



CSE519 - Human Computer Interaction

Project Report - 4

Section 1

Date of Submission: 6th April 2022

Group 20: **Bug Smashers**

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2022 Winter Semester

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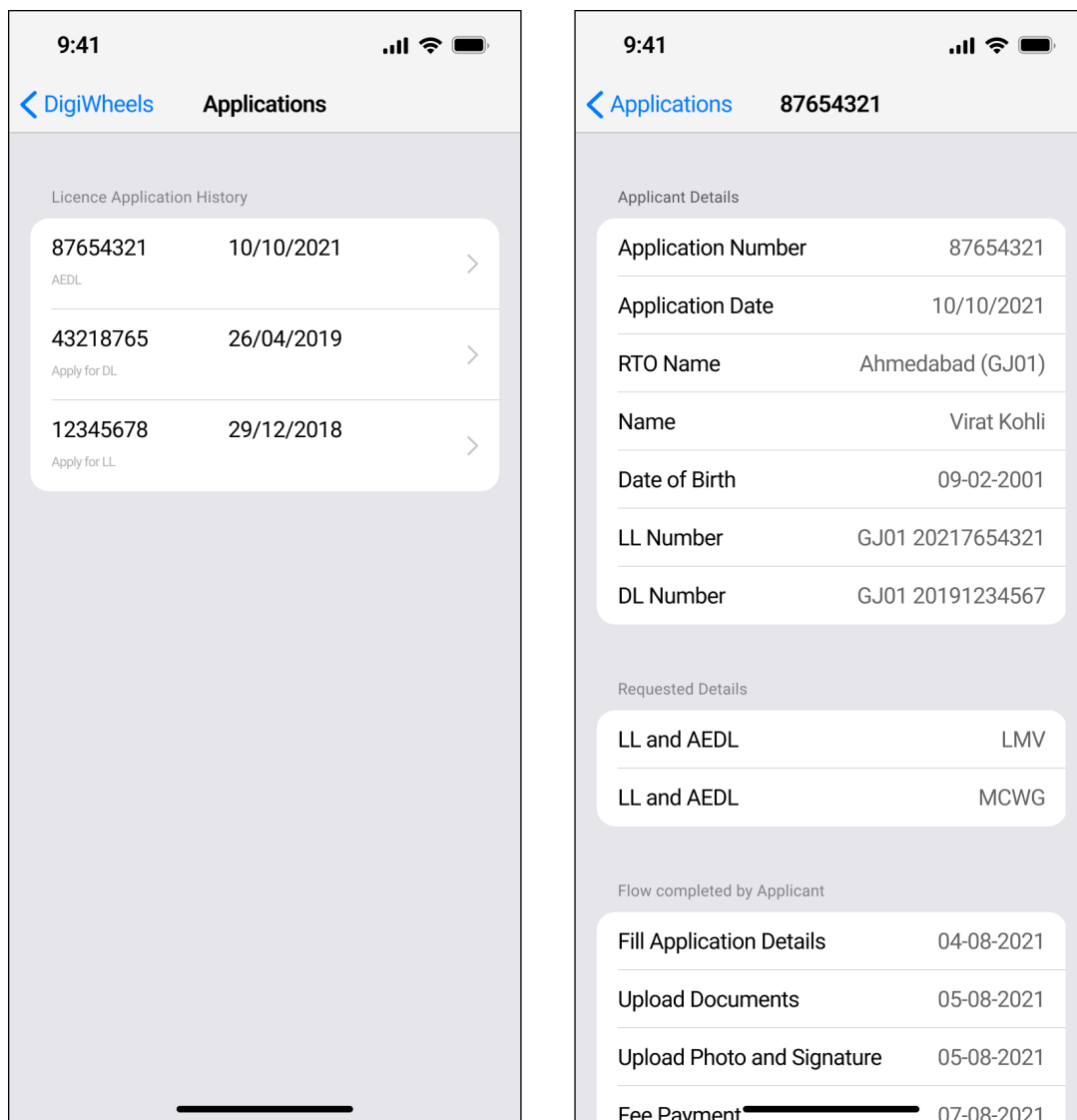
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1. Track Application

Functionality

This option will allow users to track the application status from filling out the application form to till the dispatch date and time for the driving licence. To access this option, users will only need to enter the application number. I.e. If any user has uploaded all the documents and all other required information is filled then the next time when he logs into the application he will be redirected to the payment option and then he will be asked to book the slot for the driving test. So, in short, the user can continue doing his procedure where he left the previous time using this track application option.

