



**Ahmedabad
University**

CSE519 | HUMAN COMPUTER INTERACTION

Project Report Final

City Bus Booking Mobile Application : City Sprint

Submitted to

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By

NAAM (Group 3)

Section 1

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Chapter 1: Introduction

Motivation:

Our project aims to enhance the city bus booking experience for individuals from diverse backgrounds. We were motivated to address this common issue that existed in bus booking services. On seeing the increasing use of mobile apps for travel-related activities, we were inspired to develop a user-friendly and intuitive mobile app. We incorporated the principles of Human-Computer Interaction (HCI) to make our app easily accessible and user-friendly. With a focus on usability and functionality, our ultimate goal is to deliver a seamless and convenient booking experience that enhances overall satisfaction of the users.

Overview of Project:

Our project began with a thorough examination of numerous domains, and after coordinating, we decided to focus on intercity bus booking services. After coming to this conclusion, we decided that we will go for a mobile application as it is most commonly used for on-station and immediate bookings. We are planning out the design and features we want to include, drawing inspiration from websites and applications for transportation booking already in existence. We will make sure to keep in mind the learnings regarding designing a product, user interface, user experience, etc. with reference to HCI while designing the app. In order to see the functionality and flow, we will first draw our ideas on a piece of paper or wireframes. After that, we will use Figma to convert these thoughts into digital form and later prototype our ideas. Additionally, we aim to implement features that enhance accessibility for users with diverse needs. Throughout the process, we will remain committed to deliver a seamless and intuitive experience for users, prioritizing usability and functionality above all else.

Market Survey:

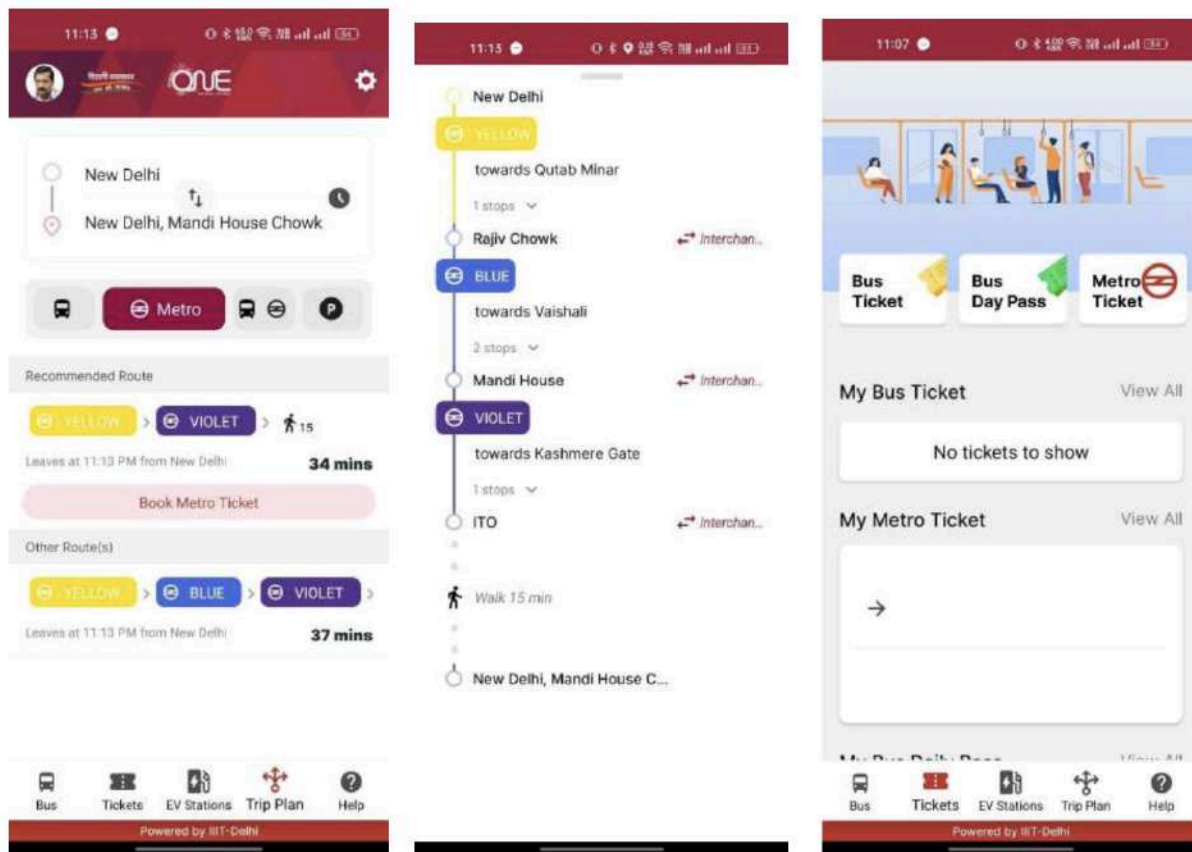
Survey 1.

OneDelhi Mobile app

The Design Principle of Design Dialogues to Yield Closure is used in the 'trip plan' section of the app. The user needs to enter the boarding point and the destination and select the mode as bus, metro or both. Once the user selects the mode, the whole route

is shown on the app which shows from what station what train/bus we have to board and where we need to change them on our route to the destination.

The Design Principle of Reduce Short Term Memory Load is used on the 'Tickets' section of the app. Once the user buys tickets/passes, they can access it in this section. It can be helpful in multiple bookings where more than one pass and tickets and that too of multiple modes of transport are involved.



Survey 2. yatra.com

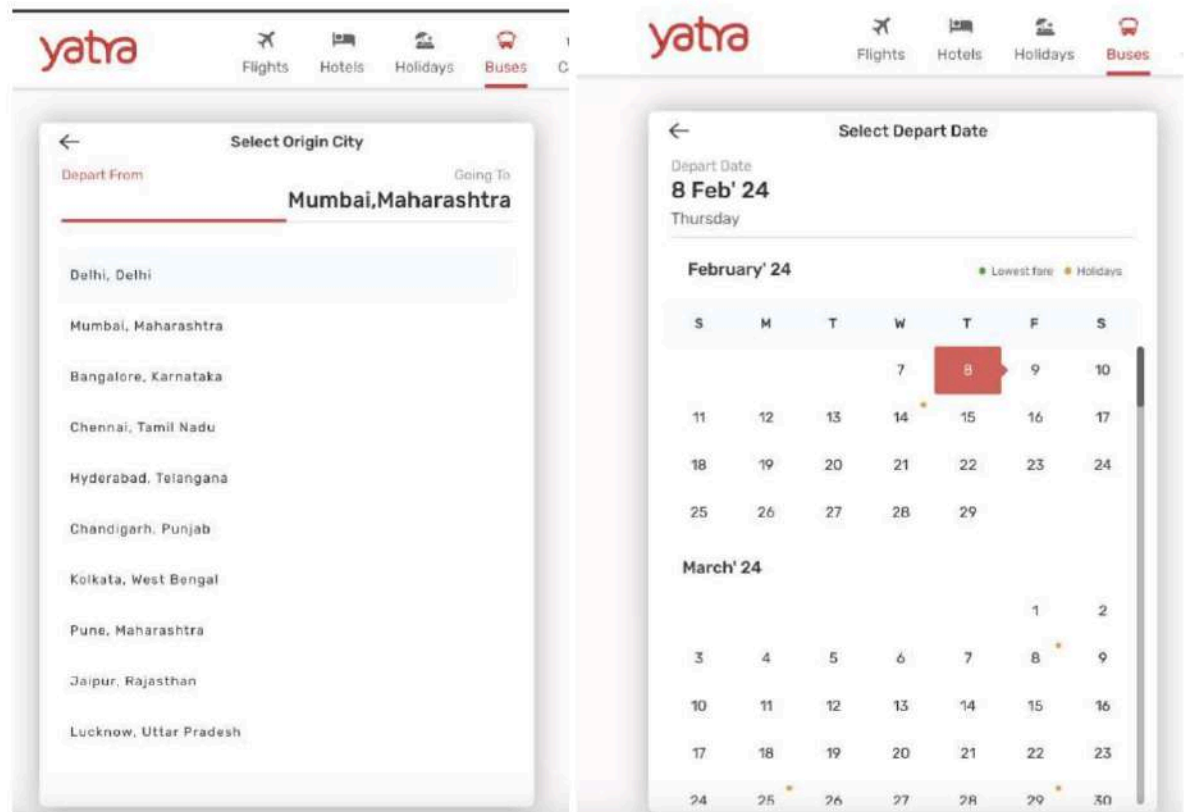
Feature: User-friendly Search Interface

Design Principle: Prevent Errors

It helps users avoid mistakes throughout the search process.

For example, in order to avoid frequent entry mistakes and guarantee correct search

results, the website reminds users to enter appropriate trip dates and destinations by choosing instead of manually adding.



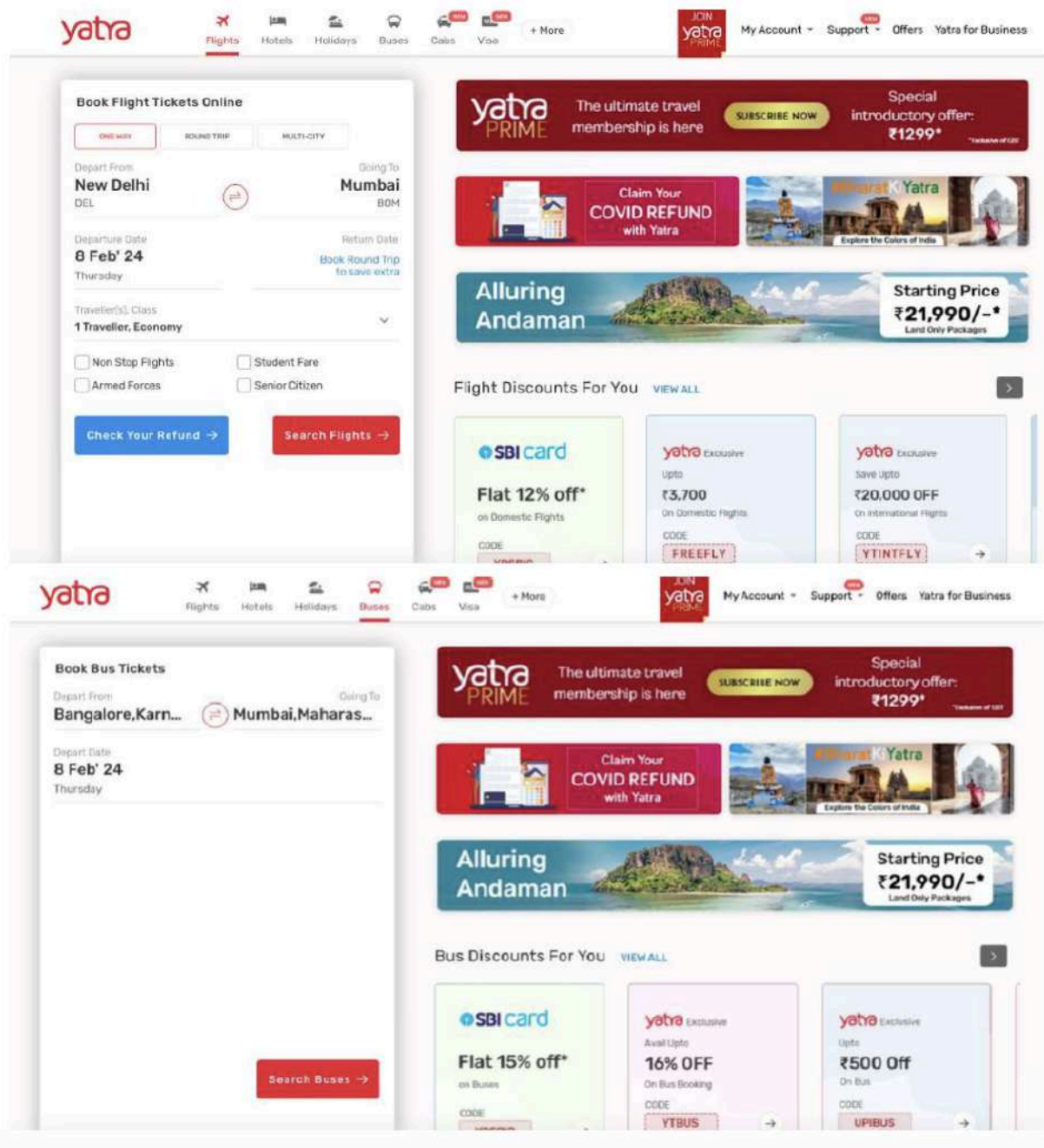
Feature: Personalized Recommendations

Design Principle: Affordance

It uses affordance by offering clear indications and prompts that offer specific recommendations based on users' preferences and previous interactions. This improves the decision-making process for consumers by making it simple for them to identify and understand the specific alternatives that are available to them.

For example, Yatra.com's homepage search bar serves as a prime example of affordance. The website welcomes users with a search field that is easily visible and clearly marked with the information that is needed.

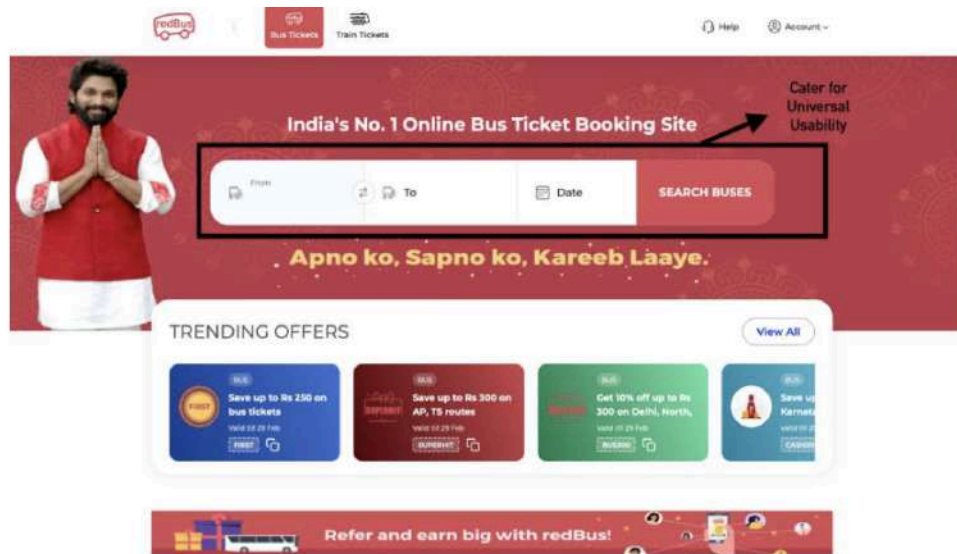
(for example, "From," "To," "Departure Date," and "Return Date" for flight searches).



