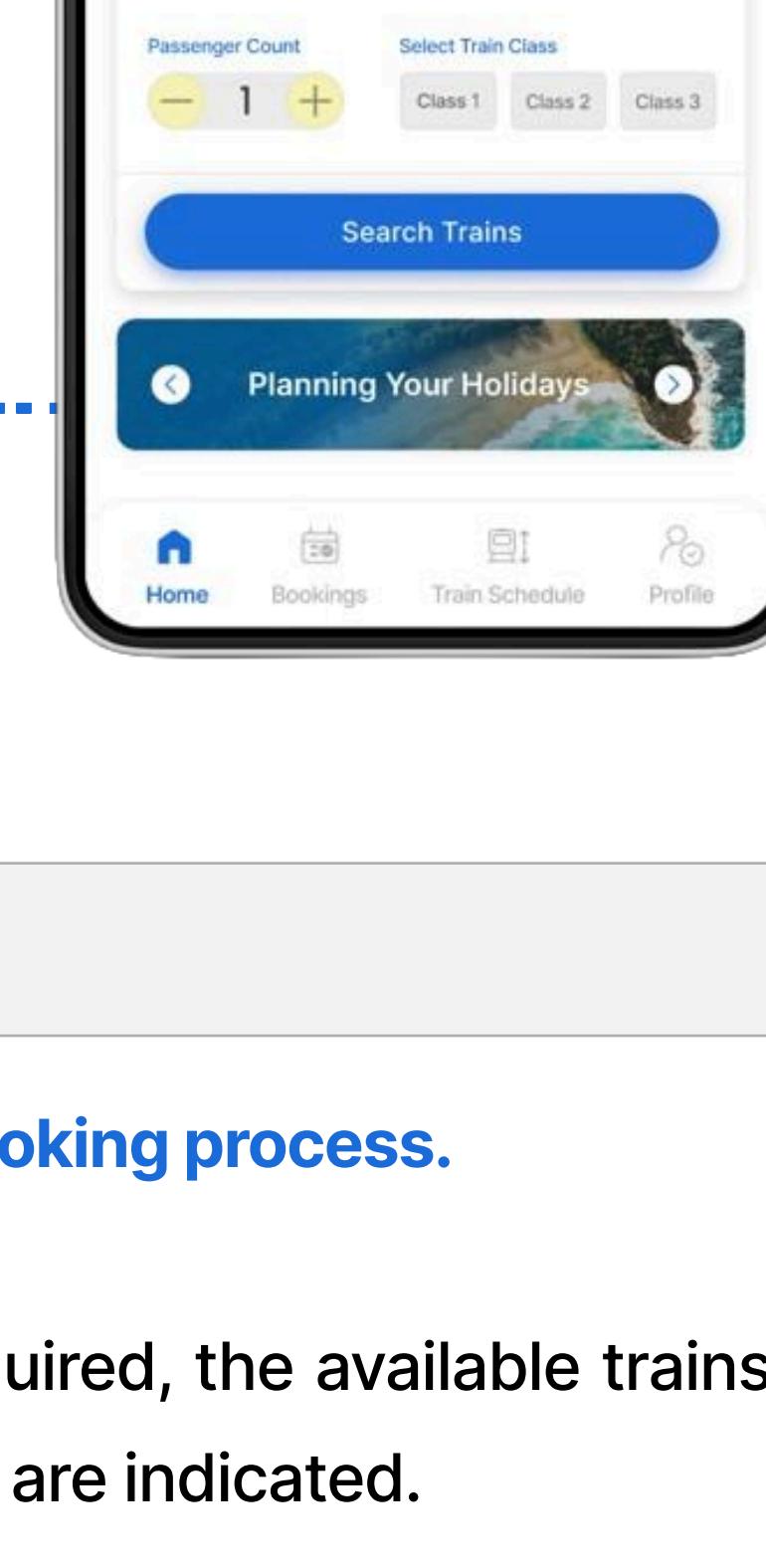
This is how the dashboard looks after logging in to the previous app. Although it was possible to search for the start and end of the journey, the new app has been designed to be more flexible in terms of advanced search. The biggest problem here is that it only allows for a maximum of five passengers to book at a time. But the new app allows us to book as many passengers as we want.



3. That is, there is a large space for selecting the date, and it has been designed in a way that can be selected so that any user can select it very easily.

4. Furthermore, facilities are provided here to select the passenger count and the train and class for which the user wants to book.

5. Also, at the end of the app board, I made sure to provide the necessary space for advertising. In it, space has been provided for various advertisements, such as awareness programmes conducted by the Railway Department, various promotional programmes, etc.

