Mobile and Adaptive Human Machine Interfaces

The Technical Maintenance of An Elevator Which Will Guide the User with A Certified Checklist

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Introduction

Task Description

This aim of this task is to develop a mobile and adaptive human machine interface for a particular scenario using the UX-design process and Cordova Web Application development technology. This task was assigned to a group of 5 students with the objective of understanding the user requirements during the UX design process of an application. The created layout is developed while keeping the standard design guidelines in mind in order to make the application best suited for the users' needs.

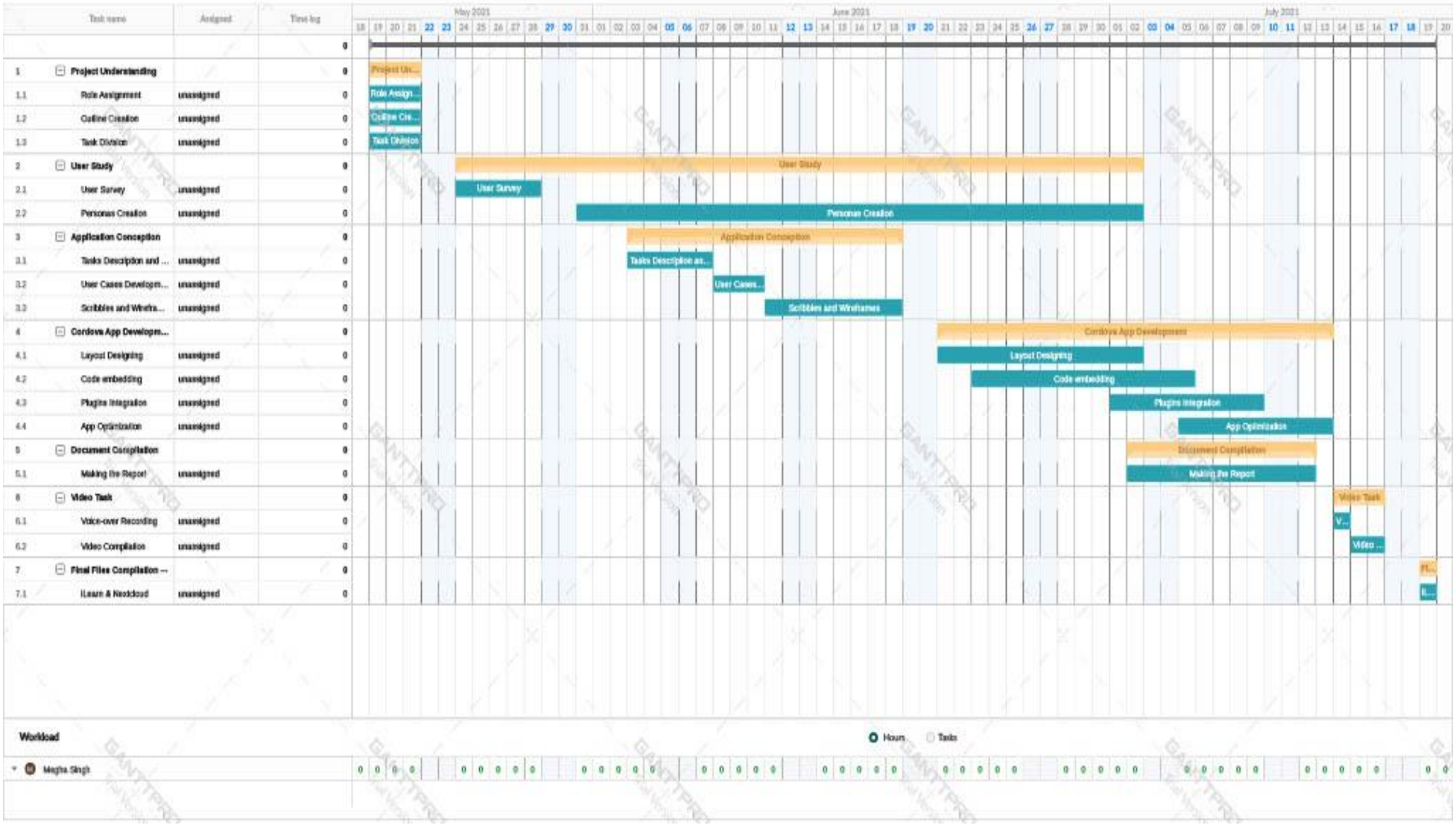
Role Description

Tasks	**Name of the Group Member**
User Study	
• User Surveys	Megha, Dinesh, Milad
• Personas Creation	Zaid, Anchana
Application Conception	
• Task Description	Zaid
• Card Sorting	Anchana and Milad
• User cases Development	Dinesh
• Scribbles and Wireframes	Megha
Cordova App Development	
• Layout designing	Megha
• Code embedding of each page	
1. Login	Milad
2. Dashboard	Anchana
3. Notification	Dinesh
4. Checklist	Zaid
5. Device Identification	Anchana
• Plugins Integration	Dinesh
• App optimization	Milad
Document Compilation	Megha and Zaid
Video Task	
• Voice over	Zaid
• Video Compilation	Dinesh and Megha

Time Division

A Gantt chart with the allocated time divisions can be seen on the following page.

My Team | Empty project



Step 1: Analysis

Focus Group

Description of focus group

The focus group consists of around five individuals ranging from 23 to 30 years of age who are pursuing their masters' studies in an auspicious engineering institution. The group was familiar with the function of elevators and how they work but did not hold any expertise or experience in their technical maintenance. Some research and peer review gave them sufficient understanding of the topic to start working on creating the app that would guide the user in the technical maintenance of an elevator.

Guidelines for the discussion

- Role definition among group
- Research on elevator checklists
- Search for parameters that are a part of the checklists
- Which sensors and actuators to include in the operation of the app
- Decide the tasks that the app is supposed to complete
- How the layout should be designed