Survey 3&4

Redbus and Namma BMTC

Redbus



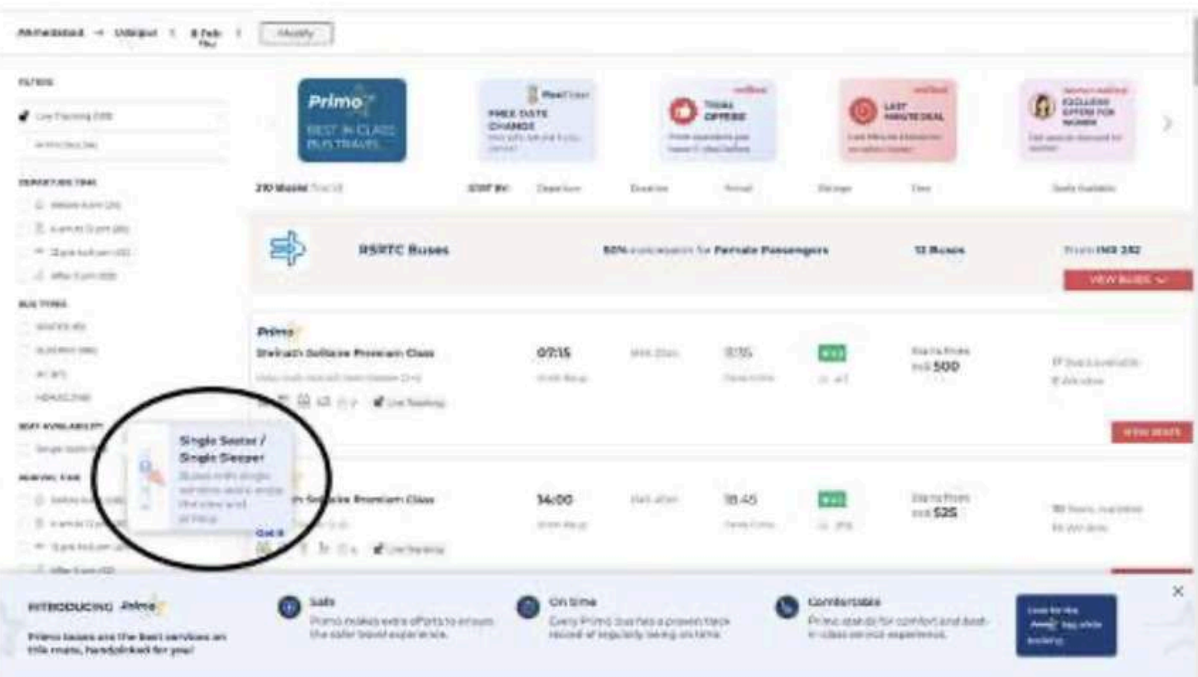
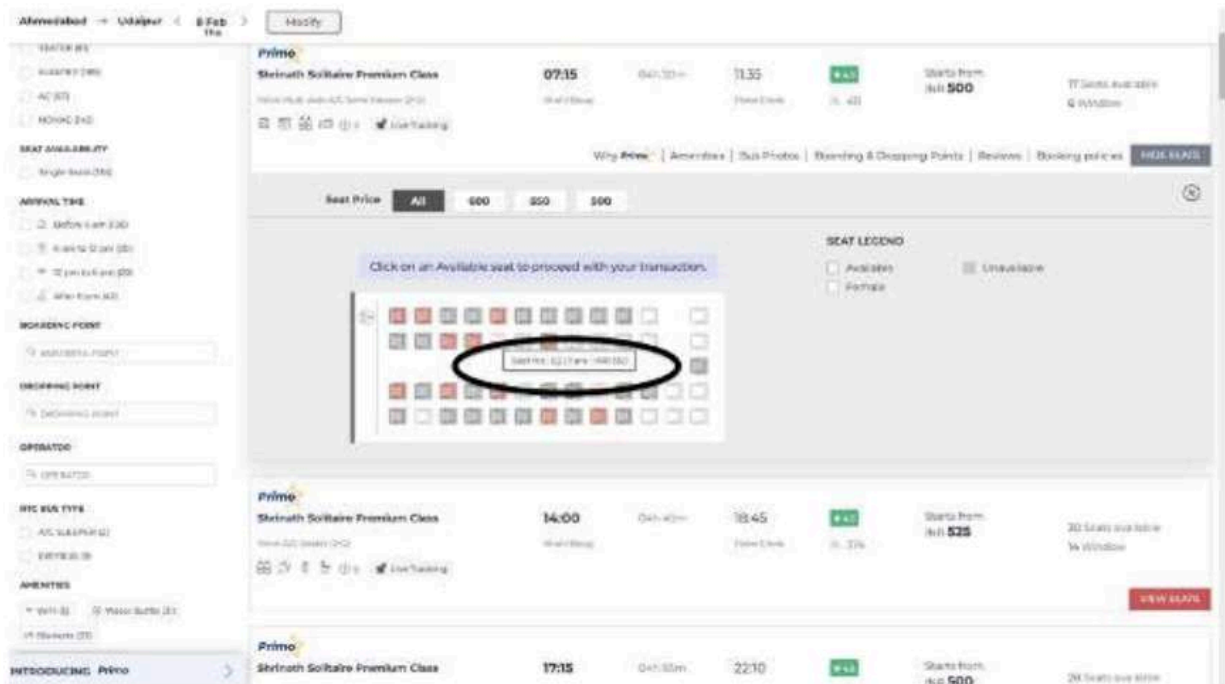
In keeping with the idea of User-Centered Design (UCD), RedBus placed the search bar prominently on their website. The main function that consumers are probably going to complete, looking for bus tickets, is given priority in this design decision. RedBus reduces the cognitive effort needed from users to start a search through rendering the search bar more prominent and accessible. Because it prioritizes effectively addressing the requirements and goals of the user, this obvious design approach is consistent with UCD principles. The search box is easily accessible to users as soon as they land on the page, making it easier for them to start their bus ticket search smoothly.

Namma



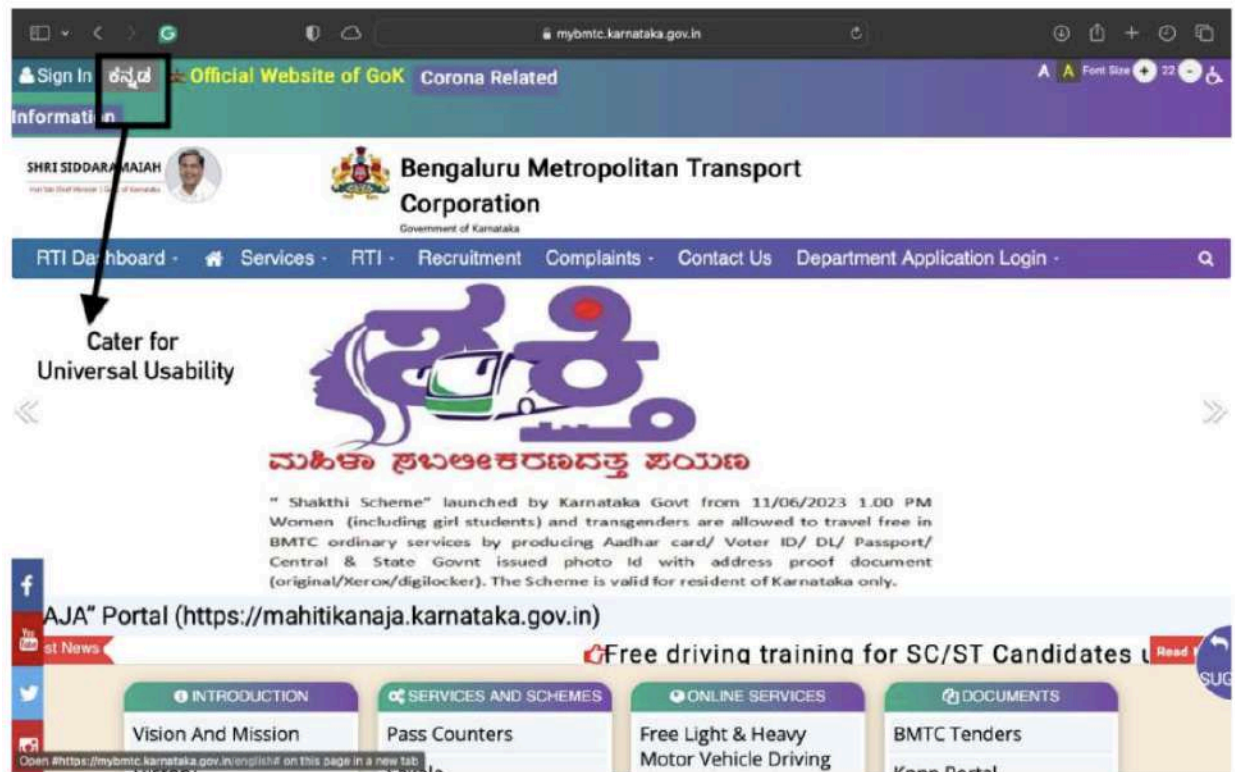
According to the Visibility principle of HCI, visitors can find the data they need with ease because of the website's clearly defined and well-organized menu at the top. User activities on the website are readily visible to them due to the conspicuous display of navigation choices. By lowering cognitive burden and facilitating users' ability to locate pertinent material or finish activities quickly, this menu's straightforward design improves user experience. Because the content is easily searchable and accessible through the user-friendly menu layout, people may browse the website with confidence.

Redbus



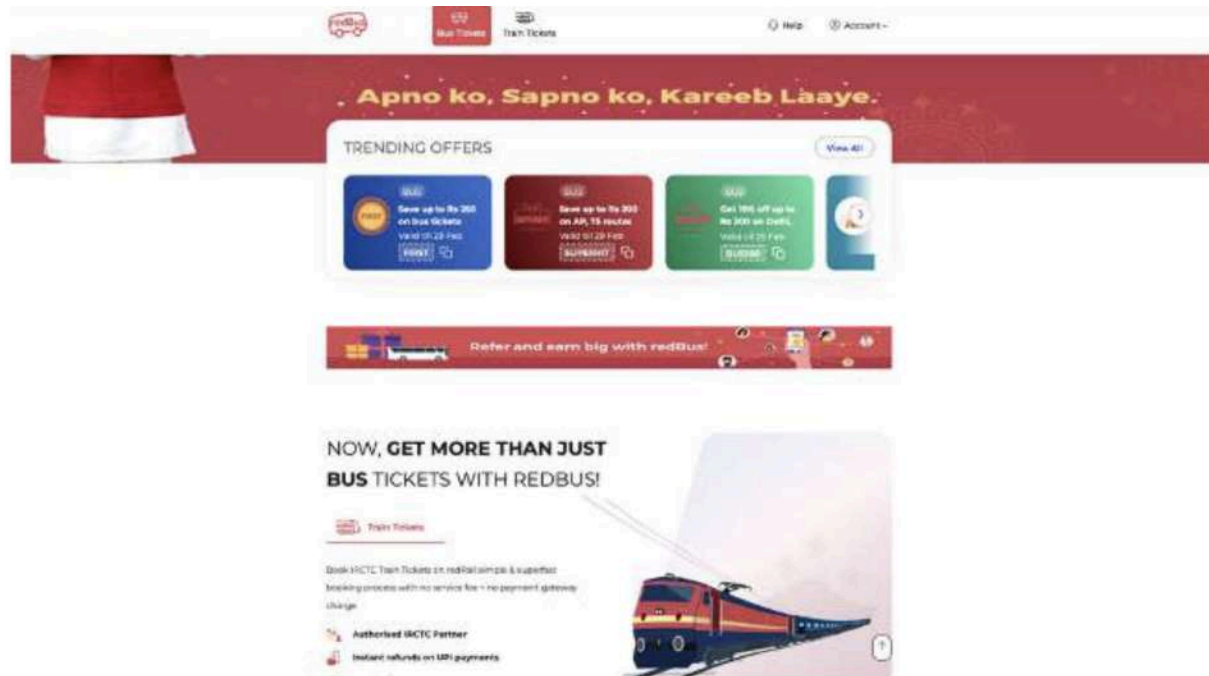
According to feedback of Design Principle: RedBus informs users immediately of the status of their tasks and the results of their interactions, giving them real-time feedback as they go. This feature helps users to have a seamless booking experience and helps first-time users book their tickets easily.

NAMMA



Language choices: Users can select between Kannada and English using the language choices provided by the website by clicking the highlighted button. This complies with the accessibility and inclusion principles by accommodating users who might choose to use the website in their native tongue.

RedBus



According to the visibility principle of design principle, With so many different deals, promotions, and adverts, the website's homepage seems a little distracted. The general Simplicity and Visibility of essential data might be improved by simplifying the layout and reducing visual clutter, which would make it simpler for consumers to locate what they're searching for without being distracted.