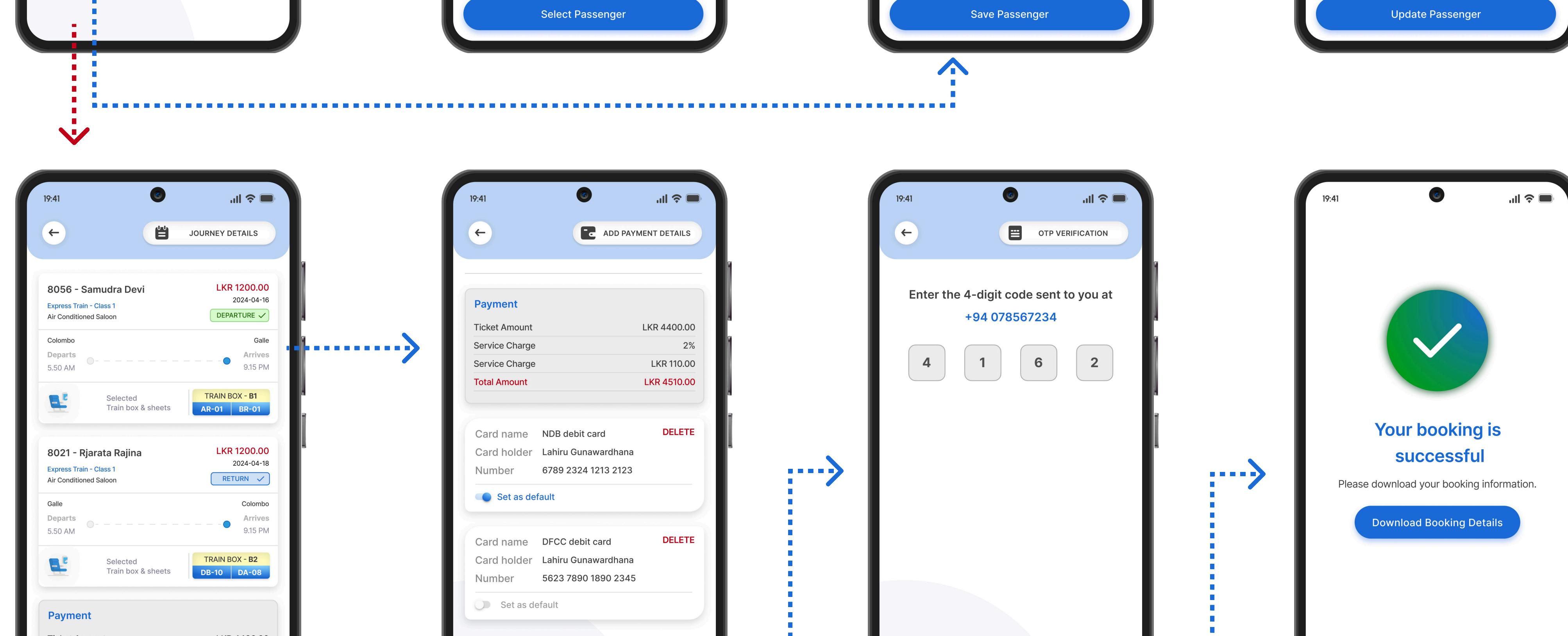
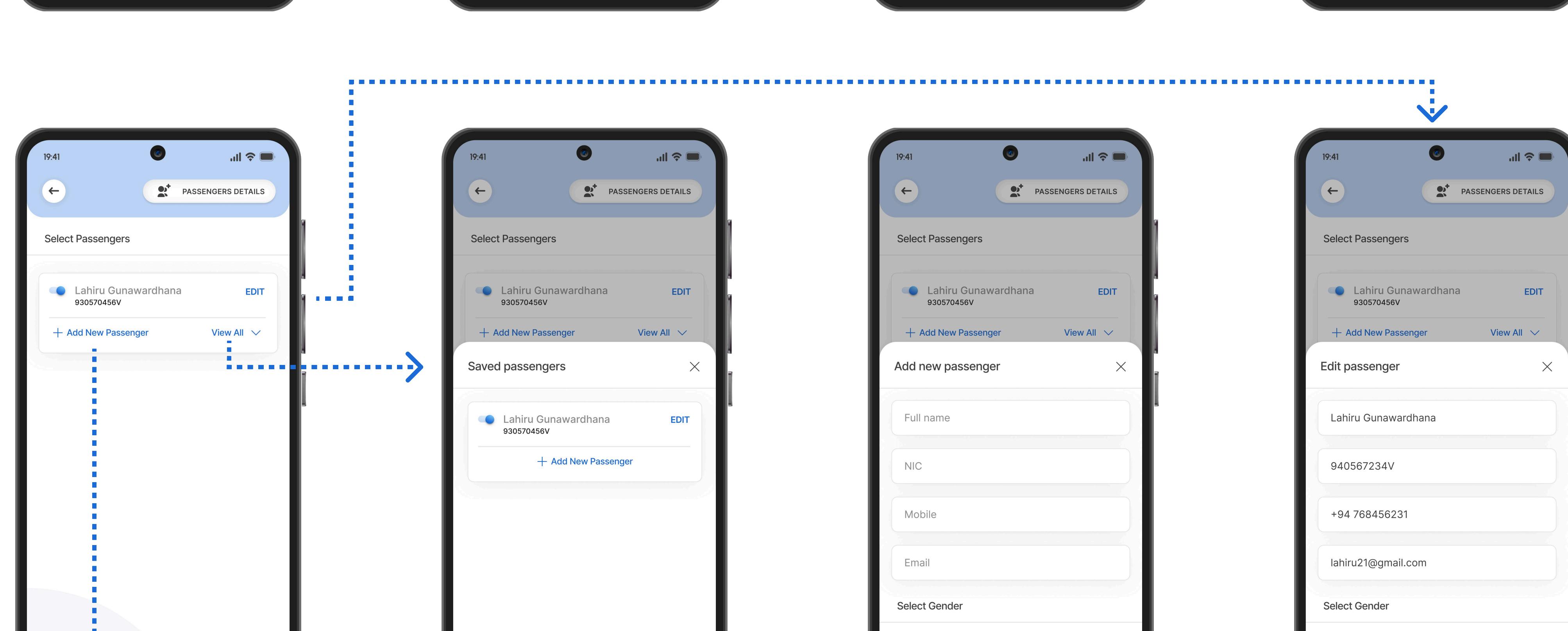
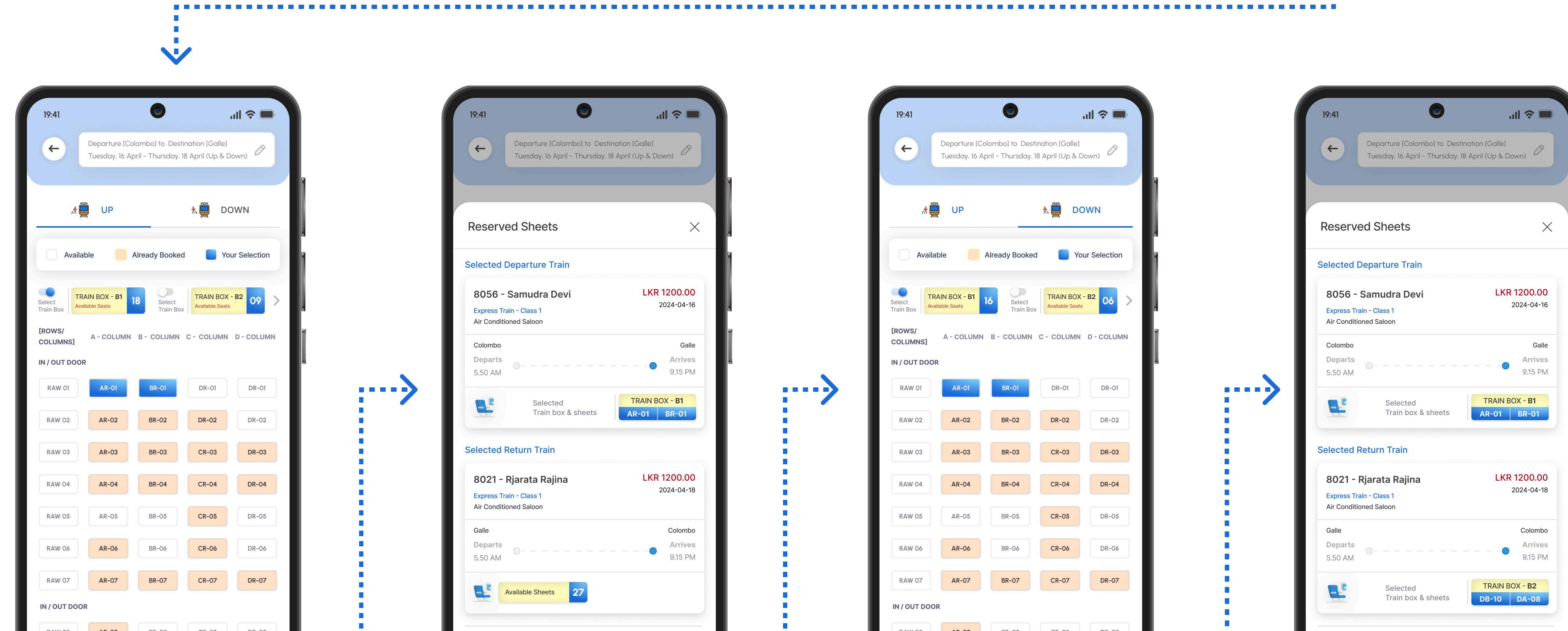