Photos of the implementation



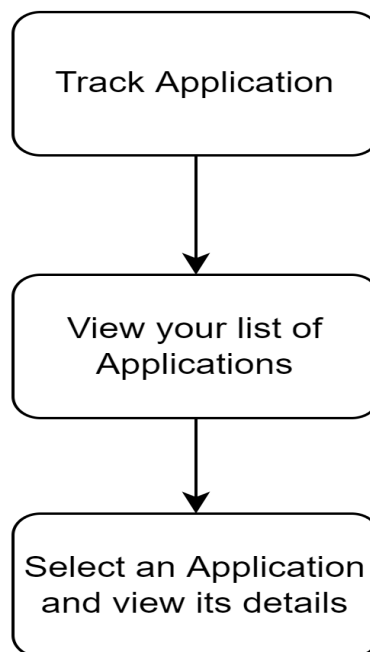
Universal Usability

- **Diverse Cognitive and Perceptual Abilities:** If the user has already filled some part of the application in the “DigiWheels” application then the next time when user Login into the application user can see his past filled details and can continue filling the details where he left last time. It will help users to save time and it will reduce the mental load of the user to not fill every single detail every time.

Design Principles

- **Consistency**
 - All the information is provided in a similar type of rectangle boxes with the same font style and font size for better consistency
 - Similar types of data like application details, requested details, flow completed by the user are kept in rectangular shape with curved edges and heading of that field are also provided in the light grey colour in same font size
- **Reduce Short Term Memory Load**
 - User can continue to fill the application where he left out filling last time so that it will make it easier for a user to not fill every detail every single time and will help to reduce the memory load of filling the application details.