Namma BMTC



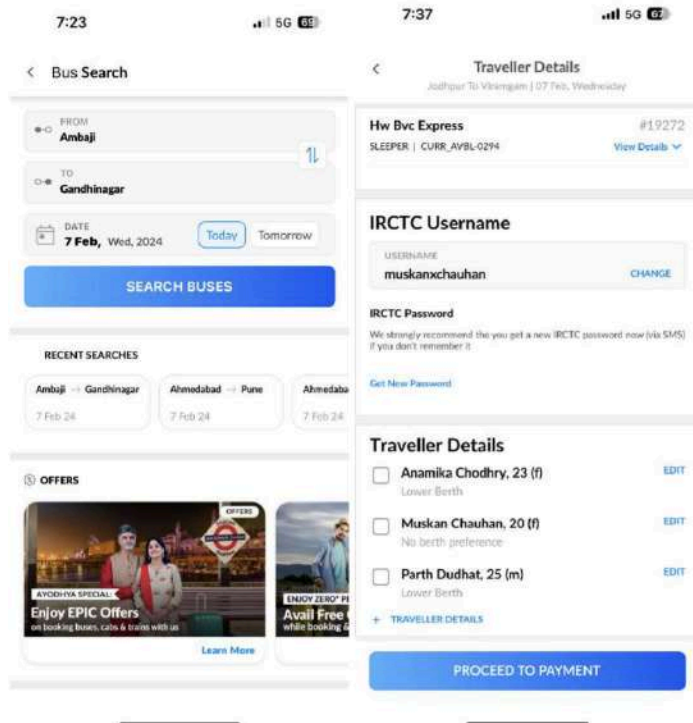
There are inconsistent visual design components, such as font sizes, colors, and spacing, even if the website structure is typically straightforward and well-organized. Enhancing visual design uniformity would improve the user experience and make it easier for the user to finish their tasks.

Survey 5

Makemytrip

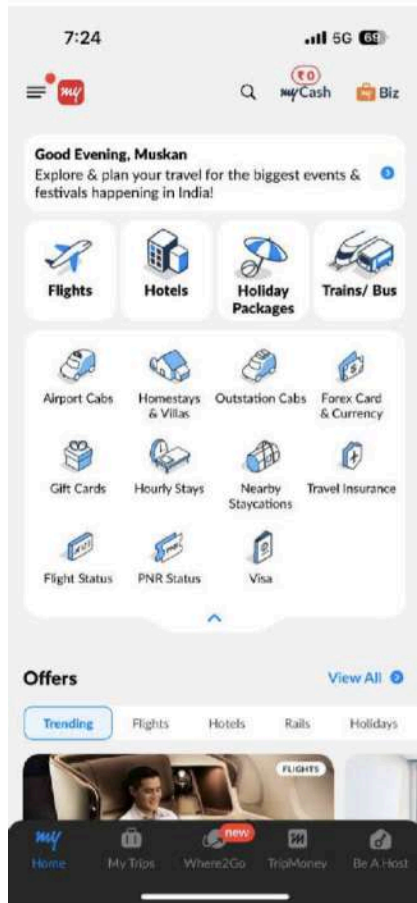
Features I Like:

1. Reduce Short Term Memory Load



MakeMyTrip incorporates an option for users to access previously searched and booked items, such as bus routes or specific trips. This feature allows users to search for or book items without having to recall or re-enter their details. One way to lessen mental strain and accelerate the booking process is by allowing users to easily access their recent bus routes or bookings from the app's homepage or a dedicated section.

2. Visibility

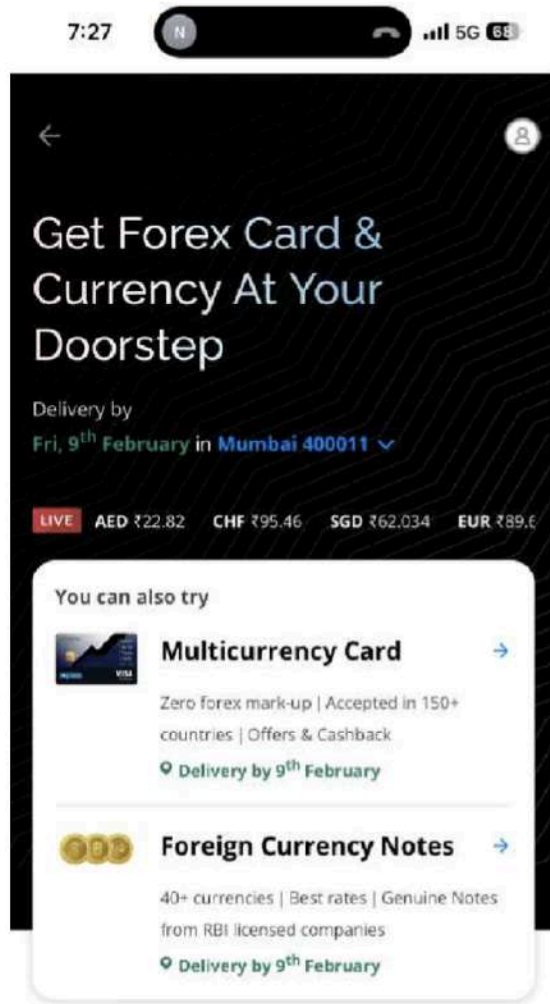


MakeMyTrip makes sure that every little detail is addressed on the homepage without making things too complicated for customers to understand. The homepage, for example, is divided into areas that are easy to navigate, like flights, hotels, and vacation packages.

In a clear and readable format, each component offers essential information including costs, reviews, and departure timings.

Features I Admire:

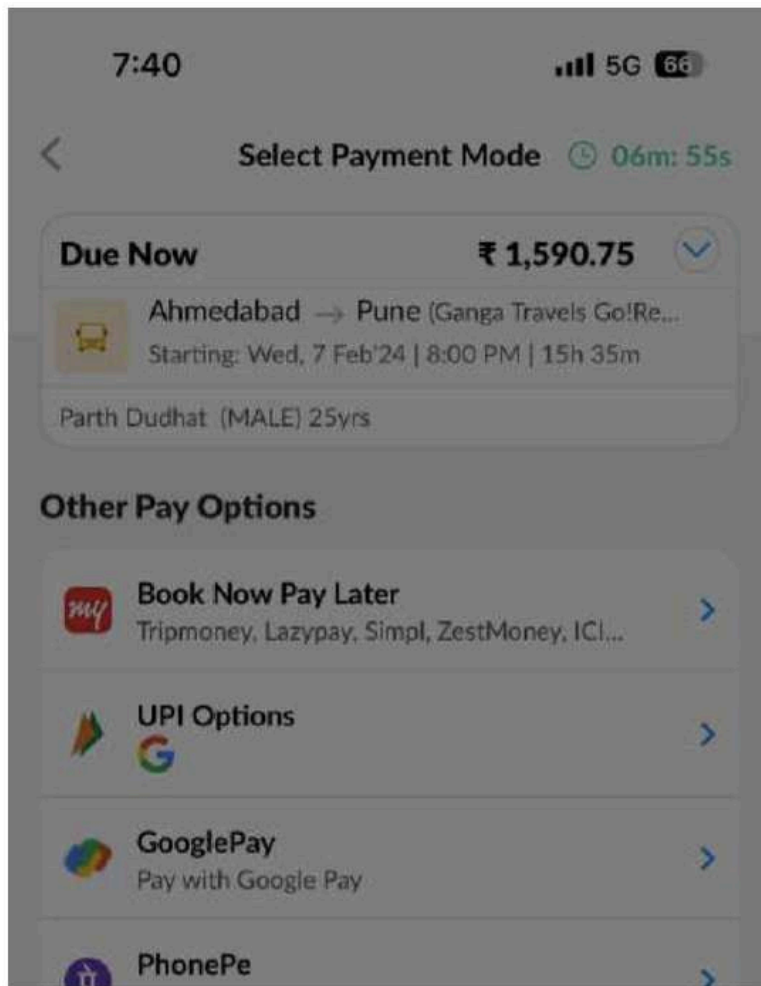
1. International Usability Options:



Why Trust Us

MakeMyTrip introduces various new options like travel insurance and foreign exchange of currency, catering to international users' needs and preferences. These features ensure the app's usability for users traveling internationally, offering convenient solutions for common travel-related concerns. For example, international travelers can easily exchange their currencies online, providing peace of mind and comprehensive coverage for their trips.

2. Easy Reversal of Actions



Are you sure?

We have temporarily reserved your selected seats. Simply complete payment now and finalize your reservation.

If you go back now, you will have to wait for 10-15 mins to book the same seats.

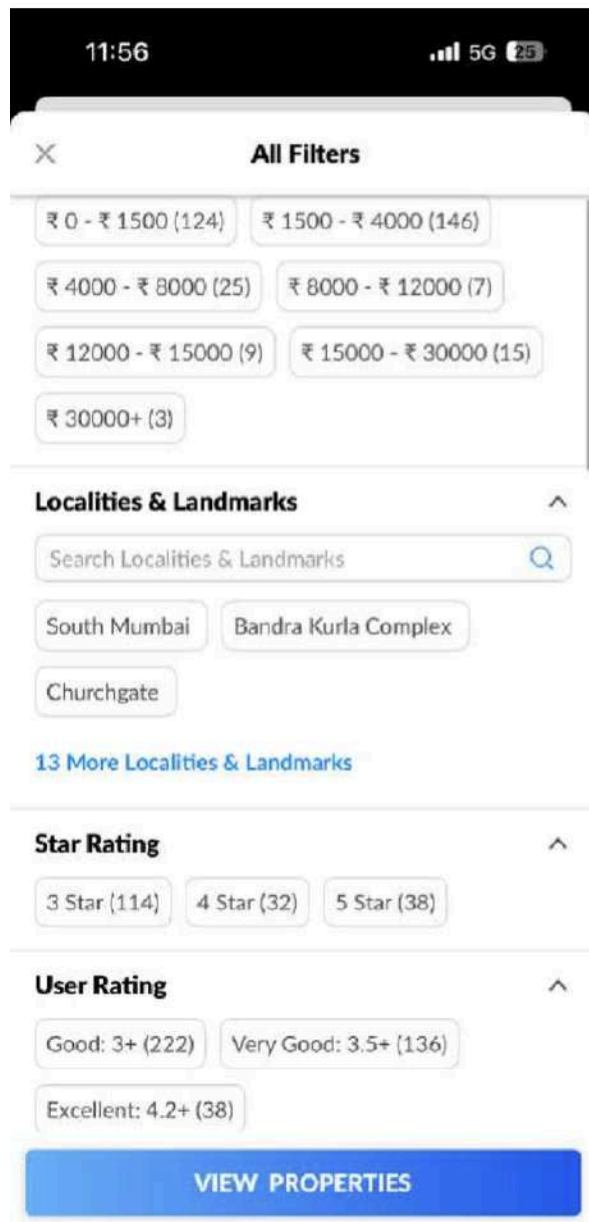
[GO BACK](#)

[CONTINUE](#)

MakeMyTrip provides a smooth and stress-free booking experience by making it simple to reverse actions, such as returning from payment options. Users can simply return to a previous step without losing their progress, for example, if they choose to modify their payment method or check their booking details before finishing the transaction. This adaptability increases user control and happiness by enabling users to make well-informed decisions and change them as necessary.

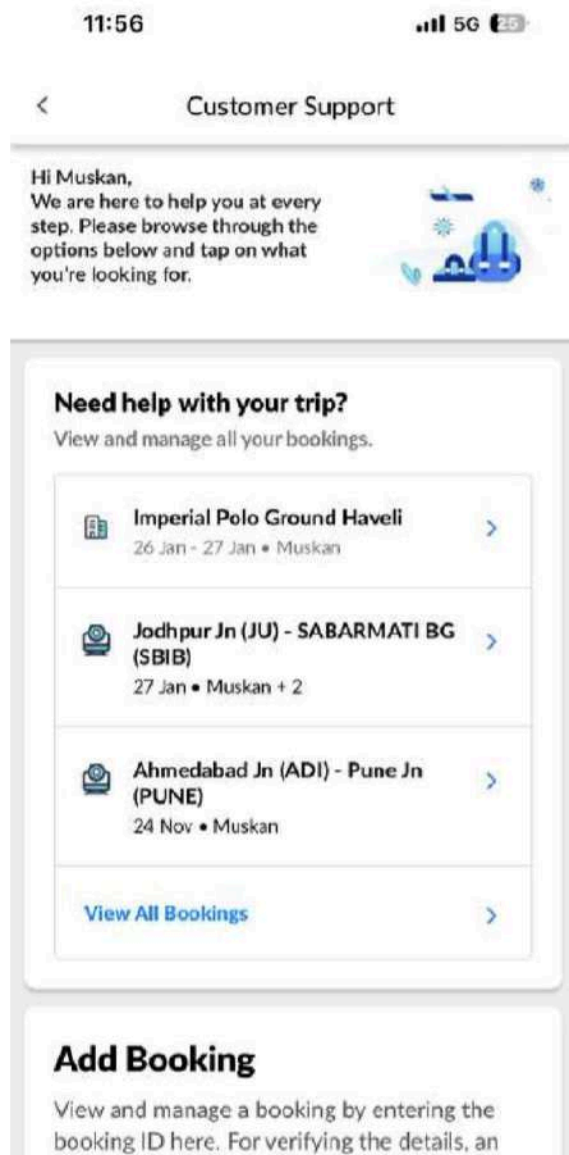
Features I Would Like to Improve:

1. Enhanced Filter Options for Accommodation



MakeMyTrip has a large selection of accommodations, such as hotels, guesthouses, and vacation rentals; however, the filter options might be enhanced to offer more specialized and detailed selections. For example, enhancing filters for amenities, such as Wi-Fi availability, can help users find options that meet their specific preferences and requirements more efficiently.