TRAIN SEATS BOOKING PROCESS

Now let's talk about the seat booking process. We can identify several main steps in the train seat booking process.

1. That is, after selecting the departure and destination, the relevant date, and the return date if required, the available trains for the selected date are listed. The number of available seats in those trains and the prices per passenger are indicated.

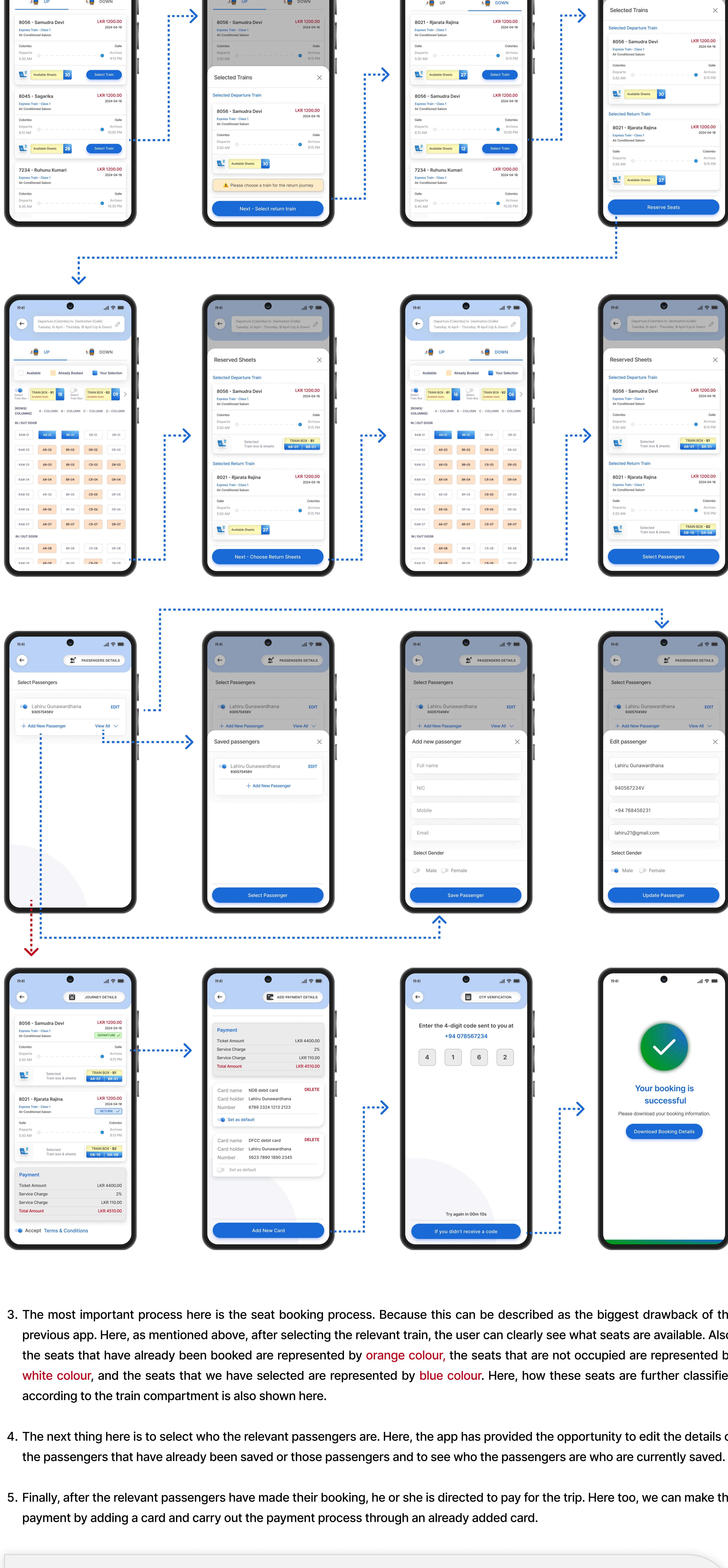
2. If we provide the return date, the list of available trains for that date is also displayed.