- The UI of the app and its functions
- The numerous user cases of the user
- Compare from similar apps
- Selection of language for the coding and development of the app

Planned requirements and expectations from the focus group

Requirements and Expectations from the focus group –

The Elevator maintenance application intended for the targeted elevator maintenance technicians who go down to the onsite, inspect and do maintenance of the elevator and its related parts. This application should serve as a guiding tool for the technicians with real time data tracking for the inspection, easy navigation through maintenance checklists, scheduling and tracking all the critical facets of their maintenance routine.

With this application the user should be able to -

- Conveniently navigate through the check list for every single maintenance task.
- start a completely new maintenance or should have the freedom to navigate to a specific task based on the type of maintenance.
- Generate schedule, change them according to the priority, assign the pending task, and send notifications with few clicks for optimized work flow.
- Easy access to the experts
- Notified instantly on breakdown / Report any defects found and capture photo evidence.
- Complete the inspection by providing user credentials

- Add comments and recommendations.

Technical Specifications and requirements –

- The application should be available for wide range of mobile platforms and models (Androids and windows)
- Camera scanner (QR Code) for the identification of the lift and sync the old maintenance log to the application
- Accelerometer for assisting with the maintenance task involving lift speed check and orientation.
- Phone shake assistance for the SOS
- Sound output for every task completion.
- Vibration with sound output for the failed task
- Blinking flashlight with sound for notifications
- Must have a help and support
- Must have an SOS option
- Store and access the database stored in cloud storage

Expectations –

Discussed here are the unstated user requirements for the application

- Auto generated report for complete transparency and data logging.
- Schedules automatically logged to the calendar for the timely maintenance.
- Emergency or priority schedules are automatically sorted.
- The user credentials data should recorded and accessible along with the corresponding maintenance work providing easy communication.