2. Enhanced Customer Support Integration



MakeMyTrip should enhance the facilities of customer support inside the app or website interface to give users better access to help and support resources. For example,

adding a live chat function or a special support area to the app will enable customers to get in

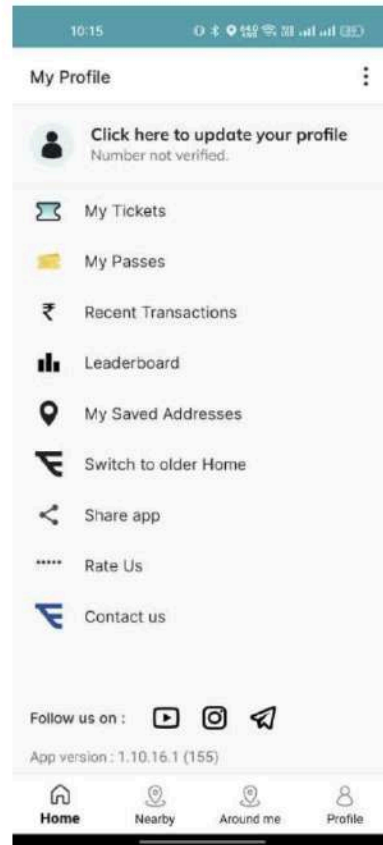
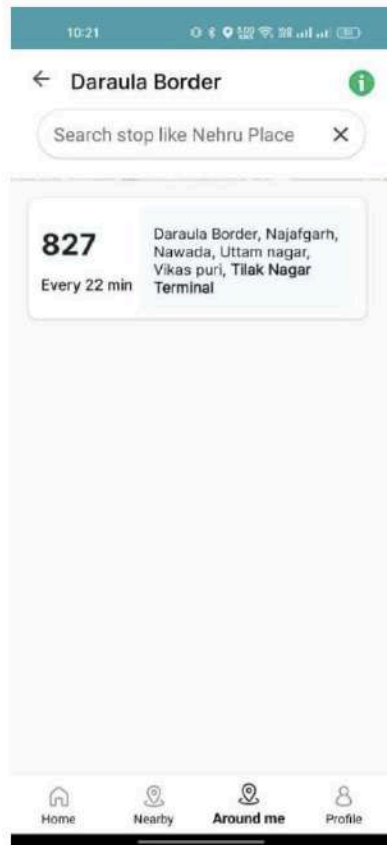
touch with customer service representatives right away for assistance.

Survey 6

Chartr Mobile App

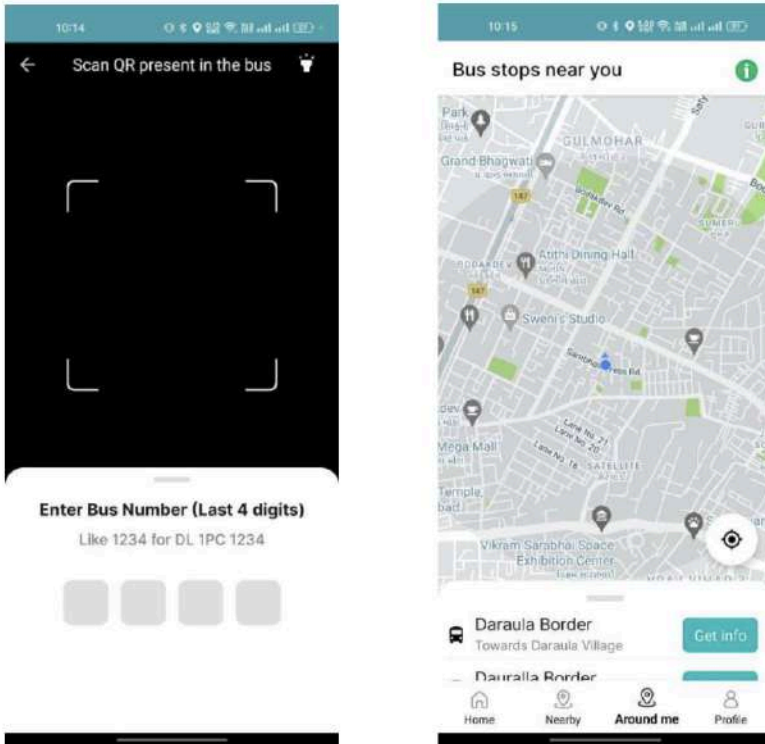
The Design Principle of Prevent Errors is used in the 'search stop' section of the app. When the user starts to type, the app gives recommendations which prevents users from entering any wrong bus stops. Additionally, it also displays the bus number and how frequent the bus arrives at the bus stop and the bus stops on its route.

The Design Principle of Reduce Short Term Memory Load is used on the 'Profile' section of the app. Once the user buys tickets/passes, they can always access it and check the history. It can be very helpful in multiple bookings where more than one pass and tickets are involved as it can create panic among users but it is made easy with this feature. Also, recent transactions are also shown to keep track of all the bookings.



The feature I admire the most about this app is the option to get a bus ticket directly by scanning the QR code present in the bus or just by entering the last 4 digits of the number plate. It helps a lot with easy bookings and increases accessibility without entering any specific details and even old age groups can book tickets without much of an issue. Another feature that I admire is the 'Around Me' section of the app. It provides support to internal locus of control design principle as users can visualize themselves on the map and look for nearby bus stations and can get information regarding the

same, providing a sense that they are in charge of the interface.

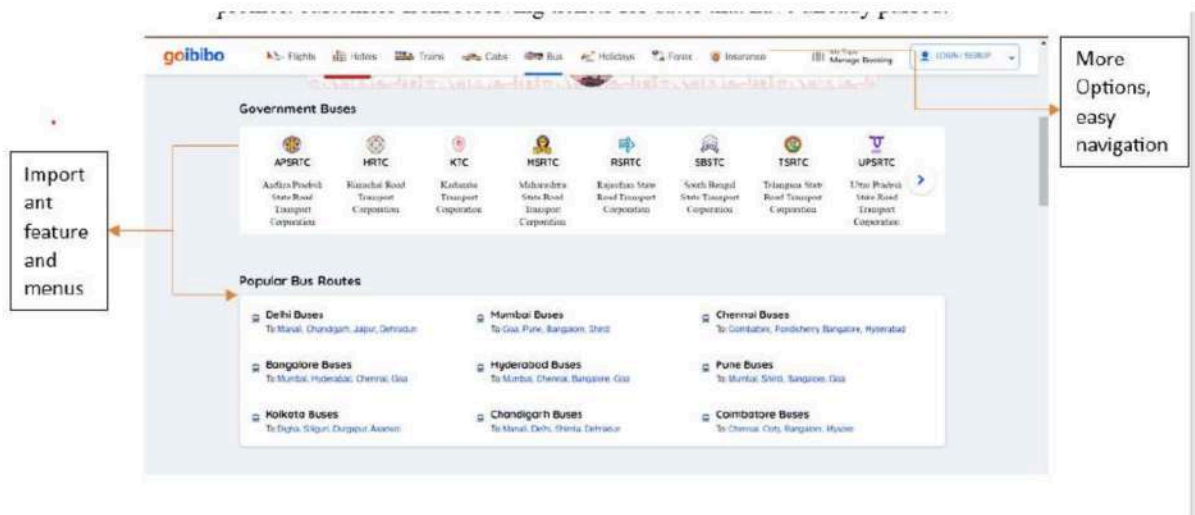


The feature I would like to improve is that we can add a wallet section where users can keep their money for instant bookings. The UPI transactions often fail and users are at risk if they can't book the tickets on time. Hence, a wallet feature can surely help them with increasing the utility of the app.

Another feature that could be improved is the track bus feature. It is very helpful to know what bus is arriving at the station and what bus is behind schedule. The track functionality could provide valuable information to the users and they can book their tickets accordingly.

Survey 7 & 8

GSRTC
Goibibo



1. Consistency:

Both platforms maintain consistency in look, navigation, and information throughout their websites. This consistency allows users to forecast the position of specific elements and understand more about the system.

2. Visibility:

Important features and settings are prominently provided on both platforms, allowing users to quickly identify and access them without having to search extensively.

3. Affordance:

Both platforms include design elements that indicate their functionality, such as clickable buttons, dropdown menus, and checkboxes, to make it easy for users to engage with the interface and understand how to execute tasks.

4. Constraint:

Constraints are set in place to keep users from taking undesired actions or making bad decisions. For example, both platforms may restrict the number of unavailable seats or prohibit customers from reserving tickets for dates that have already passed.

Chapter 2: Details of Tools

Features of Figma:

a) Convenient Component Styles for Smooth Navigation:

In our Figma-designed mobile bus booking app City-Sprint, we've used Component Variants to ensure a seamless user experience. These variants allow us to create different styles for various elements, like buttons and navigation bars, making it easy for users to navigate through the app. For example, we can customize the look of the "Book Now" button for different sections of the app, ensuring consistency while meeting specific design needs.

b) Effortless Prototyping for Interactive Booking:

With Figma's user-friendly prototyping features, we've made an interactive booking process that's easy to navigate. Users can browse available routes, select their desired departure and arrival points, and choose their preferred travel dates; all with just a few taps. Interactive elements like dropdown menus and date pickers enhance the user experience, allowing for smooth and easy interaction.

c) Real-Time Updates for Enhanced Collaboration:

Our mobile bus booking app benefits from Figma's real-time collaboration capabilities, enabling our group to work together seamlessly. Whether it's updating the app's layout or changing the booking process, changes made by one team member are instantly visible to others. This makes sure a collaborative environment where ideas can be shared and implemented in real time, ensuring that the app evolves efficiently to meet user needs.

d) Streamlined Feedback Process:

With Figma's internal commenting feature, gathering feedback from and implementing changes is a breeze. Users can easily leave comments directly within the app interface, pinpointing areas for improvement or suggesting new features. This streamlined feedback loop enables us to

iterate quickly, ensuring that the app evolves in line with user expectations and market demands.

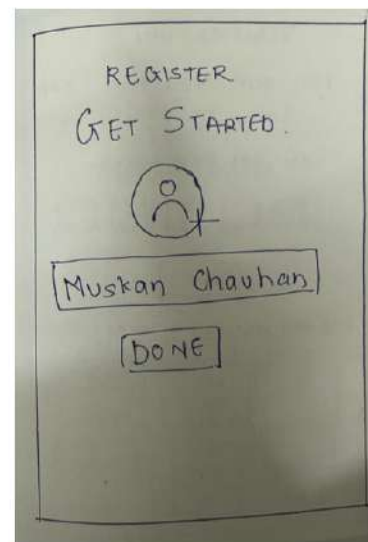
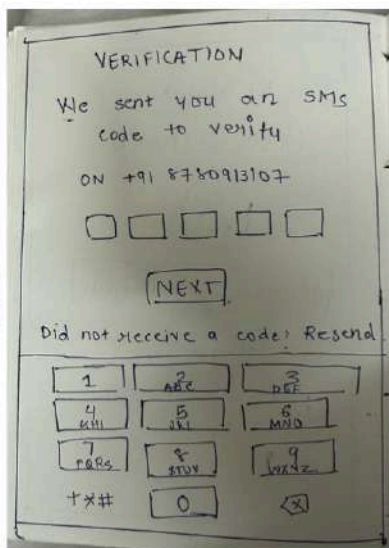
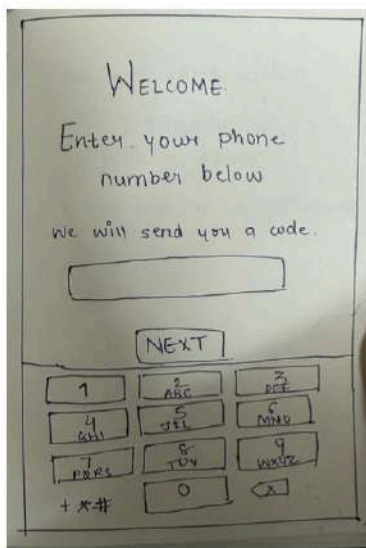
Comparison table with other 2 tools:

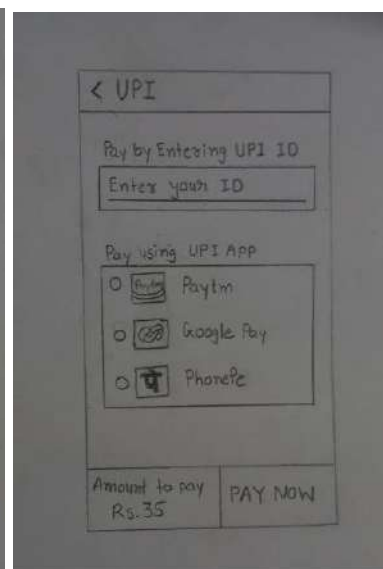
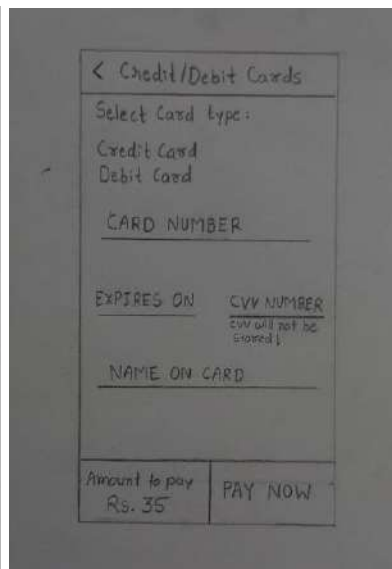
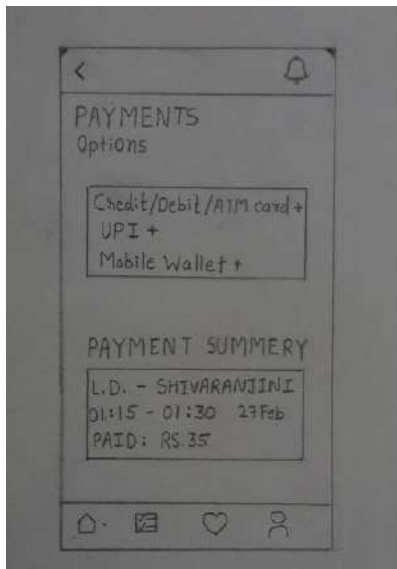
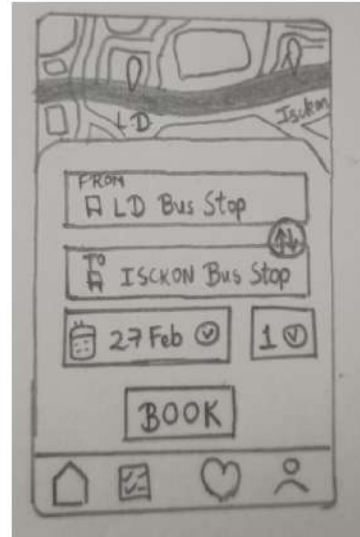
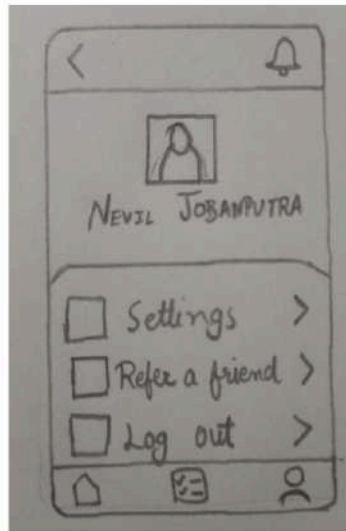
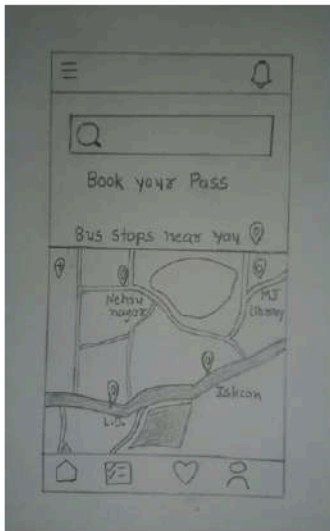
Feature	Figma	Adobe XD	Wix
Platform	Web-based	Desktop (Mac & Windows)	Desktop (Windows, Mac, Linux)
Compatibility	Any device with a web browser	Mac & Windows computers	Windows, Mac, Linux computers
Plugins	Large and growing ecosystem for various functionalities	Smaller selection of plugins compared to Figma	No plugins available
Vector manipulation	Powerful vector editing tools for creating complex designs	Robust vector editing capabilities	Good vector editing tools for basic shapes and illustrations
Cost	Free tier with limitations, paid plans for advanced features	Paid subscription required	Completely free and open-source
Collaboration	Strong real-time co-editing, commenting, and version control	Good co-editing features, but not as strong as Figma's	No collaboration features