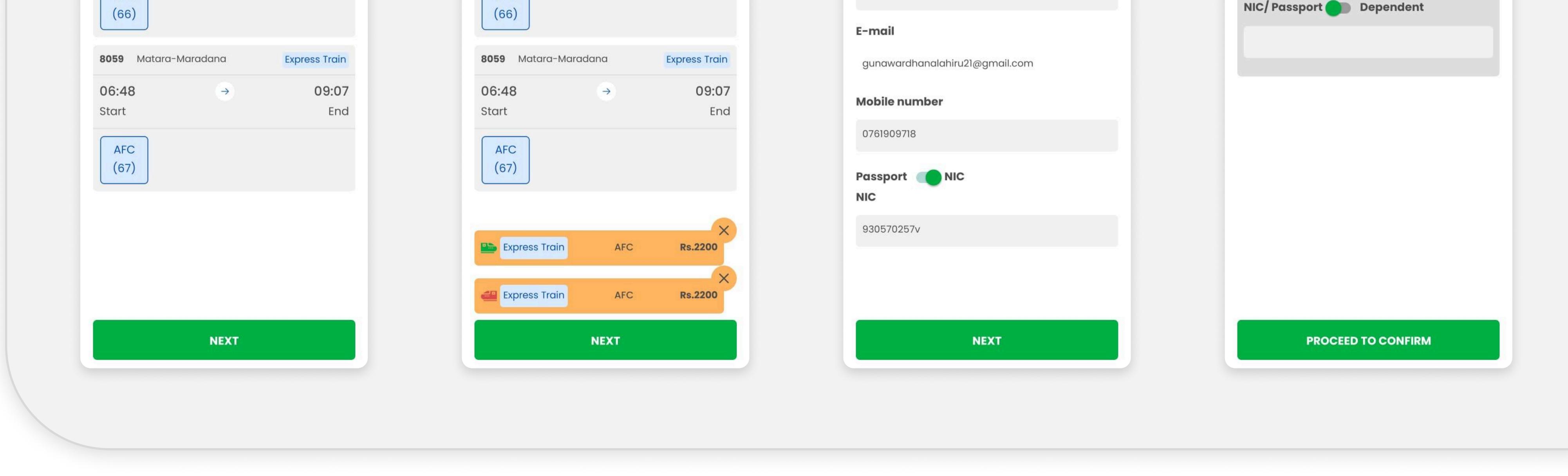
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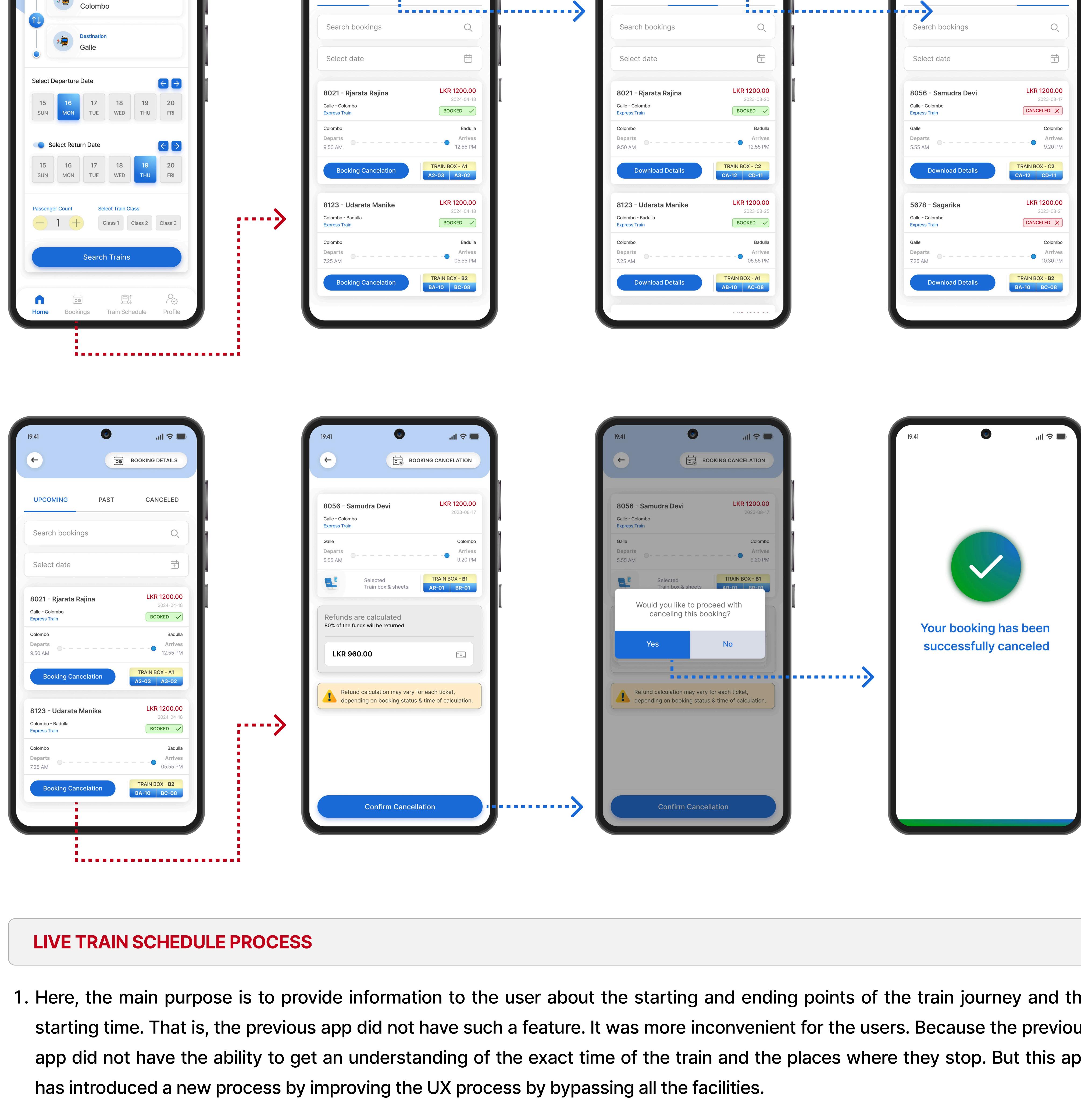
3. The most important process here is the seat booking process. Because this can be described as the biggest drawback of the previous app. Here, as mentioned above, after selecting the relevant train, the user can clearly see what seats are available. Also, the seats that have already been booked are represented by orange colour, the seats that are not occupied are represented by white colour, and the seats that we have selected are represented by blue colour. Here, how these seats are further classified according to the train compartment is also shown here.
4. The next thing here is to select who the relevant passengers are. Here, the app has provided the opportunity to edit the details of the passengers that have already been saved or those passengers and to see who the passengers are who are currently saved.
5. Finally, after the relevant passengers have made their booking, he or she is directed to pay for the trip. Here too, we can make the payment by adding a card and carry out the payment process through an already added card.