Other methods of research used

- Peer review
- Literature review
- Comparison from other similar apps

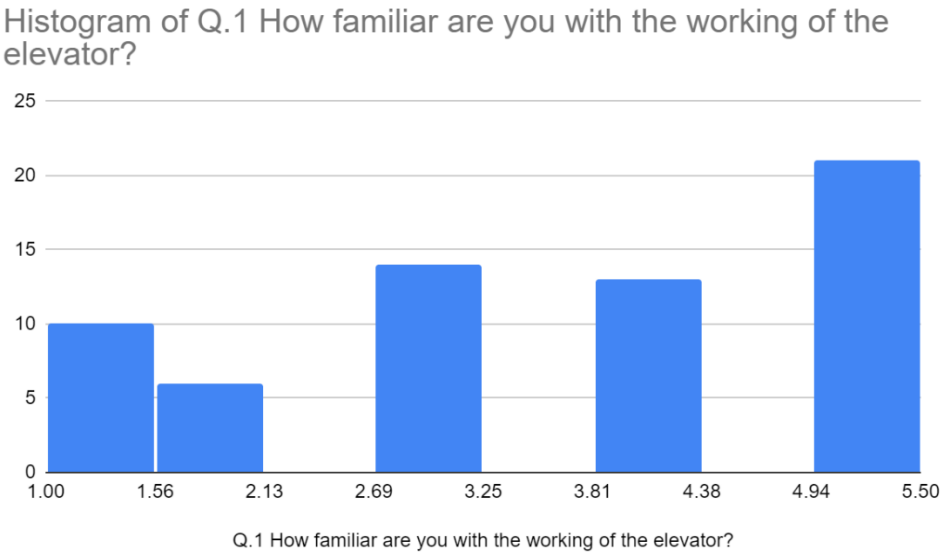
Understanding The User

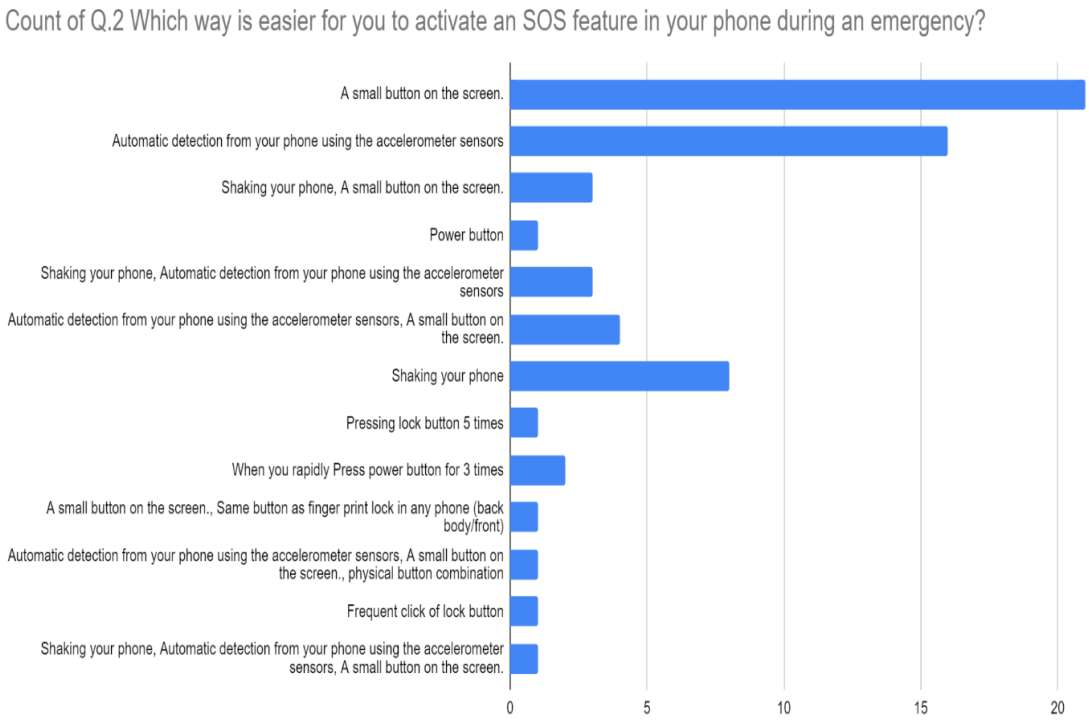
Stakeholders of the application

The application is marketed to the elevator companies as they are potential customers in the given situation. However, the actual users of the app would be the elevator maintenance technicians that the company sends for regular checks or to fix any problem that is reported. Since the app is made specifically to help the technicians in their elevator maintenance, they are its only users and the app is developed in such a way that its users only have the profile as a technician.