Prototyping	Offers good prototyping capabilities with additional features through plugins	Creates powerful and interactive prototypes with advanced features	Basic prototyping functionality
Integration with other tools	Integrates with various design and development tools through plugins	Integrates seamlessly with other Adobe products	Limited third-party integrations
Open-source	No	No	Yes, allows for customization

Chapter 3: Project Planning and Preparation

Paper-pen designs of the screens:





YOUR PASS

Name

From -

To -

Date

No of Tickets

QR CODE

Recent Booking

☐ BUS STOP NAME

DEP - ARV

time time

☐ BUS STOP NAME

DEP - ARV

time time

Renew Pass

Details

FROM

TO

No of tickets

Persona development:

Persona 1:

Name: Aisha Khan

Photo:



Bio: Aisha Khan, 20, is a college student pursuing a degree in Economics at a local university in Ahmedabad. She commutes daily by local bus to attend her classes. Aisha is passionate about social issues and actively participates in student-led initiatives on campus.

Quote: "Every bus ride is a journey towards knowledge."

Preferred brands: AMTS (Ahmedabad Municipal Transport Service), RedBus, Google Maps

Behavior: Aisha is punctual with her bus timings, always carries her study materials with her, and utilizes her commute time to review lecture notes or read academic journals. She is friendly with fellow passengers and occasionally helps classmates with their studies during the commute.

Goals: Aisha's goals include maintaining good academic performance, participating in extracurricular activities, and contributing positively to her community through volunteering and social initiatives.

Pain points: Aisha faces challenges such as overcrowded buses, occasional delays in bus schedules, and balancing her academic workload with her extracurricular commitments.

Personality: Aisha is diligent and focused on her studies, making the most of her daily commute to stay productive. She is also compassionate and empathetic, often lending a helping hand to her peers when needed.

Motivations: Aisha is motivated by her desire to excel academically and make a positive impact on society. She finds inspiration in the pursuit of knowledge and the opportunity to connect with diverse individuals during her daily bus rides.

Persona 2

Name: Aditi Chawla

Photo:



Bio: Aditi is a 28-year-old professional living in Ahmedabads, India. She works as a marketing executive in a multinational company and commutes daily using public transportation. She is tech-savvy and enjoys exploring new apps that make her life easier.

Quote: “The world is a book and those who do not travel read only one page.”

Preference brands: Uber, Ola, Swiggy, Amazon, Instagram, Snapchat

Behavior: Aditi is always on the go, juggling between work, social events, and personal commitments. She relies heavily on her smartphone for tasks like communication,

entertainment, and navigation. She prefers convenient and efficient solutions that save her time and effort.

Goals: Aditi's primary goal is to simplify her daily commute. She wants a hassle-free experience when booking bus tickets, with options for easy payment and real-time updates on bus schedules. Additionally, she seeks affordability and reliability in her transportation choices.

Pain Points: Aditi often faces issues with long queues at bus stops, unpredictable bus schedules, and difficulty finding available seats during peak hours. She dislikes the inconvenience of carrying physical cash for ticket payments and worries about missing important appointments due to transportation delays.

Personality: Extrovert, Sensing, Thinking and Judging

Motivations: Aditi is motivated by the prospect of saving time and reducing stress during her daily commute. She seeks a mobile app that provides seamless booking experiences and reliable transportation services.

Persona 3

Name: Mehul Patel

Photo:



Short bio:

Mehul Patel, a 50-year-old IT professional, has lived in the city for most of his life. He is a technology expert who enjoys traveling and learning about different cultures. Mehul has a hectic life with his profession and family duties but is determined to find time for

travel and adventure whenever possible. He sees bus travel as an opportunity to uncover hidden beauties in his city while reducing his carbon footprint.

Quote:

"Every journey is an opportunity to discover something new, even if it's just around the corner."

Preferable brands:

Smartphone brands like Apple and Samsung are known for their dependability and innovative functionality. Mehul prefers comfortable footwear brands such as Nike and Adidas for his urban adventures. Travel gear from brands such as Herschel or Tumi are known for their durability and style.

Behaviors:

Mehul is an expert at using smartphone apps for navigation, ticket purchasing, and discovering new destinations. He enjoys immersing himself in the local culture and food of the areas he visits, often conducting pre-trip research to discover hidden gastronomic gems. He is aware of his environmental impact and favors eco-friendly modes of transportation, such as the bus, wherever possible.

Goals:

Mehul wants to explore new districts, sites, and attractions in his city that he may have missed. He wants to limit his use of personal vehicles and contribute to sustainable urban transportation projects. He hopes to find moments of relaxation and inspiration amidst his hectic routine by touring his city at an enjoyable pace.

Pain Points:

Concerns regarding the reliability and punctuality of public transportation, particularly during rush hours. Long bus travel needs more facilities and comfort. Need help locating information regarding routes, schedules, and fares for effective trip planning.

Personality:

Mehul is adventurous, knowledgeable about technology, and environmentally sensitive. He appreciates new experiences and seeks ways to explore his environment through travel or urban exploration. Mehul emphasizes efficiency and sustainability and constantly seeks to reduce his negative environmental impact.

Motivations:

He desires to discover hidden gems in his city and improve his relationship with his environment—the potential to decrease his carbon footprint and promote sustainable urban living habits. The sense of accomplishment and excitement comes from venturing outside his comfort zone and starting on new adventures, even in familiar territory.

Persona 4

Name- Khushi Kabra

Photo



Bio: Khushi is a college-going girl who is currently in 3rd year. He lives 10 km away from the university and travels by bus to reach the college. She is really time punctual, so she keeps track of all the bus timing and routes so she can reach college on time. she is a very digitally friendly person, and she believes in booking and paying for the bus ticket only using the bus ticket app. She believes in sustainable development, so she uses public transport and wants to take a step towards a greener earth.

Quote: “The earth is what we all have in common. – Wendell Berry”

Preference brands: ola, uber, Instagram, spotify

Behavior: She likes to be on time, that is she is time punctual. She is very digitally enhanced and wants to have work towards achieving a greener earth.

Goals : wants to graduate and work in the PRL in the future and then later work in some environment department to take a step towards a pollution free environment.

Pain points: she often has to stand in long queues at the bus stop and often has to adjust a lot when there is too much crowd in the bus and she doesn't find a seat to sit and she has to stand and travel.

Personality: introvert, thinking, judging

Motivations: when everyone compliments her time punctuality

Scenario Description:

Scenario 1

Aditi is planning a trip from HL to Paldi using the City Sprint app. She opens the app and enters my phone number. Entering the phone number, she receives a verification code instantly. Once verified, she proceeds to search for her destination. She adds LD as her starting point and Shivananjini as her destination. With a tap, she books her ticket and moves on to payment options. Selecting UPI, she enters her details and confirms the transaction. A moment later, her e-ticket appeared. She is ready for a hassle-free journey with City Sprint.

Scenario 2

Let's say Aditi needs to book a bus ticket using the City Sprint app. After opening the app, she logs in using OTP received on her mobile number. She searches for available buses using a search bar. After selecting a suitable option, Aditi reviews the bus details, fare and estimated travel time. Satisfied with her choice, she proceeds to book her ticket, choosing the payment method as UPI. She makes the payment and the booking is confirmed. Now, Aditi receives a digital ticket with all the necessary information, including the bus number and departure point.

Scenario 3

I want to go from LD to Shivananjini, and I decided to use the "City Sprint" app. I installed the app and opened it. Then I entered my phone number and got a message code. I verified it and got started. After that, I searched for my destination and entered my journey details from LD to Shivananjini. After that, I hit the book button and got payment options. From the given payment options, I chose UPI payment and entered my UPI ID. I completed my transaction successfully and got my ticket details. I enjoyed my journey without any problem.

Scenario 4

I want to travel from Motera to Usmanpura. So, I use my phone number to receive the OTP that I use to log in to the City Sprint app. To find available buses, I easily go to the search bar. I look over the choices and choose one that works well for my schedule. Finding the right bus for my timetable, I carefully consider the bus features, fare, and expected trip time. I continued and chose to pay using UPI when I purchased my ticket. My booking is confirmed as soon as the

money is received. All the required details, including the bus number and the departure place, appear on my screen as a digital ticket. I'm ready to go.

Use case Description:

Use case 1

1. User installs and opens the City Sprint app.
2. App prompts user to register by entering their phone number.
3. User enters their phone number.
4. App sends a verification code for confirmation.
5. User verifies their phone number by entering the code.
6. App completes the registration process and displays the home page.
7. User selects "Book your Pass" to initiate booking a bus ticket.
8. App prompts for journey details such as the starting point and destination.
9. User inputs journey details and confirms by tapping "Book".
10. App directs to the payment page.
11. User chooses a preferred payment option (e.g., card payment, UPI, mobile wallet).
12. App navigates to the relevant payment interface.
13. User enters payment details and confirms the booking.
14. App confirms the transaction and displays the ticket details.

Alternative Courses:

3. If the user mistakenly enters the wrong phone number: 3(1). User doesn't receive the confirmation code.
3(2). User re-enters the phone number
5. If the verification code entered is invalid:
5(1). App displays an error message and offers the option to resend the code.
8. If the entered bus stop is incorrect:
8(1). App notifies the user that the bus stop is not recognized.

Use case 2

1. The user opens the City Sprint app.
2. The system asks for mobile number for registration.
3. The user enters the mobile number.

4. The system sends the OTP to the number and asks user to enter it.
5. The user enters the OTP.
6. The system displays the home screen.
7. The user taps on "Book a Ticket".
8. The system asks the user to enter the to and from locations.
9. The user enters the locations.
10. The system displays available bus options along with their schedules and fares.
11. The user selects a preferred bus option.
12. The system asks the user to choose the number of tickets.
13. The user selects the number of tickets.
14. The system calculates the total fare and displays the payment options.
15. The user selects a payment method.
16. The system redirects to the chosen payment gateway.
17. The user enters payment details and completes the transaction.
18. The system confirms the booking and displays the digital ticket with all relevant details.

Alternative Courses:

5. If the user enters the wrong OTP:
 - 5.1 The system shows 'Incorrect OTP. Failed to Register'
 - 5.2 The system returns to step 2.
9. If the origin or destination location is invalid:
 - 9.1. The system displays an error message and prompts the user to enter valid locations.
 - 9.2. The system returns to step 8.
15. If the payment method fails to process:
 - 15.1. The system notifies the user about the payment failure.
 - 15.2. The user selects an alternative payment method or retries the payment.
 - 15.3. The system returns to step 14.

Use case 3

1. User will install and open the app.
2. App will display welcome message and ask for phone number to register.
3. User will enter the phone number.
4. App will send a verification code.
5. User will enter the verification code.
6. App will verify and complete the registration process and displays the home page.
7. User will hit the "Book your Pass" to book the bus ticket.
8. App will display the next page which consist journey details.
9. User will enter journey details like where he/she wants to go from and after that hit the book button.

10. App will display the payment page.
11. User will select any one payment option like card payment, UPI, mobile wallet from payment page.
12. App will display the relevant page from chosen payment option.
13. User will enter all required payment details and book the ticket.
14. App will display the ticket details after successful transaction.

Alternative Course:

3. If the entered verification code is invalid.
 - 3.1. The app displays error message and displays a message to resend the code.
 - 3.2. App will return to step 4.
9. If entered bus stop is wrong.
 - 9.1. App will display message that bus stop not found.
 - 9.2. App will return to step 8.
13. If the payment details are wrong and transaction fails.
 - 13.1 App will display error message that “transaction fail”.
 - 13.2 App will return to step 13.