TICKET CANCELLATION & BOOKINGS DETAILS

1. Now let's move on to the train booking section. Here, a lot of major changes have been made compared to the previous app. That is, train booking has been divided into three sections. upcoming booking, past booking and cancel booking. Here, under upcoming booking, the user can get the details of his upcoming booking. Through past booking, he or she can see the past records of the bookings he or she has booked, and through cancelled booking, he or she can see the bookings he has cancelled. The user has also been provided with the opportunity to search all these booking details and filter them by date.

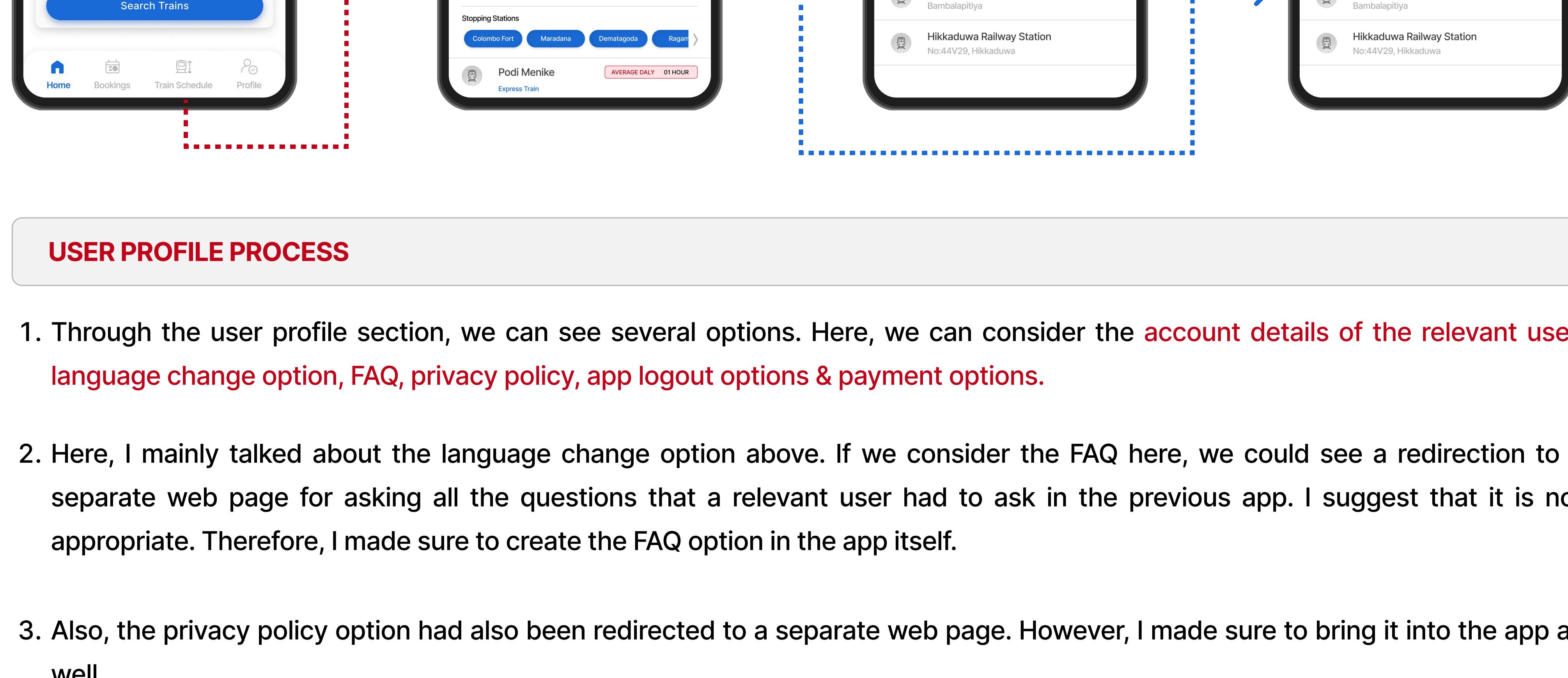
2. And the most notable process here is the booking cancellation process. Here, after going to the booking cancellation, the details of the booking that need to be cancelled are shown, and the automatic refund amount is shown to us. This means that we will not be refunded the entire amount of the ticket, which is a logical change from ticket to ticket.



LIVE TRAIN SCHEDULE PROCESS

1. Here, the main purpose is to provide information to the user about the starting and ending points of the train journey and the starting time. That is, the previous app did not have such a feature. It was more inconvenient for the users. Because the previous app did not have the ability to get an understanding of the exact time of the train and the places where they stop. But this app has introduced a new process by improving the UX process by bypassing all the facilities.

2. Through this process, the user can get all the train information from the place he wants to travel to until the end by selecting the desired date. It also provides the filter facility as slow and express trains.