Hierarchical Task Analysis

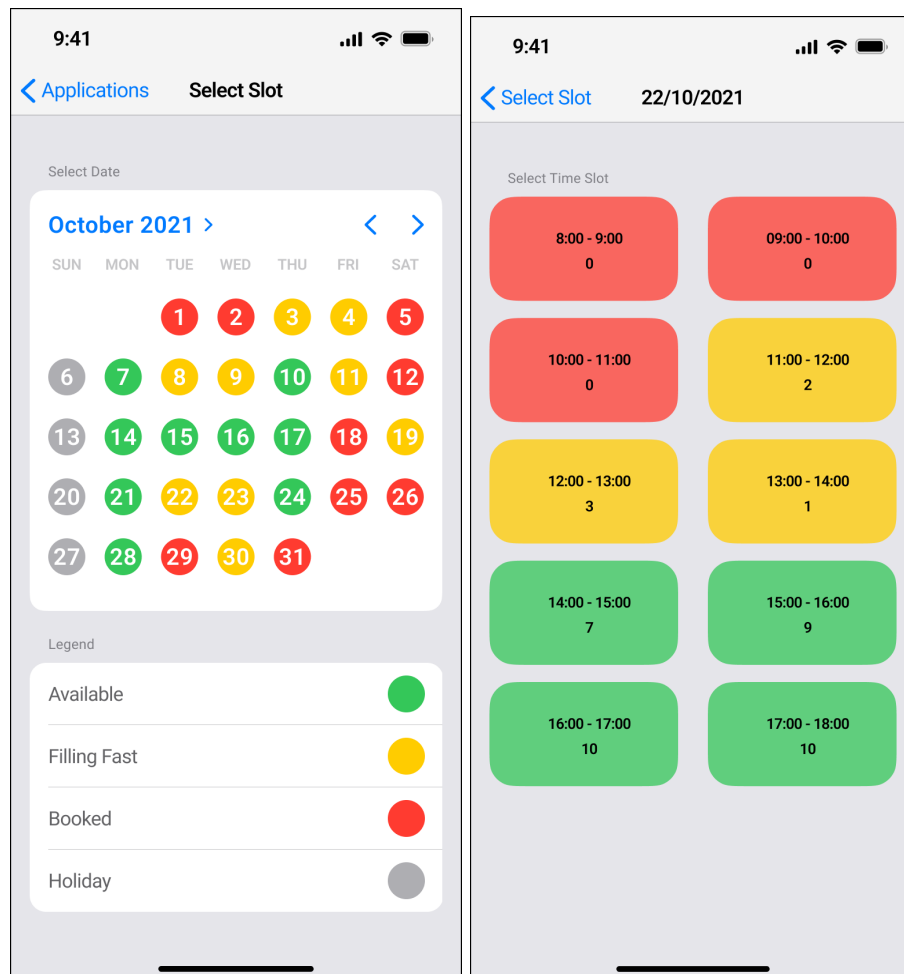


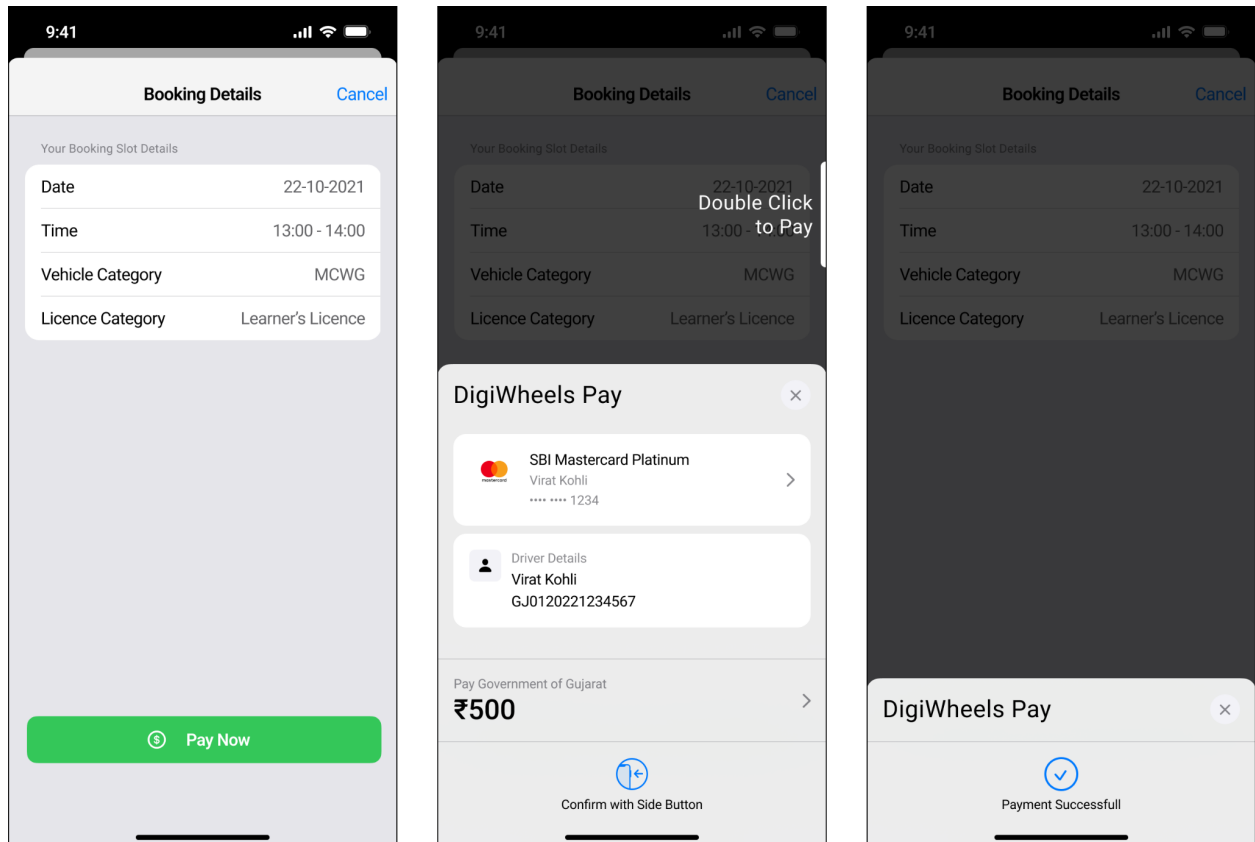
2. Book slot for driving test

Functionality

Users can book the slot for a 2-wheeler, 3-wheeler, or 4-wheeler driving test. Before choosing the slot booking option users will be required to fill in the details like name, age, gender, date of birth, etc. and also required to upload the government authorised documents like aadhar card or pan card or passport details. After that, in the book slot option, different dates will be displayed in different colours. The dates on which RTO have holidays those dates will be displayed in yellow colour, while if there is no slot available for a particular day that will be displayed in red colour and other remaining dates will be displayed in green colour from which user can choose a date and then he will be displayed the available slots for that chosen date. After filling in the given details, the user can book the slot for the driving test.