Use case 4

1. The user opens the City Sprint app
2. The user has to enter the mobile number to log in to the app
3. The user receives an OTP on the entered number.
4. The user enters the OTP.
5. The user enters his/her name
6. The Home screen is displayed on the screen.
7. The user clicks the search bar at the top to search the buses.
8. The system asks the user the location he/she is at right now or from where she wants to book the ticket.
9. The system asks for the ending destination of the journey.
10. The system displays all the buses available between the given destinations and displays the fare. With the available seats in them
11. The user selects the best bus for his/her.
12. The system asks the number of tickets the user wants to book.
13. The total fare is calculated by the system and displayed with the payment options.

14. The user selects the desired payment option and makes the payment
15. After the payment is completed. A digital pass is displayed on the screen with bus details, to and from destinations, date and number of tickets details.
16. When the journey is completed and user later again wants to book a ticket the previous journey passes are showed in the recently book page and user can directly renew the pass from there without again entering the details.

Alternative courses

4. If the users enter the wrong OTP (i.e., not the one he/she received on his/he mobile number).
 - 4a. a message saying “wrong OTP entered” is displayed
 - 4b. the system is returned back to screen 2
9. if the destination location is invalid
 - 9a. A message saying “the entered location is invalid” is displayed on the screen.
 - 9b. a list of all the destinations is displayed.
14. if the payment is failed
 - 14a. A message saying “ the payment has been declined” is displayed on the screen.
 - 14b. the system goes back to step 13

Chapter 4: Project Features

Figma Link:

<https://www.figma.com/file/ogQrxGcxBbxsJBkDPtuxV7/City-Sprint-Mobile-App?type=design&node-id=0-1&mode=design&t=VqIbUxaw4aVuzuZy-0>

Google Drive Link:

https://drive.google.com/drive/folders/1rKsR5hDIW_1SP13qF2TSi7O5qipMQEKe?usp=sharing

1. Welcome Page: Entering Mobile Number



The screenshot shows a mobile app interface with a dark blue background. At the top is the City Sprint logo, which consists of a white truck icon with motion lines and the text 'CITY SPRINT' below it. Below the logo, the word 'WELCOME' is centered in white. This is followed by the instruction 'Enter your mobile number' in a larger white font, and a smaller line of text below it: 'we will send you a confirmation code'. There is a white input field for the phone number, preceded by a small white box containing '+91'. Below the input field is a white button with the word 'NEXT' in black. At the bottom of the screen is a standard numeric keypad with white buttons on a light gray background. The keypad includes digits 1-9, 0, and symbols for '+ * #', a backspace arrow, and a clear 'X' icon.

a. Functionality:

The primary goal of the Welcome page is to start the users welcoming process on the app. Here, users are asked to enter their mobile number in order to proceed with the registration process for using the City Sprint app. The mobile number is collected as part of the user's personal information to maintain a record of app users. We will also share the booked ticket details through SMS.

b. Design Principles Utilized/Implemented:

Prevent Errors: The keypad uses a standard phone keypad layout. The keypad also doesn't have the option to opt for alphabets which prevents users from filling in the information with alphabets.

Offer Informative Feedback: Users receive feedback after entering their mobile number, such as indicating whether the number is valid or not.

Visibility and Affordance: The input field for the mobile number is clearly visible and easily accessible.

c. Interaction Style:

Form Fill-in: Users will interact by filling in a form field with their mobile number. - Why form fill-in?

Form Fill-in allows for direct input of the information from the users. This makes it straightforward for them to enter their mobile number. The design makes sure that the form field is nicely displayed with clear labels to guide users on what information is needed.

d. Hierarchical Task Analysis:

To enter Mobile Number

- Identify the field for entering the mobile number.
- Input the mobile number.
- Move to the next step.

2. Verification Page: Receiving OTP and entering it

The image shows a mobile app verification screen for City Sprint. At the top is the City Sprint logo, which consists of a white truck icon with motion lines above the text "CITY SPRINT". Below the logo, the word "VERIFICATION" is centered. The main heading "We sent you an SMS Code" is displayed in a large, bold font. Underneath, a placeholder for a phone number is shown as "ON +91 90284 xxxxx". There are four white rectangular input boxes for the OTP code. Below these boxes is a white button with the text "NEXT". At the bottom of the dark blue section, there is a link that says "Did not receive a code? Resend code". The bottom half of the screen features a numeric keypad with buttons for digits 1-9, 0, and symbols for backspace, asterisk, and hash. Each digit button also includes its corresponding letters (e.g., "2 ABC", "3 DEF").

a. Functionality:

The Verification page's purpose is to verify the user's identity through a one-time password (OTP) sent to the entered mobile number. On successful verification, users are registered and allowed access to various other features of the app.

b. Design Principles Utilized/Implemented:

Offer Informative Feedback: Users receive immediate feedback after entering the OT. The entering of OTP indicates whether the verification was successful or not.

Prevent Errors: The numeric keypad helps users avoid errors in entering the invalid characters in OTP as it limits the input to numeric characters only.

Support Internal Locus of Control: Users get clear instructions guiding them through each step to feel that he/she is in control of the verification process.

c. Interaction Style:

Form Fill-in: Users interact by entering the OTP received on their mobile number. - Why form fill-in?

Similar to the Welcome page, the Form Fill-in interaction style is used here for entering the OTP. Design includes clear labeling of the OTP input field and providing feedback on the verification status.

d. Hierarchical Task Analysis:

1. To receive OTP

- Check the mobile devices for the OTP message. 2. To enter OTP

- Input the received OTP into the given field. - Submit the OTP for verification.

3. To Verify

- Receive feedback on the verification status. If successful, proceed to registration

- If unsuccessful, attempt verification again.

3. Register Page: Entering name and getting Started

A mobile app registration screen for 'CITY SPRINT'. The background is dark blue. At the top is a white logo of a truck with motion lines, followed by the text 'CITY SPRINT' in white. Below that is the word 'REGISTER' in white, and then 'Get started' in a larger white font. In the center is a white circular placeholder for a profile picture with a simple person icon. Below the circle are two white input fields. The first field contains a person icon and the text 'Aditi Chawla'. The second field contains a location pin icon and the text 'Ahmedabad, India'. At the bottom is a white button with the text 'DONE' in black.

a. Functionality:

The Register page helps in completing the user registration process by asking users to enter their name. Users can proceed to access the main features of the City Sprint app on entering their name. In addition to entering their name, users have the option to add a profile picture if they wish to. The profile picture personalizes the user experience and adds a visual element to their profile.

b. Design Principles Utilized/Implemented:

Reduce Short-Term Memory Load: The registration process is kept simple and straightforward. It helps in minimizing cognitive load on users.

Visibility and Affordance: The input field for entering the name is prominently displayed and easily identifiable.

c. Interaction Style:

Form Fill-in: Users interact by entering their name into the provided input field. - Why form fill-in?

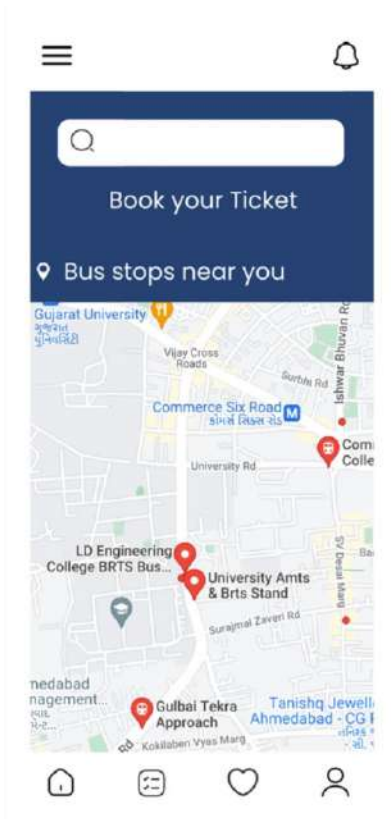
Consistent with the previous pages, the Form Fill-in interaction style is used for entering user information.

Design includes clear labeling of the name input field and provides visual hints to indicate where users should enter their information.

d. Hierarchical Task Analysis: To enter name

- Identify the input field for entering the name.
- Input the name.
- Proceed to access the main features of the app.

4. Home Screen



a. Functionality:

The Home Screen is the primary landing page for users after opening the app. Its primary functionality is to help users book their ticket. The app detects the current location of the user and provides a map view of the bus stops on the home screen itself. There is a search bar on the top of the screen for users to search the bus stops. The Home Screen also contains Menu and Notification icon on the top. Users can navigate between different screens using the bottom navigation bar.

b. Implementation Photos:Design Principles:

- **Strive for Consistency:** The Home Screen, the Recently Booked Screen and the Booking Screens have consistency in colors as well as the use of the Map. Users can directly choose the bus stops by clicking on the map on the desired bus stop.
- **Support Internal Locus of Control:** This design principle is achieved with the use of the Map feature where user is in charge of where they want to go and also, they can visually see the nearby bus stops and decide the destination optimally, supporting their internal locus of control. The users can zoom in and zoom out the Map providing more control.
- **Affordance:** The Home Page uses icon navigation to navigate between screens and also it mentions sub headings such as 'Book Your Ticket' and 'Bus stops near you' which allow users to know how to interact with it.

c. Interaction Style:

- **Direct Manipulation:** The interaction style of Direct Manipulation is used in the Home Screen in the Map feature, where users can observe and select the desired bus stops directly by interacting with the map same as Google Maps, including the zoom in and out feature.
- **Menu Selection:** Menu Selection is used for navigation between different screens.

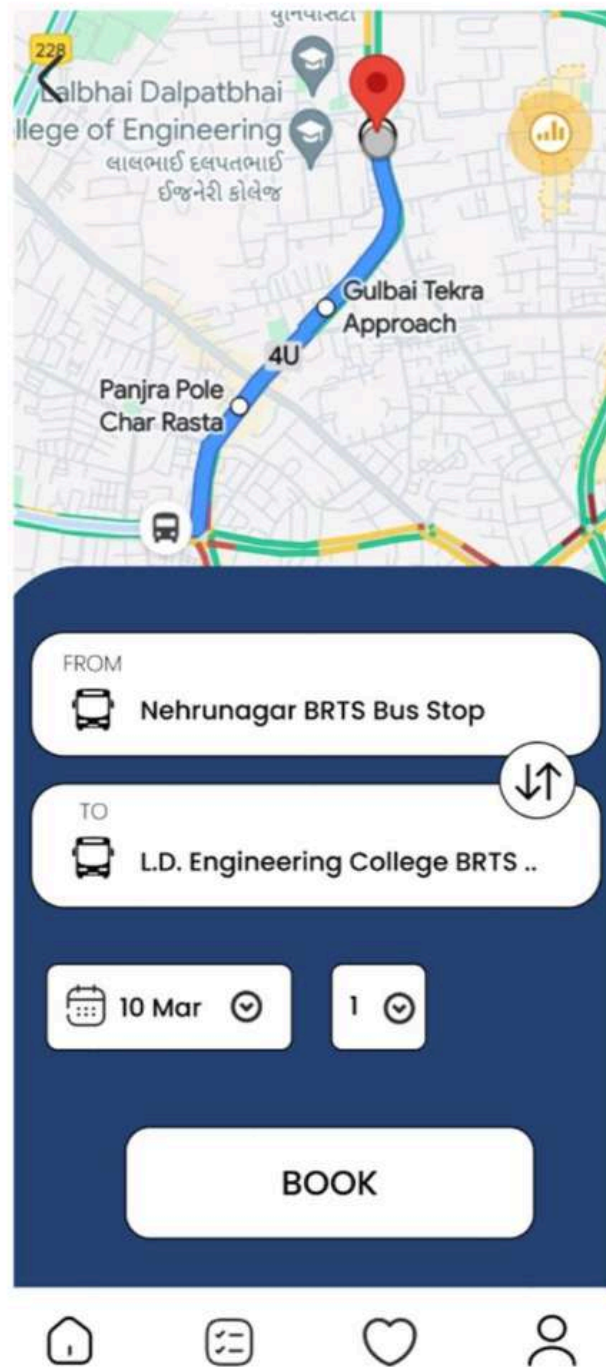
d. Hierarchical Task Analysis:

Goal: Direct to Booking screen to book a ticket

Subtasks:

- View nearby bus stops on the map.
- Search for a specific bus stop using search bar.
- Access functionalities like Menu and Notifications.
- Navigate to different screens using the bottom navigation bar.

5. Booking Screen



Functionality:

The Booking Screen is used to book tickets for the user. The user can select the boarding and destination point from the map or can input the values using texts, then select the date which will

be default as today. Then select number of tickets and click on 'Book' button. Then they will be directed to the payment screen.

Implementation Photo:Design Principles:

- Prevent Errors: The users will not be able to select a date which is past. Constraints are used in the date as well as number of tickets selection to prevent any unintentional errors. Calendar is used to select date and bullet selection is used for number of tickets.
- Reduce Short Term Memory Load: This Design Principle is implemented by using the Map and showing the users the route of the path, they have selected and all the bus stops on the way so they can make a confident choice of the destination after reviewing all the available options. The user does not need to remember what bus stop is on the route or what comes before or later.
- Permit Easy Reversal of Actions: This Design Principle is implemented where user can change the value of any of the inputs before clicking the 'Book' button and also there is a button to swap 'To' and 'From' inputs which provides ease in booking Tickets.

Interaction Style:

- Form Fill-in: The Interaction style of form fill-in is used in the Booking Screen where users are required to fill the 'From' and 'To' fields to book the tickets.
- Menu Selection: Menu Selection is used to select the date from the calendar and also the number of tickets to prevent any textual errors.