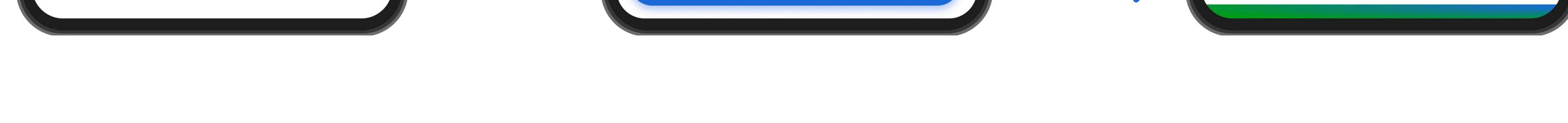
USER PROFILE PROCESS

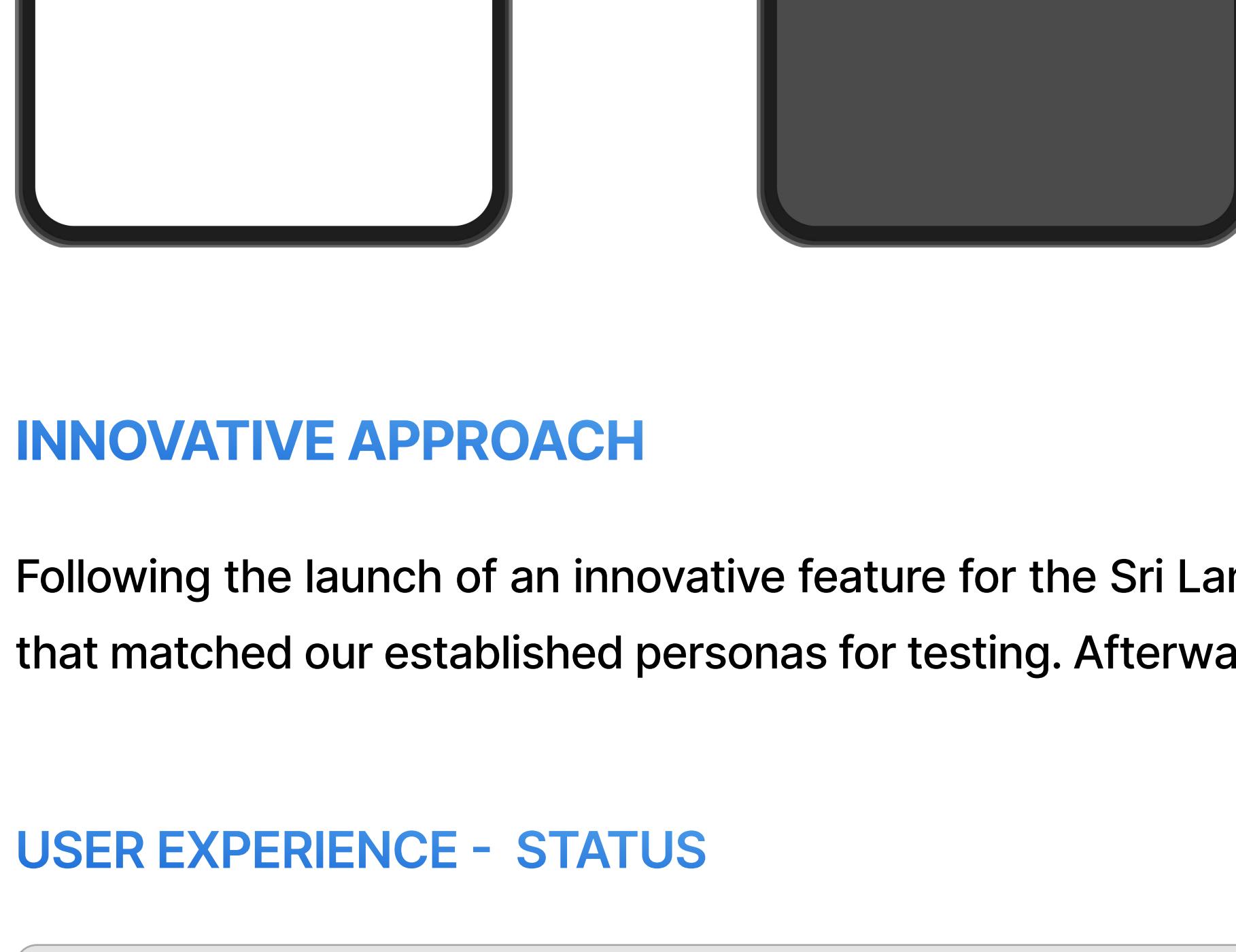
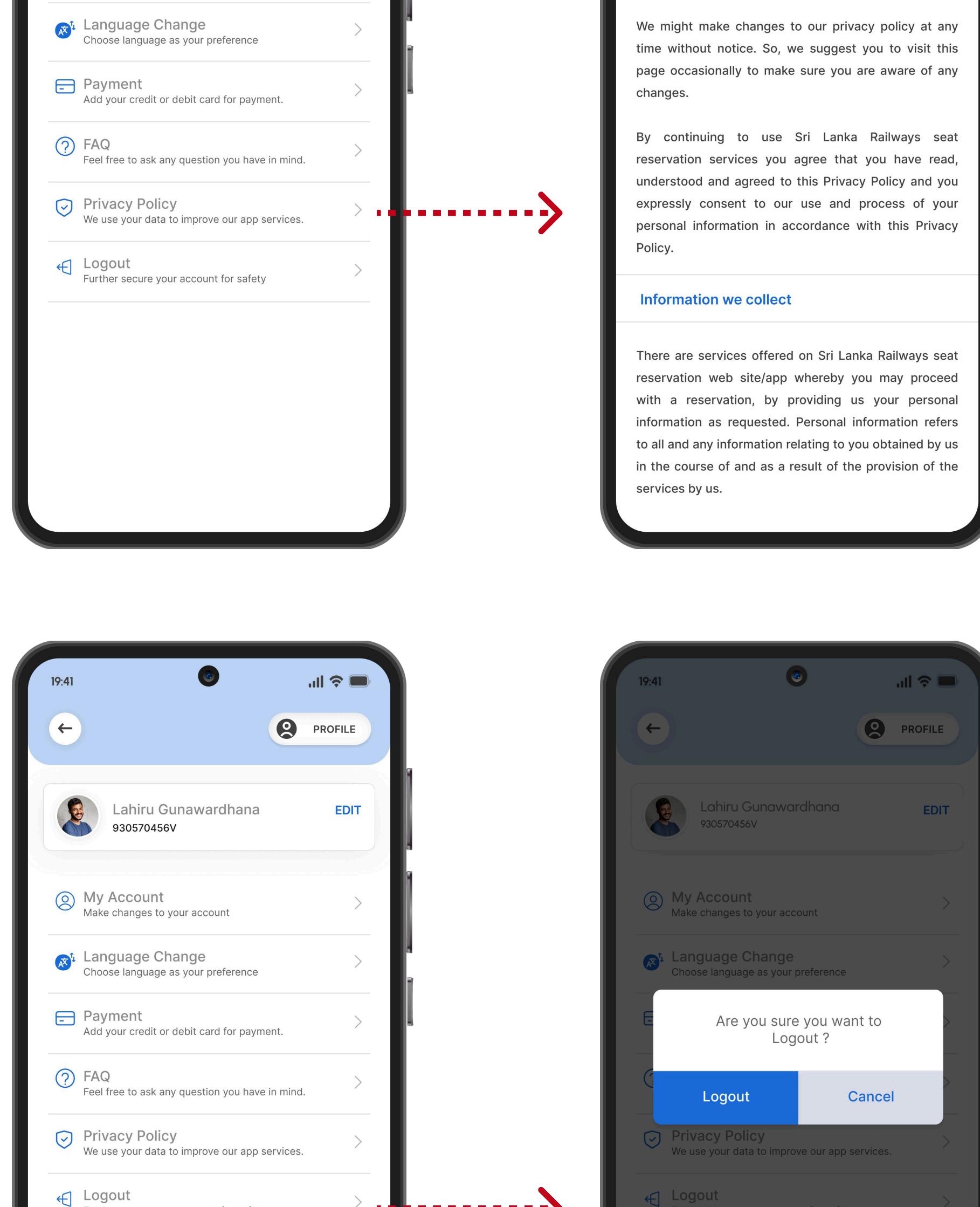
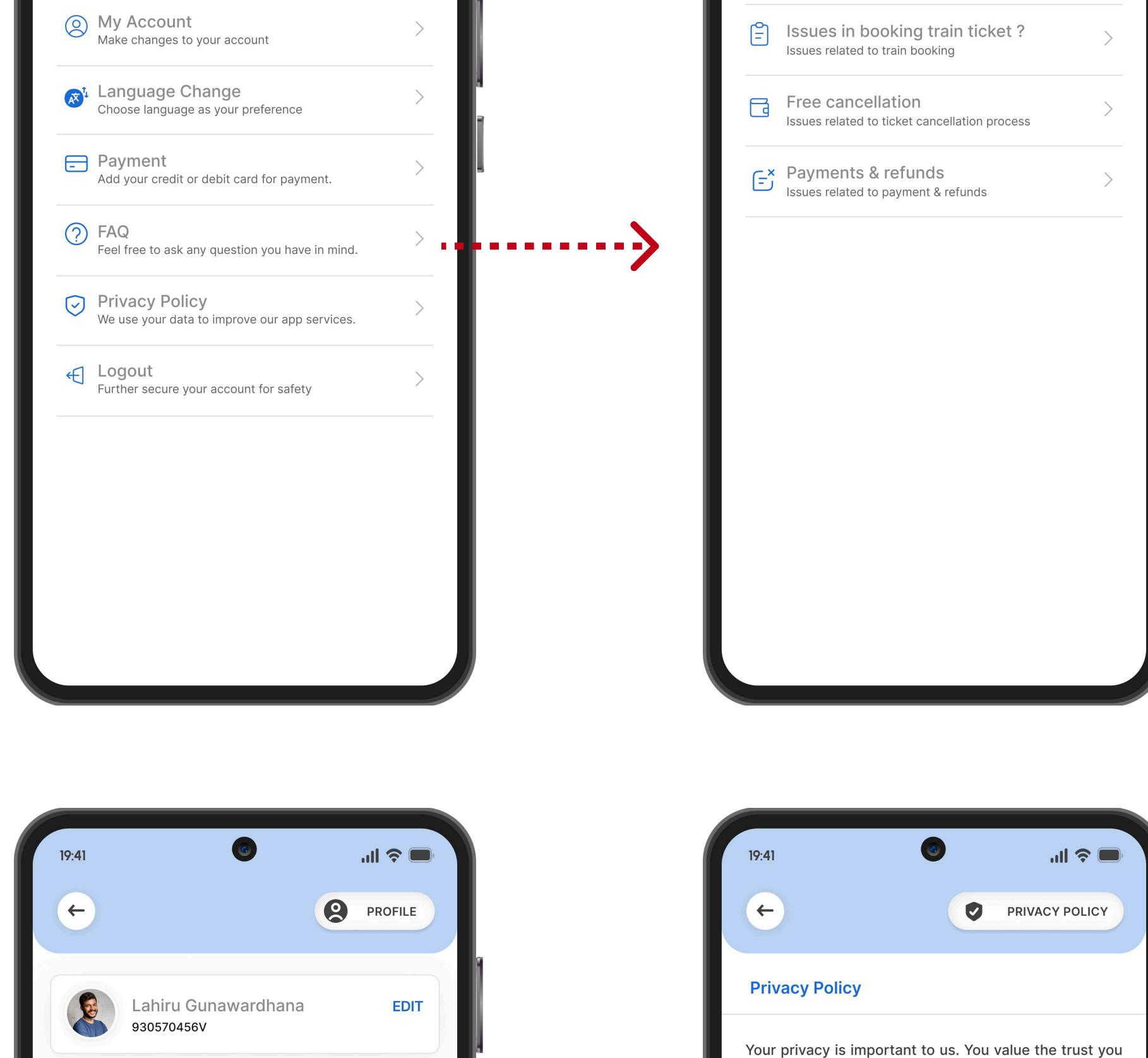
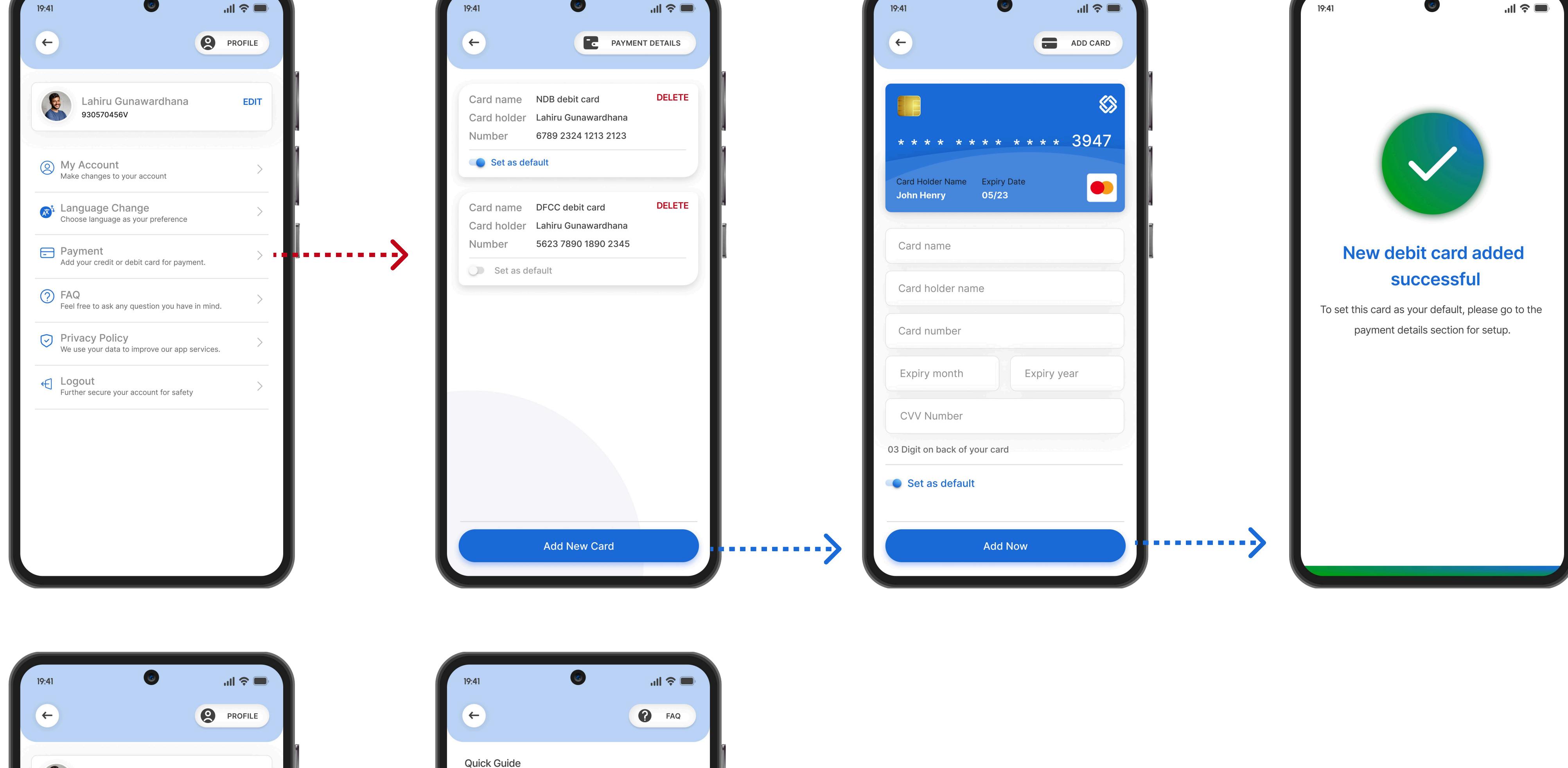
1. Through the user profile section, we can see several options. Here, we can consider the account details of the relevant user, language change option, FAQ, privacy policy, app logout options & payment options.