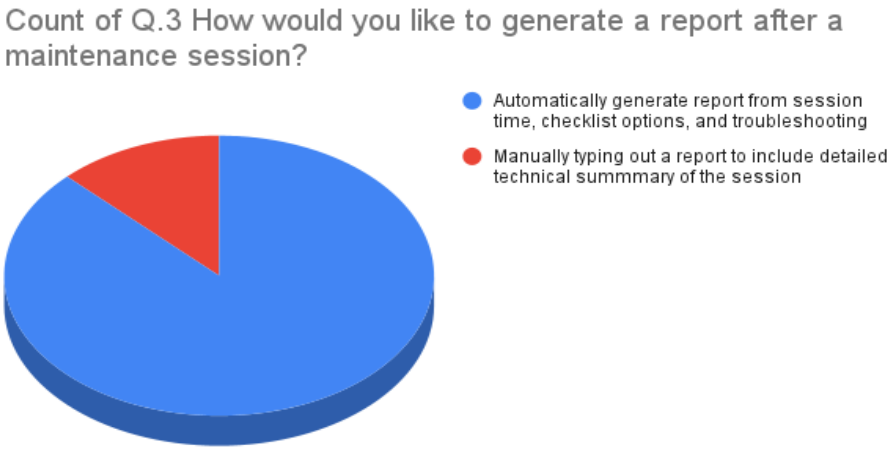
Requirements and requests of the user

A survey was conducted, and few questions were asked in order to understand the user requirements for the app.

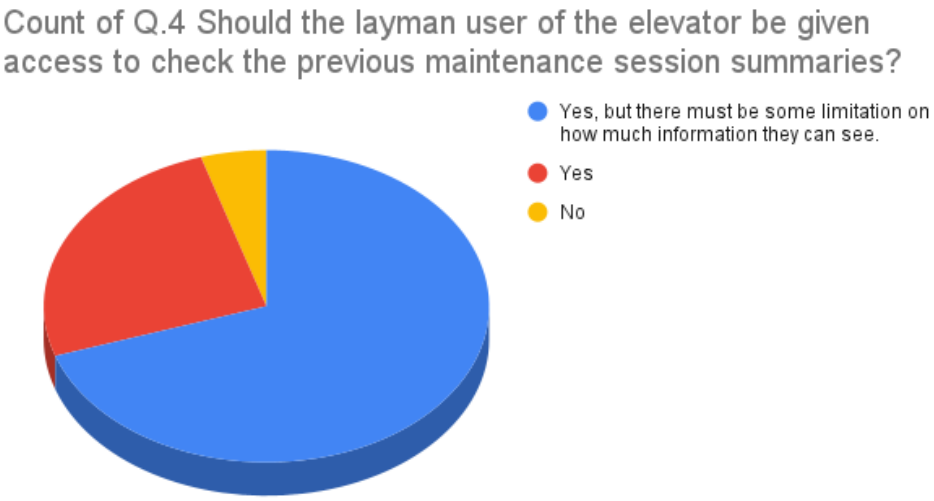




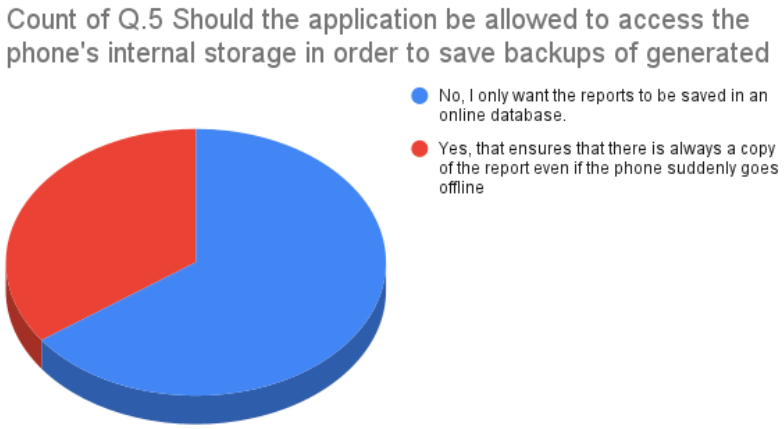
The user prefers to activate the SOS feature in the phone during an emergency with the help of a small button on the screen.