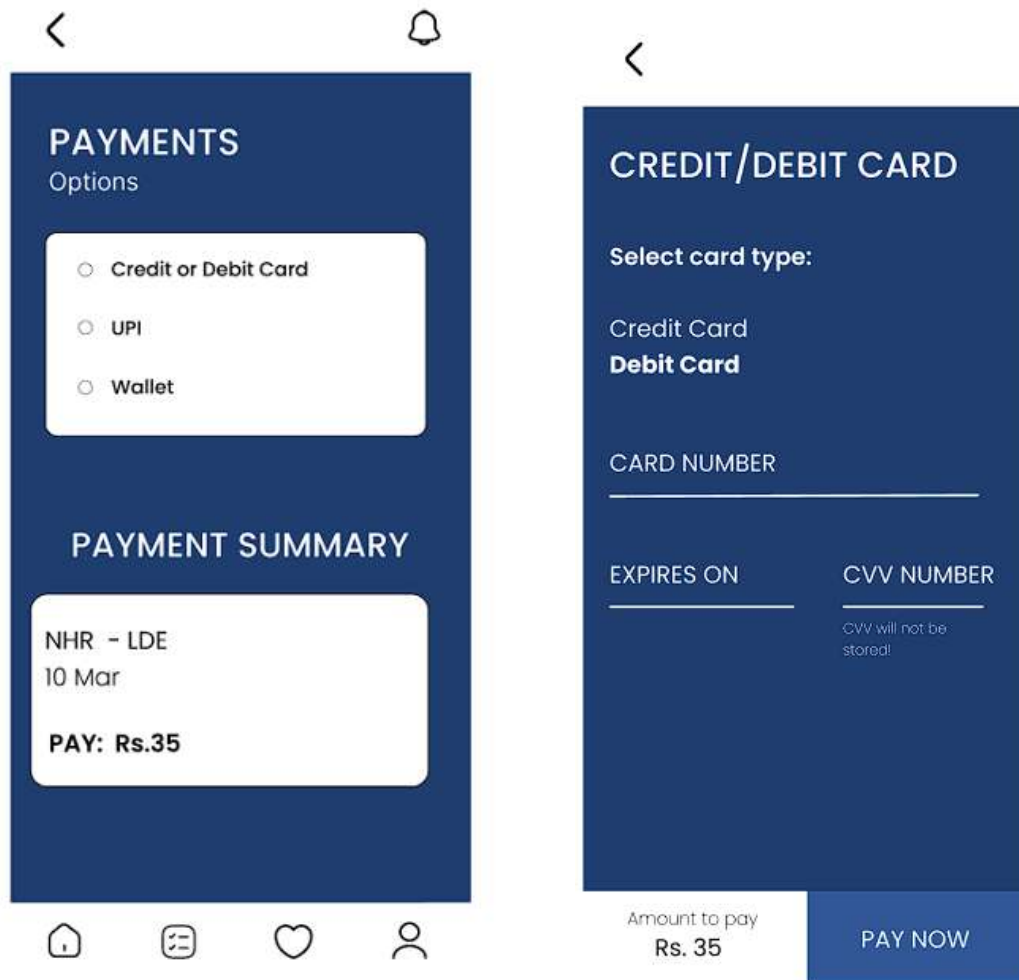
Hierarchical Task Analysis:

Goal: To book a ticket

Subtasks:

- Input values in 'To' and 'From' fields.
- Select date and number of tickets.
- Click on 'Book' button to proceed to payment screen.
- Navigate to different screens using the bottom navigation bar.s

6. Payment screens



Functionality (what you want to achieve in the mentioned screen):

- Payments are processed faster and more accurately.
- To decrease errors and duplicate payments.
- Multiple Payment Options: Credit/debit cards, net banking, wallets, and UPI are all supported to meet the needs of different users.
- Secure Transactions: To assure transaction data security.
- Real-Time Payment Verification: Payments are verified instantly, allowing you to confirm your booking without delay.
- Error Handling: If a transaction fails, clear the error messages and troubleshoot the issue.
- Transaction Summary: A comprehensive summary of the ticket price, taxes, and any additional fees before payment is completed.

Design Principles:

Consistency: For ease of use, ensure that the payment page uses the same design patterns and conventions as the rest of the application.

Universal Usability: Design options for all users, regardless of ability or disability, such as text, huge buttons, and clear directions.

Informative Feedback: Provide users with immediate and specific feedback on their actions, such as successful input validation or error notifications.

Reduced Short-Term Memory Load: By providing all required information on the payment page, users will need to remember less.

Error Prevention: Implement constraints to prevent invalid data entering and make suggestions.

Visibility: Make all important information and interaction features prominently displayed and easily accessible.

Affordance: Design elements so that their function is obvious, such as using button shapes that imply, they can be clicked.

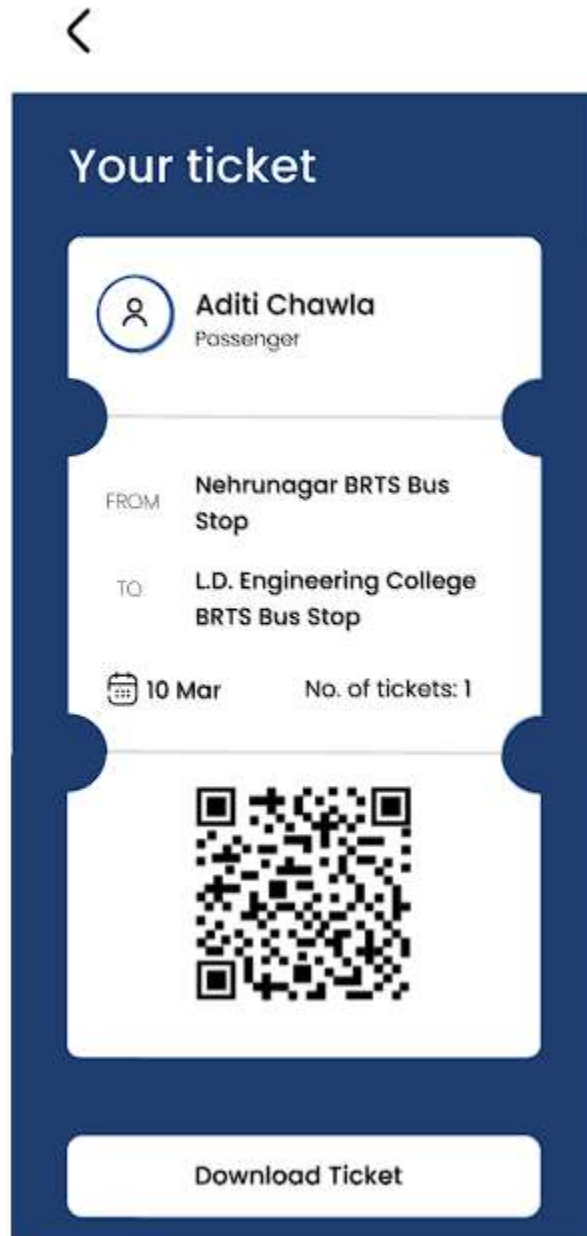
Details of Interaction Style, if applicable:

Instructing: Users must enter payment information and instructions, such as credit card numbers, which the system must correctly process.

Conversing: The system will provide feedback and direction via messages and notifications, such as confirming successful transactions or explaining issues.

Exploring: Before making a selection, users may wish to look into other payment methods.

7. Ticket Screen



a. Functionality

The main functionality of this screen is to see the details of the trip that the user has booked using our City Sprint app. The screen shows the name of the passenger who booked the ticket so that it can only be used by that passenger. The name on the ticket should match the name of the

passenger on his/her Aadhar card or any other official document. This checks that every person buys his/her own tickets and doesn't travel without buying a ticket. The other details that are on this screen are the bus stop from which the passenger has booked the ticket the bus stop till which the ticket is valid, and the date of the travel. The ticket is only valid between these two stations and only on that day, which is mentioned on the pass, and if the passenger travels beyond the destination stop or on some other date that is not mentioned on the pass, he/she is obliged to pay the fine. The screen also shows the number of tickets, which means that if 2 people travel together, they can book the ticket together.

There is a QR code on the pass which is scanned by the bus conductor in order to check if the ticket is valid and also get the passenger count of the bus.

Further, there is also a download your ticket option, which allows the user to download the ticket with all the details that are mentioned above. This helps when there is no active internet connection.

b. Design Principles

Consistency- the screen of "your pass" is consistent with the colour contrast and design. It makes things easy to learn for users. The colour palette and fonts of the screen makes the information about the trip clearly visible and accessible to the user. The screen doesn't show any additional extra information which makes it easy for the users to see all the important information easily.

Prevent errors- The screen of "your pass" prevents users from making errors. It shows the bus stop names from where and till which stop the ticket is valid, this prevents user from travelling beyond this range and hence prevents them from paying a fine. The date of travelling is also mentioned on the pass which makes users aware of the date only on which the ticket is applicable.

c. Universal usability

Learnability: The screen of "your pass" is easy to learn for first-time users using the City Sprint app for the first time. It has all the details and information related to the trip. It has the 'to and from' bus stop names and dates of travel, which lets the user know from where and till where the ticket is valid. The user makes a lower error rate by rechecking all such details.

Utility: The screen of "your pass" has a good utility, it provides all the information that the user needs to know from this page. It has all the functions. That will enable users to carry out tasks like downloading offline tickets for a safer side when there is no active internet connection.

d. Hierarchical task analysis

To view and download ticket

- View the ticket on the page and check the detail of the journey
- Tap the download ticket option displayed at the bottom to download the ticket.
- Move to the next step.

8. Recently Booked screen



a. Functionality

The functionality of this screen is to view all the recent trips that were booked and completed by the user. It shows the details of the previous trips with the option to renew the ticket if the user wants to travel again on the same route; this allows the user to save time and effort in booking a new ticket. The details that are displayed on the screen are the bus stop names between which the user has travelled before and the fare of the journey. The users can renew a previous pass if they

want to travel on the same route. They can save time in entering the details again instead, they directly come to the the step of making the payment and selecting the number of tickets they want to book again for a specific route that they have travelled on before.

b. Design Principles

Permit Easy Reversal of Actions

If the users come to the recently booked page and don't find the trip they were looking for or mistakenly came to this page. They can easily go back to the book you ticket page by clicking the back arrow on the top left corner. They can also go to any of the four options available at the bottom of the screen, ie; profile, favourite routes, home and book ticket page. This feature relieves the anxiety of the user when he or she doesn't want to renew one of their earlier passes and makes user comfortable as the user knows that their action can be reverted back.

Consistency

The "recently booked" screen is consistent with the colour contrast and fonts of the screen. the new trips that the user travels are added to this page, and later the user can renew the pass from this list. The details of the trips are very clearly distinguished from one another with the help of boxes and details of each trips are displayed clearly with contrasting colour and clear fonts.

c. Universal usability

Utility: The "recently booked" screen has great utility for users. The page allows users to carry out the process of selecting and renewing the pass of the trip they have previously completed. The list of the recently completed trips mentions the trip details and the price of the ticket; this helps the user to be sure if this is the trip they want to renew their pass for. Page Provide an appropriate set of renew your pass function that will enable users to carry out all their tasks.

Efficiency: After the user is familiarised with how to book the ticket. The efficiency of recently booked tickets page allows users to renew their pass. This page allows user to sustain high level of productivity as it helps user to save time by directly renewing their pass without entring the to and from bus stops.

d. Interaction Style

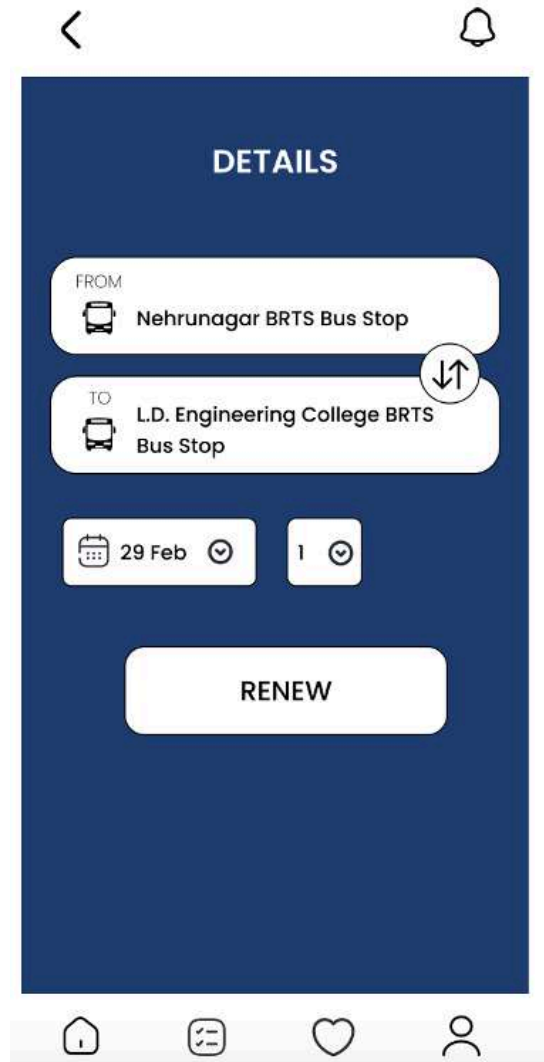
The interaction style used here is “Menu Selection”. The users have all the recently completed trips, he/she read the list of the completed trips and select the appropriate trip they want to travel again.

The user gets the clear structure for decision making as all possible choices are present at one time.

e. Hierarchical task analysis

1. View the recently booked trips
 - Renew the pass for the same route if the user is travelling again on the same routes.
2. Go back to any of the four pages if the user doesn't want to renew pass of any of the recently completed trip
 - Go to home.
 - Go to favourites routes list.
 - Go to profile.
 - Go to book a ticket page.

9. Renew Pass Details screen



a. Functionality

The main functionality of this screen is to give the details of the journey that the user has renewed using the “renew pass “ screen. In this, the user can change the date and number of tickets to be renewed. The user can also change the bus stops from where and to where he/she wants to travel. This is a quick way to book a new ticket instead of starting it from the home page and manually selecting all the details.

b. Design principles

Design Dialogues to Yield Closure

The sequence of actions to be done is correctly mentioned on the screen. from selecting bus stops to where the user wants to travel ('to' bus stop), selecting the date of travel and number of tickets. The order in which they are assembled on the screen makes it easier for the user to know how actions should be organised and the pass to be renewed.