Photos of the implementation





Universal Usability

- **Diverse Cognitive and Perceptual Abilities:** Different types of colour coding are given on each date so that the user easily and speedily makes the decision by differentiating between different dates.
- **Cultural and International Diversity:** Here different colour options are provided for a better understanding of the slot booking page so that users can easily differentiate the dates between available slot dates, booked dates, holidays and the fast filling dates of the slot booking.

Design Principles

Permit Easy Reversal of Actions - If the user by mistake clicks on the pay now option then also he can click on the cancel option to cancel the transaction for payment. So, it will provide the option of easy reversal to cancel the payment.

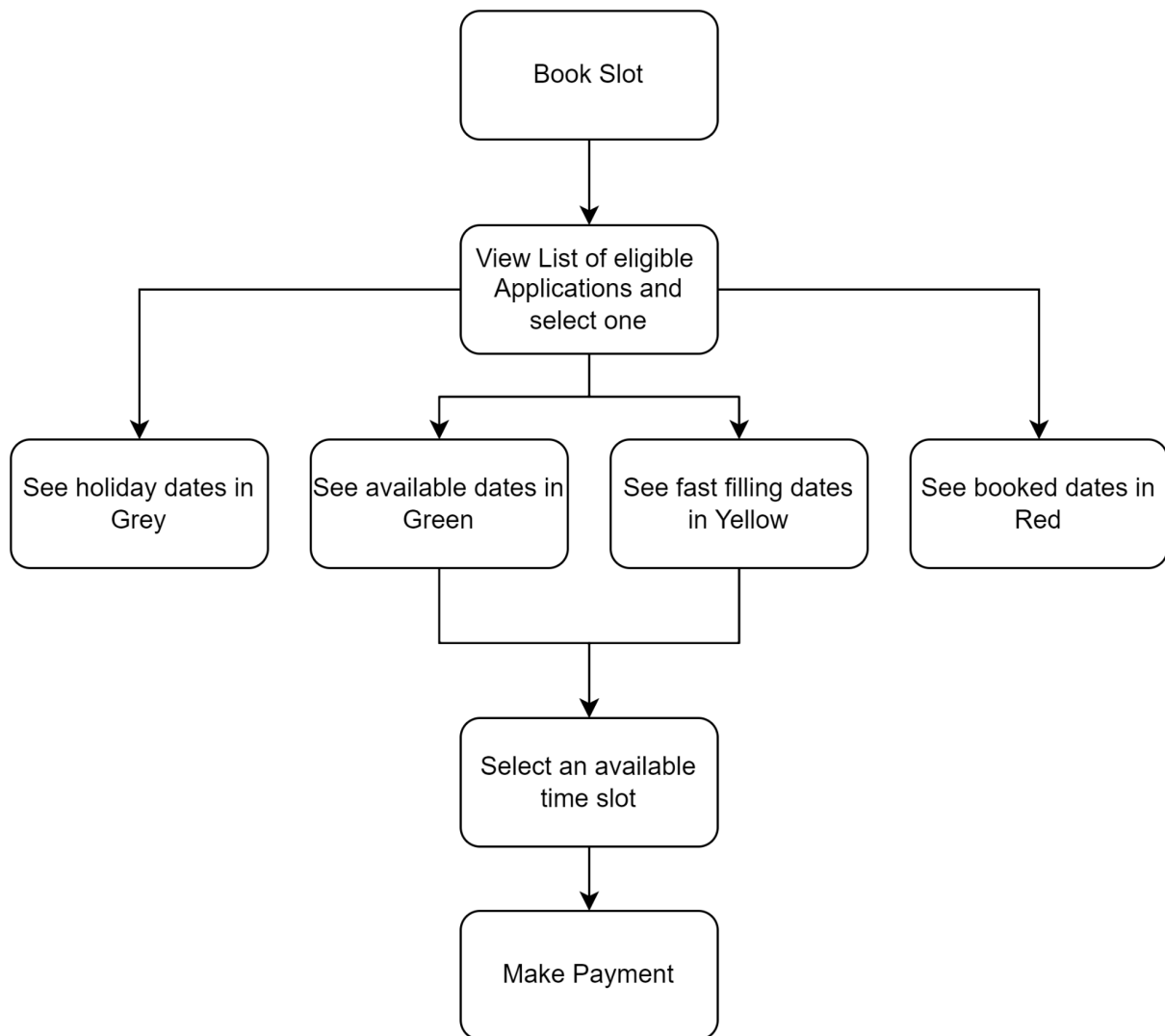
Visibility: All dates are clearly displayed in different colours and the pay now option is well placed and placed in the centre of the bottom in green colour for better visibility.