2. Here, I mainly talked about the language change option above. If we consider the FAQ here, we could see a redirection to a separate web page for asking all the questions that a relevant user had to ask in the previous app. I suggest that it is not appropriate. Therefore, I made sure to create the FAQ option in the app itself.

3. Also, the privacy policy option had also been redirected to a separate web page. However, I made sure to bring it into the app as well.

4. Also, if we consider the logout option, the app has already taken action to log out the user from the app by clicking the logout button. I do not see it as appropriate. Therefore, I have provided the opportunity to log out of the app with user confirmation after clicking the logout button.





INNOVATIVE APPROACH

Following the launch of an innovative feature for the Sri Lanka Railway Reservation mobile app, I engaged a diverse group of users that matched our established personas for testing. Afterward, I gathered insights, and here are the findings.

USER EXPERIENCE - STATUS



1. USER JOURNEY : Authentication process (Registration | Login)

FLOW	User login	User registration
User Experience	😊	😊
Notes	Logging into the app has been made easier. The important thing is that once you log in, you don't have to enter your username and password again and again.	There is no special registration process required here. That is, after logging in with the mobile number, email or Google login, we can continue to use it. The special thing is that there is no password used here, so we can access the app more efficiently and faster.

2. USER JOURNEY : Seats reservation process (Booking)

FLOW	Booking a train	Booking cancellation
User Experience	😊	😊
Notes	It has made it easier to book a train than before using the app. The most notable thing here is that we are able to see which seats are booked and book the seats we want. It is commendable.	One of the biggest drawbacks of the previous app was that once we booked train seats, we were unable to cancel them if we didn't want them. But the fact that this app has provided a solution for that should be commended.

3. USER JOURNEY : Language selection process

FLOW	Choose language
User Experience	
Notes	It is a unique feature that we are given the ability to choose the language we want. Earlier, when trying to use this app, we were given the option to abandon it due to language issues. However, it is a commendable fact that we are given the ability to choose any of the three main languages, Sinhala, Tamil and English.

4. USER JOURNEY : View available train schedule

FLOW	View available train schedule
User Experience	
Notes	This is an important feature in a new mobile app. In the previous app, there is no special feature to find a live available train schedule. So introducing this new feature is amazing. We can find train times and stopped locations very easily.

CONCLUSION

This indicates that the Sri Lanka Railway Reservation App plays a very important role. The current app basically allows us to book a train. This process is also more complicated for the user. Also, the user will have to face many shortcomings during use. Instead of using this app, users have moved away from it.

However, through this newly proposed app, all the shortcomings have been overcome and a higher level of experience has been provided to the user. Here, the user can change the language as per their needs, book the exact seat they want, cancel a reservation they have booked, know the exact train running times and access the app more easily, thus providing the user with a higher level of experience.

This case study analyzed the current Sri Lanka Railway Reservation App situation and highlighted its strengths and opportunities for improvement.

STRENGTHS

- 1. Intuitive Navigation Flow** - The application presents a clear user journey for booking railway tickets with logical progression through the reservation process.
- 2. Visual Confirmation System** - The use of success indicators and confirmation screens helps users understand their booking status throughout the process.
- 3. Multiple Selection Options** - Users can easily select trains, change language, and seating options through well-organized interface elements.
- 4. Streamlined Booking Process** - The app breaks down the reservation process into manageable steps that guide users from selection to confirmation.
- 5. User-Centered Design** - The interface appears focused on common railway booking tasks with prioritization of critical information like schedules and availability.

OPPORTUNITIES FOR IMPROVEMENT

- 1. User Testing Gaps** - The case study doesn't mention extensive user testing of the final solution with actual users to validate the effectiveness of the design.
- 2. Accessibility Considerations** - The case study doesn't specifically address accessibility features for users with disabilities.
- 3. Offline Functionality** - No mention of how the app functions with limited or no internet connectivity, which could be important for users in certain situations.

PROPOSED SOLUTIONS

- 1. Implement A/B Testing** - Conduct comparative testing between the old and new interfaces with actual users to quantify improvements and identify further refinements.
- 2. Enhance Accessibility Features** - Incorporate screen reader compatibility, adjustable text sizes, and high-contrast modes to ensure the app is usable by people with various abilities.
- 3. Add Offline Mode** - Develop functionality that allows critical information to be cached for offline access, with clear indicators of when data was last updated.

What I have learnt from this project is that the Sri Lanka Railway Reservation App can be designed in a way that is both user-friendly and attractive. This will save the user time and increase their efficiency. I see this case study that I have proposed as a more appropriate and suitable solution.

Thanks for reading ! I really appreciate your feedback.