Prevent errors

The details screen prevents users from making any error as it shows the details of the trip, like the bus stops, date of journey and the number of tickets, preventing users from renewing the wrong pass. In this page the users is not only prevented from making the errors but also to make it correct by changing the details of the new pass.

c. Interaction style

Form filling: The Booking Screen uses the Interaction form filling style, requiring users to fill out the "From" and "To" sections to reserve tickets.

Menu selection: To avoid any textual errors, the menu selection is utilised to choose the day of the journey from the calendar and the number of tickets.

d. Hierarchical task analysis

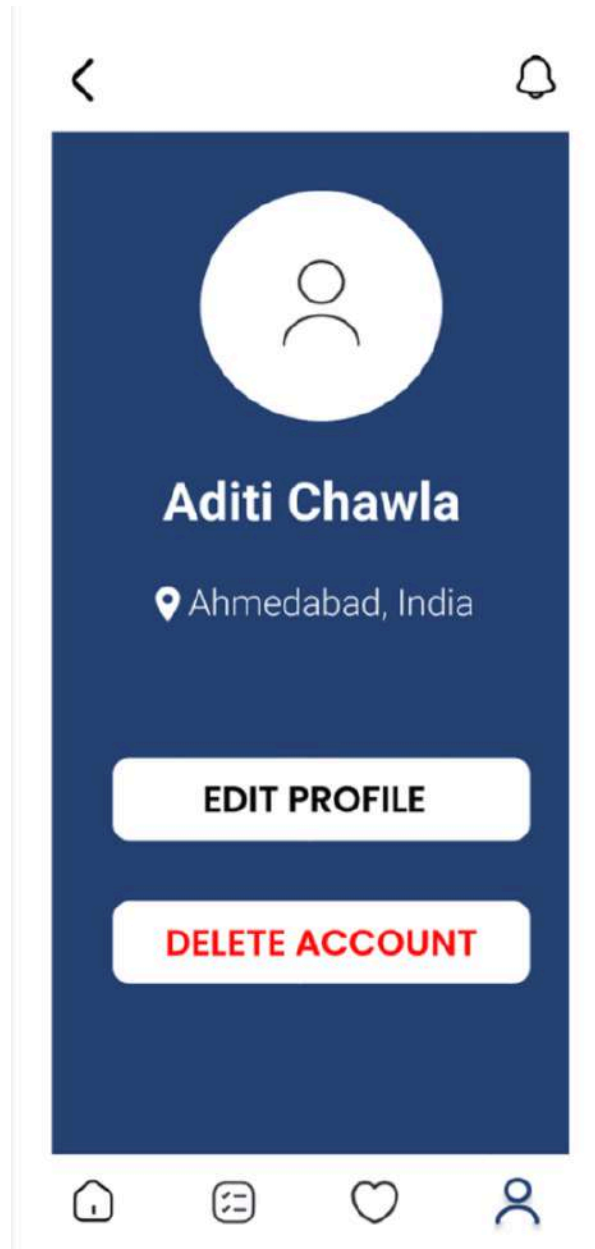
Goal: To renew pass

Subtasks

- Change the values 'to' and 'from' fields if the user wants to travel between some other stops.
- Select the date of travelling and the number of tickets.

Click the renew button to renew the pass

10. Profile screen

**Functionality:**

The Profile Screen can be reached from the profile icon on the bottom right-hand side of the layout. Its primary functionality is to help users view and edit profile. Additionally, it can also help user permanently delete account. The Profile Screen also contains Notification icon on the top. Users can navigate using bottom navigation bar.

Design Principles:

- Strive for Consistency: The Home Screen, the List Screen and the Profile Screen have consistency in color, buttons and font.

- **Visibility:** The Profile Page makes sure to show all the available functions on the screen that users can perform. There are 2 such functions namely 'Edit Profile' and 'Delete Account'
- **Color:** The Profile Page shows the button of 'Delete Account' in red color which draws user attention and also, conventionally it's shown red across other products as well.

Interaction Style:

- **Menu Selection:** Menu Selection is used for navigation between different screens. It is also used in the screen for editing profile or deleting account. On selecting the either, the user will be redirected to the respective screen.

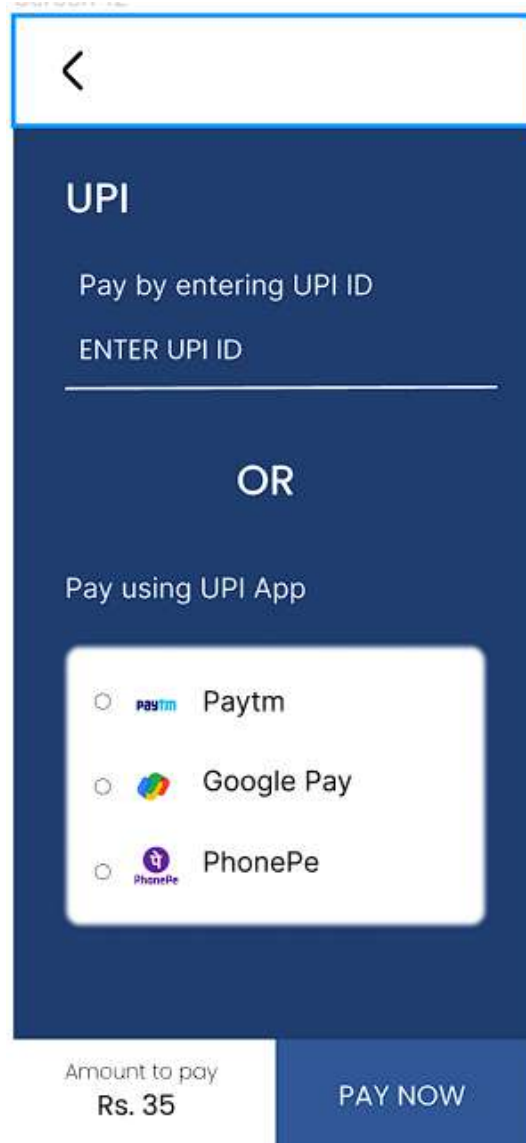
Hierarchical Task Analysis:

Goal: To View and Edit Profile or Delete Account

Subtasks:

- View your profile details.
- Edit profile details.
- Permanently delete account.

11. UPI Payment screen



The image shows a mobile app interface for UPI payment. At the top is a white header bar with a back arrow. Below it is a dark blue section with the text 'UPI' in white. Underneath, it says 'Pay by entering UPI ID' and 'ENTER UPI ID' with a white underline. A white 'OR' is centered below. Then, it says 'Pay using UPI App'. A white rounded rectangle contains three radio button options: 'Paytm' with its logo, 'Google Pay' with its logo, and 'PhonePe' with its logo. At the bottom, a white box on the left shows 'Amount to pay Rs. 35', and a dark blue button on the right says 'PAY NOW' in white.

Functionality:

After finishing ticket booking, user selects UPI payment option. The user provides the UPI ID which is directly linked with their bank account. Then app will send a payment request to user's UPI app. After receiving a notification user confirms and complete the process. When the transaction completes, the app (City Sprint) will get confirmation from the UPI app. The app will confirm it and will generate the ticket.

Design Principles:

Consistency: The UPI payment page is consistent with the general design of the ticket booking app, including common UI elements and interactions to keep customers from being confused.

Constraints: The UPI payment page implements constraints to avoid incorrect actions, such as hiding the 'pay' button until all essential fields have been correctly completed.

Visibility: The UPI payment page displays all relevant options and information, which is useful for users. There are bullet buttons in UPI app option. Users can easily navigate through the page.

Affordance: The elements on the UPI payment page are designed to suggest their functioning, such as UPI ID input fields and payment submission buttons.

Prevent error: The UPI payment page uses auto-formatting and validation checks to reduce the possibility of user error, like for invalid UPI Id.

Details of Interaction Style, if applicable:

Menu selection: The UPI payment page provides menu options for choosing UPI apps installed on the device.

Form fill-in: Users fill in a form by entering their UPI ID. This approach is basic and takes the customer through the payment procedure step by step.

12. Favourites screen



a. Functionality

The main function of this screen is to favourite the route that the user uses the most. It saves the time of the user to not enter the to and from destinations and as it directly shows the calculated fare the user can renew the pass with one click. User can manually show his/her favourite route and add it to the favourites list.

b. Design principles/ usability goals

Utility

The screen provides the set of functions to renew the pass from the favourites list. This enables the user to renew the pass for the trip in the favourites list. And if the user doesn't find the route they are looking for in the list so they can start booking from the home page

Consistency

The screen is consistent with the fonts and colour scheme of the page. It also uses the similar area codes that is short form of the name of the areas, it makes it easier for the user to renew the pass.

c. Hierarchical Task Analysis:

Goal: to renew the pass from favourites list

Subtasks

- Search for the route the user is looking for
- Renew the pass
- Go back to the home page

13. Bus tracking



a. Functionality

The main purpose of this screen is to track the bus. The user has to enter the to and from locations and the system which bus stop the bus has reached. This helps the user to calculate the approximate time it will take the bus to reach the destination.

b. Design principles/ usability goals

Consistency

The page is consistent with the size and colour of the fonts. It is also consistent with the the area names, the same area codes are used as it was earlier used in the app.

Utility

The screen provides a good utility as it allows the user to track the bus between 2 particular bus stops. They can select the bus stops between which they want to track the bus.

c. Hierarchical Task Analysis:

Goal : to track the bus between 2 bus stops

Subtasks

- Enter the starting bus stop name
- Enter the end bus stop name

Chapter 5: Difficulties Encountered and Resolved

Challenge: The team struggled to create prototypes in Figma due to a lack of experience. Initially, the process of connecting screens and implementing dynamic interactions proved difficult.

Resolution: This challenge was overcome by using tutorial resources, conducting trial-and-error experiments, and taking advantage of Figma's prototyping capabilities. Over time, skill was gained in screen sequencing and illustrating dynamic behaviors, which improved understanding of user flows.

Challenge: Ensuring visual consistency across displays, including spacing, typefaces, and colors, took a lot of work because various team members were in charge of different screens.

Resolution: To maintain a consistent user experience, a defined collection of design elements, including colors, typefaces, and spacing rules, was developed. This required iterative revision of individual designs to comply with the preset style.

Challenge: Maintaining constant padding, margins, and whitespace across screens proved difficult, resulting in overlapping items or misalignment.

Resolution: Grid systems and design principles helped with this difficulty by assuring equal spacing and alignment. Additionally, user feedback and repeated testing helped reveal layout concerns, allowing the interface to be refined for enhanced clarity and navigation.

Challenge: Designing a clear and intuitive navigation structure to help users find essential information and functionality within the app presented a considerable challenge.

Resolution: User research and usability testing were conducted to acquire insight into user preferences and habits. The navigation system was then iteratively developed, focusing on essential features and maintaining a logical information hierarchy. Implementing intuitive navigation patterns, such as bottom navigation bars or clear menu structures, helped improve the overall user experience.

Chapter 6: Real Life Implementation Perspectives

1. Technical problems and proposed solutions:

Scalability: As the number of application users increases, the system may encounter problems with booking, payments, and queries.

Solution: Create an effective backend architecture of the system that can be grown dynamically by adding more servers or utilizing cloud-based solutions.

Payment failure: Payment gateways may fail due to network issues or other reasons.

Solution: Implement retry mechanisms to handle failed transactions.

User experience: Users want a seamless experience of the application. Any glitches or slow response times can be reasons for user dissatisfaction.

Solution: Improve frontend performance and ensure seamless navigation.

2. Security and Privacy concerns:

Data Privacy: Keep user data like personal information and payment details secure against unauthorized access. Implement encryption, secure APIs, and follow data protection requirements.

Authentication: Ensure secure login mechanism and limit access to sensitive features.

Payment security: Secure payment gateways, prevent fraud, and validate transactions.

Data breaches: Regularly audit security processes, conduct vulnerability assessments, and prepare incident response plans.

User tracking: Maintain transparency regarding data collection and usage. Collect user consent for tracking and analytics.

3. Rules and regulation requirement:

Payment Regulations: To protect user payment data, follow payment industry standards.

Consumer protection laws: Follow consumer rights laws and regulations related to refund, cancellation and terms of services.

Taxation: Understand the tax implications of online transactions and follow local tax regulations.

Accessibility: Make sure that the app satisfies accessibility guidelines for people with impairments.

Chapter 7 : References

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Chapter 8: Project Video Link and Questionnaire

Video Link:

https://drive.google.com/file/d/1OkIc72yaW_Ne0Z4hXR1OBOaqS1ZW05PC/view?usp=drivesdk

PPT Link: https://www.canva.com/design/DAGAtuGJjPs/LA2_fgY0LkltuhCKCxFjIg/edit

Questionnaire:

(a) Background and past experience of user

1. Age Range: What is your age range?

- ☐ Under 18
- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65+

2. Occupation: Tell me about your current work?

- ☐ Student
- ☐ Employed
- ☐ Self-employed
- ☐ Unemployed
- ☐ Retired
- ☐ Other (please specify)

3. How are you able to use public transportation in your city?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Rarely
- ☐ Never

4. Which mode of public transportation do you use most often?(Select all that apply)

- ☐ Bus
- ☐ Train
- ☐ Tram

- ☐ Subway
- ☐ Other (please specify)

5. Can you recall a time when you used a mobile device for bus ticket booking?

- ☐ Yes
- ☐ No

6. When was the last time you downloaded a new app?

- ☐ Recently
- ☐ Long back

(b) What the user wants in the product

1. What bus app is the most vital feature to you?(Select all that apply)

- ☐ Interactive bus schedules and live departure times in real time
- ☐ Seat selection
- ☐ Payment options
- ☐ Route details and maps
- ☐ Notifications for bus arrivals
- ☐ Other (please specify)

2. What alterations would you like to see in the procedure of bus booking apps?

3. Would you like it if the app can also book plane tickets for multiple cities or destinations?

- ☐ Yes
- ☐ No

(c) User rating on at-least 5 features of project

Please rate the following features on a scale of 1 to 5, where 1 is not important and 5 is very important.

1. Real-time bus schedules and arrival times
2. Seat selection
3. Payment options
4. Route details and maps
5. Notifications for bus arrivals