Prevent Errors: Different colour combinations are provided for showing different types of slot availability so that it will help in preventing the errors.

Interaction Style

- **Direct Manipulation:** all dates are clearly displayed in different colours for better visibility and for making it easier for the user.
- **Menu Selection** for selecting the date for the slot booking and also for selecting a payment method.

Hierarchical Task Analysis

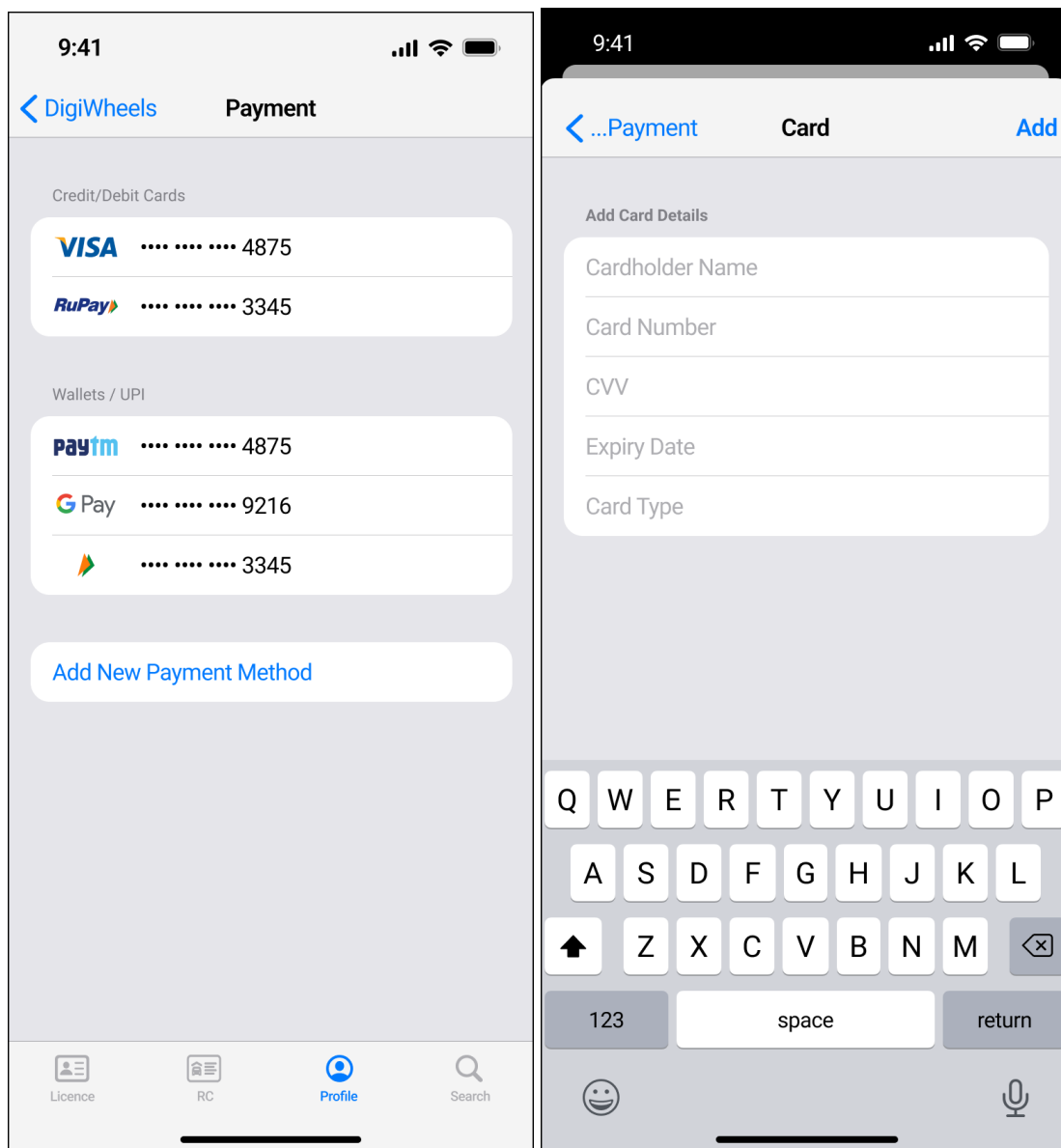


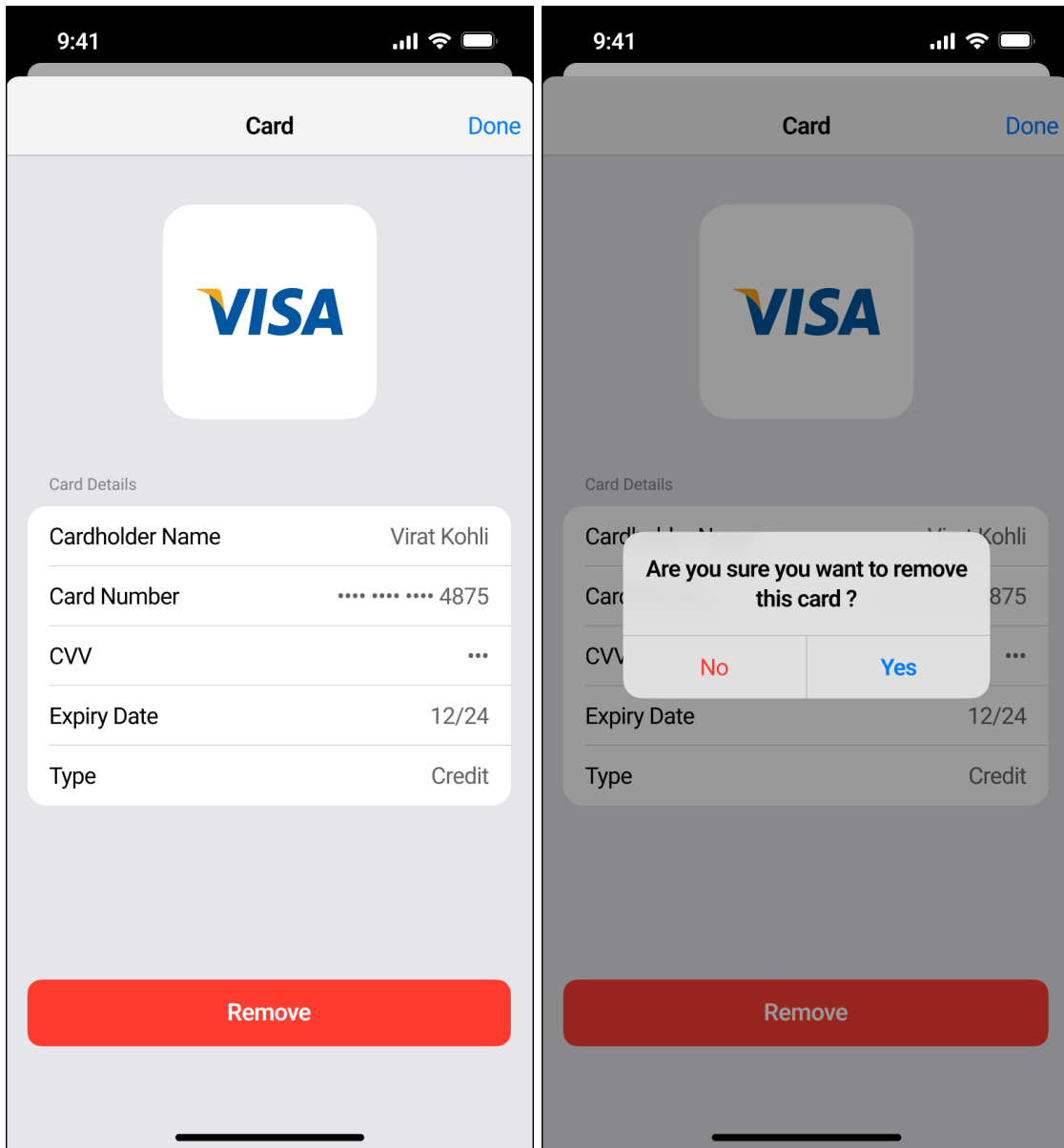
3. Manage Payment Functionality

Functionality

Users will be provided with the functionality to manage payment methods. He can add new payment methods, edit the ones already added or remove the ones which the user feels are not required. The application displays just the right amount of data i.e., in censored form so that the details remain private. The application uses confirmation dialogues in actions that are dangerous so that the user is very sure of what he intends to do.

Photos of the implementation





Universal Usability

- Cultural and International Diversity:** The credit card and wallet details are provided in both textual and icon format. The system has an inbuilt translation capability in the keyboard as indicated by the globe and the mic icon below the keys, where the user can input the data in his own language and the operating system translates the said data to the English language. This way, any person from any background can use the app.
- Diverse Cognitive and Perceptual Abilities:** The application uses ample colours to indicate dangerous actions. So that, in case a person who is technology unaware accidentally clicks a button, action would not be committed without a final warning and confirmation dialog. Hence, even a novice user, as well as an advanced user, can navigate the app.

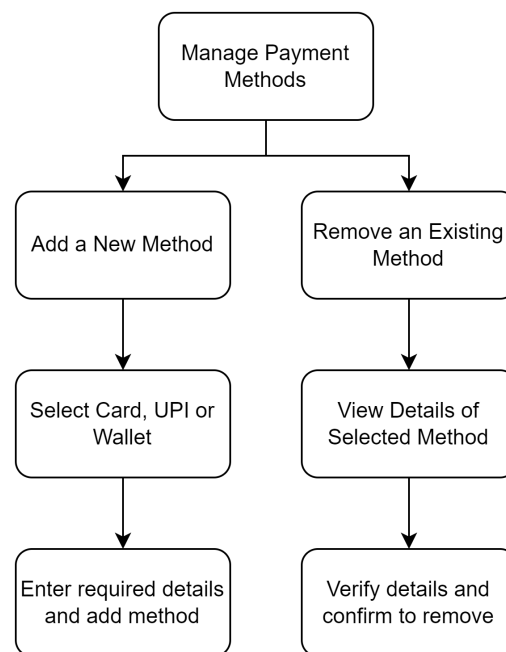
Design Principles

Reduce Short Term Memory Load - Once the payment method is added by filling in the details, the user can quickly select his/her desired method while making payments in the app, e.g., paying fines or booking slots for driving applications. He/she would not need to enter the same payment method multiple times as once entered payment methods (wallet, UPI, etc) are saved locally in the app. This way the short-term memory load of the user remains as minimal as possible.

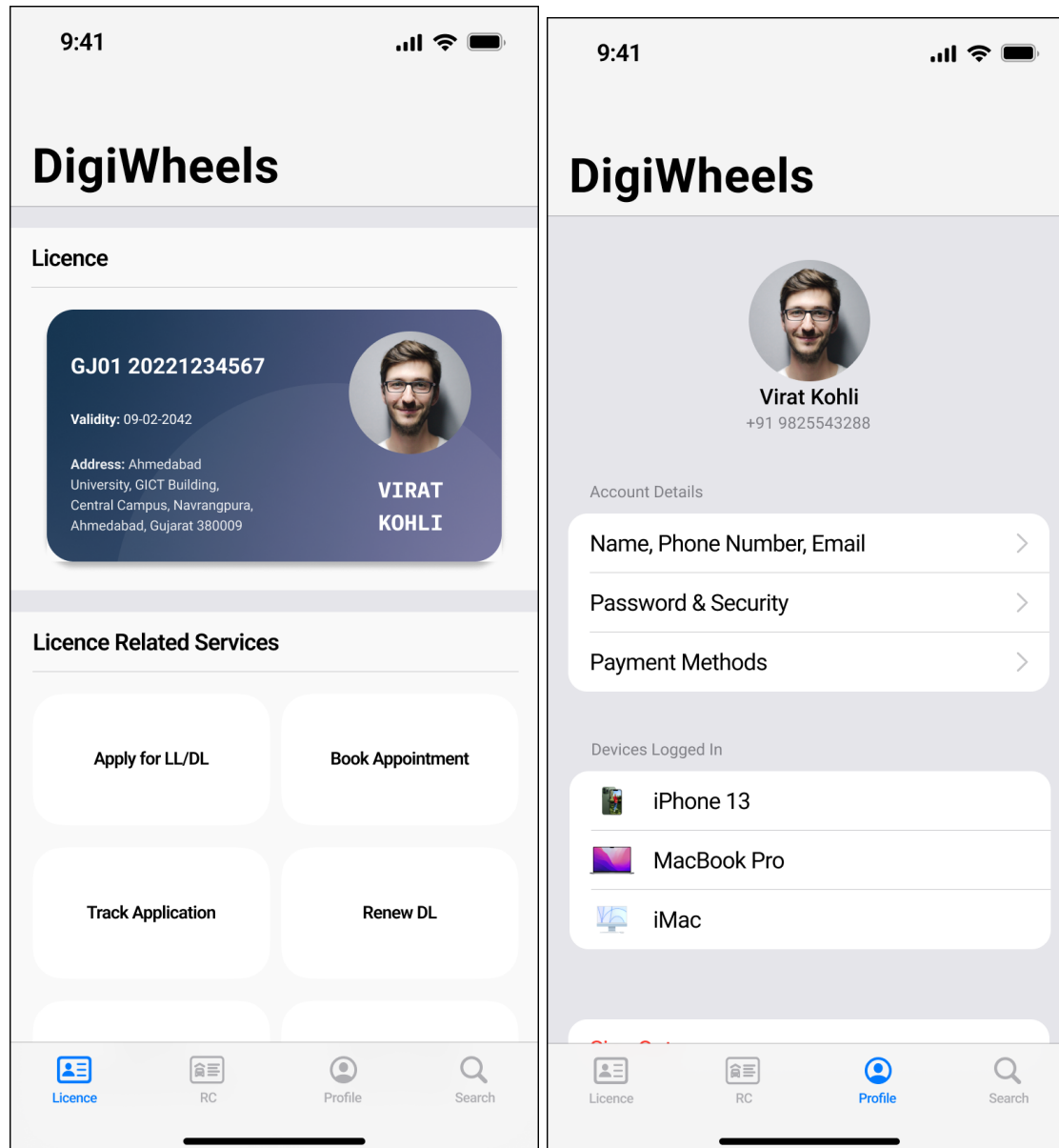
Interaction Style

Menu Selection: While adding the card, the user will be required to select the appropriate menu option from a list of available options. While removing the card, the user had to confirm his intention to “really” remove the payment method by selecting the “yes” option from the alert popup menu.

Hierarchical Task Analysis



Integration of All Features



The home page of the application acts as the entry point after login. The navigation bar at the bottom provides easy access to all the top level features i.e., related to licence, RC, profile or search. Licence navigation option has all the features related to licence such as adding/viewing the licence, applying for new learner/driver's licence, booking appointment, tracking application status, and many other functionalities. These top level buttons and menus direct the user flow to inner pages as described above in the three features. Similar to the licence navigation option, the RC navigation option provides access to all the vehicle registration certificate related functionalities. The profile navigation option provides all the functionality related to the user's account and its related features such as changing the name and contact info, resetting password, turning on or off biometric unlocking features, adding PIN login to the application.

Among a diverse feature set one of the important features is managing payment methods. A user can add or remove his/her credit/debit cards, UPI and wallet and other forms of payment. He can also logout from the other devices logged in such as laptop, desktop and other mobile devices. Finally he can sign out of the application if the functionality is no longer required.

Our Project Link

<https://www.figma.com/file/F7DCzEMGs17EA10lySuPza/HCI-Project?node-id=89%3A2656>

Comparison

| Feature | Figma | Adobe XD | Sketch |
|---------------------|---|---|---|
| Collaboration | Real-time collaboration | Real-time collaboration on projects synced to the cloud | Real-time collaboration for MacOS Sketch subscribers |
| Platform | Cloud-based with desktop apps for Mac and Windows | Desktop app in sync with Adobe Creative Cloud | Exclusive MacOS |
| Vector Manipulation | Vector networks, allowing multiple lines to connect a single point. | The sequence of Connected Points - Nodes | Sequence of Connected Points - Nodes |
| Plugins | Own library of plugins in the developing stage | Both native and 3rd party plugins but fewer options | Huge amount of 3rd party plugins for almost any functionality |

Reference: *Figma vs. Sketch vs. Adobe XD: Which design tool is better?* Coursera. (n.d.). Retrieved April 6, 2022, from <https://www.coursera.org/articles/figma-vs-sketch-vs-adobe-xd>

Figma Features

- Students can communicate and work together way faster with real-time collaboration using Figma
- If a person doesn't have prior knowledge about how to do coding then he can make a website or a mobile application
- Because of easiness and flexibility in making the website or mobile application students

- can gain consistency across the project and also save time.
- Perform repetitive tasks with the help of plugins and even create them for public or organisational use.