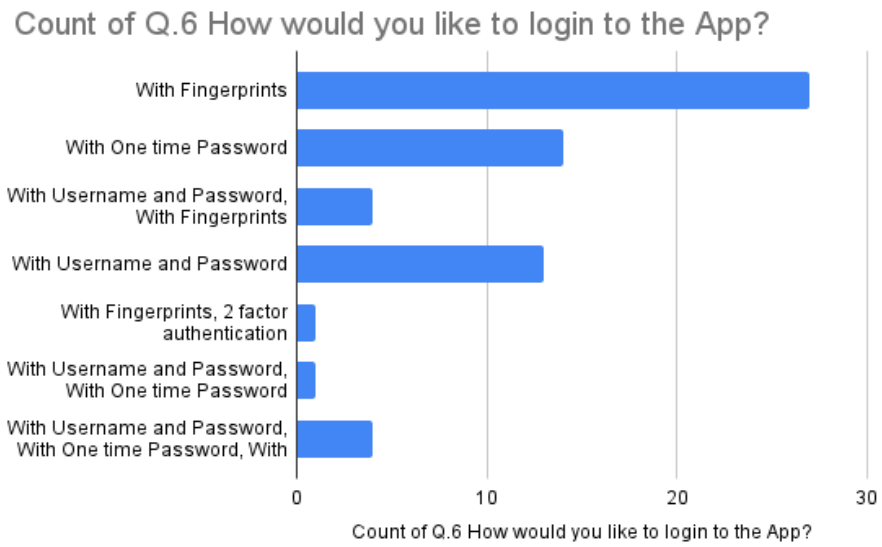
The user requires the application to automatically generate the report after the maintenance checklist is completed. The application should take account of the session time, checklist options and troubleshooting.



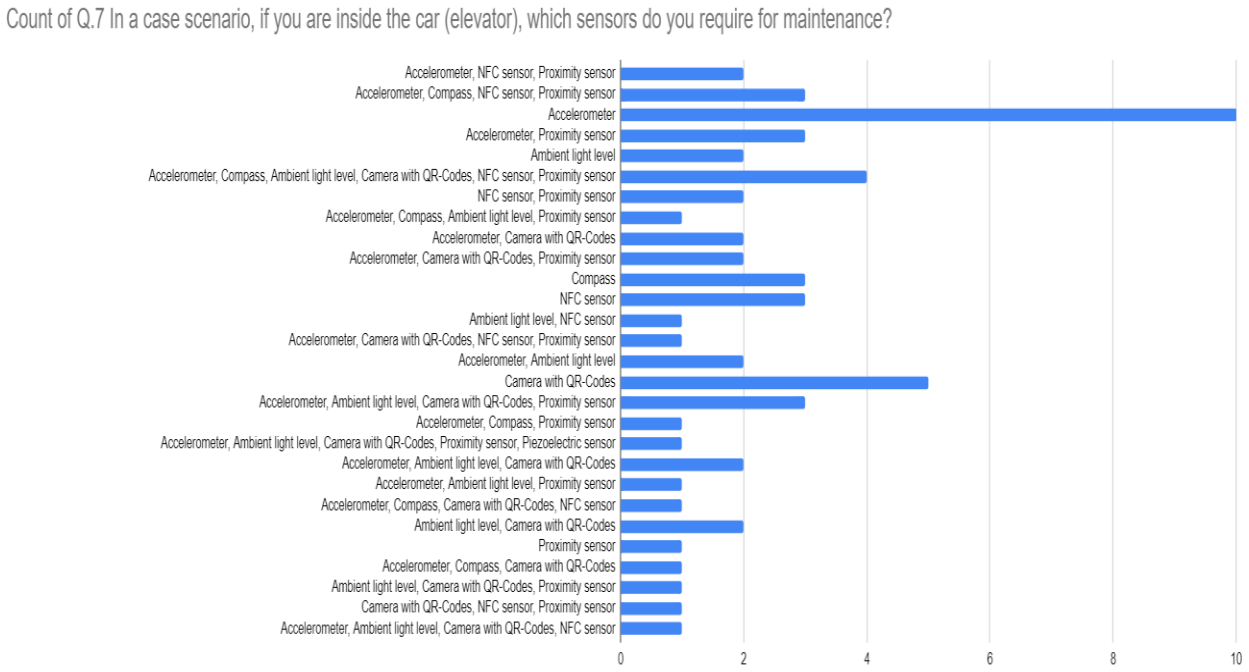
The application can be accessible to the Layman, but there must be some limitations on how much information they can see.



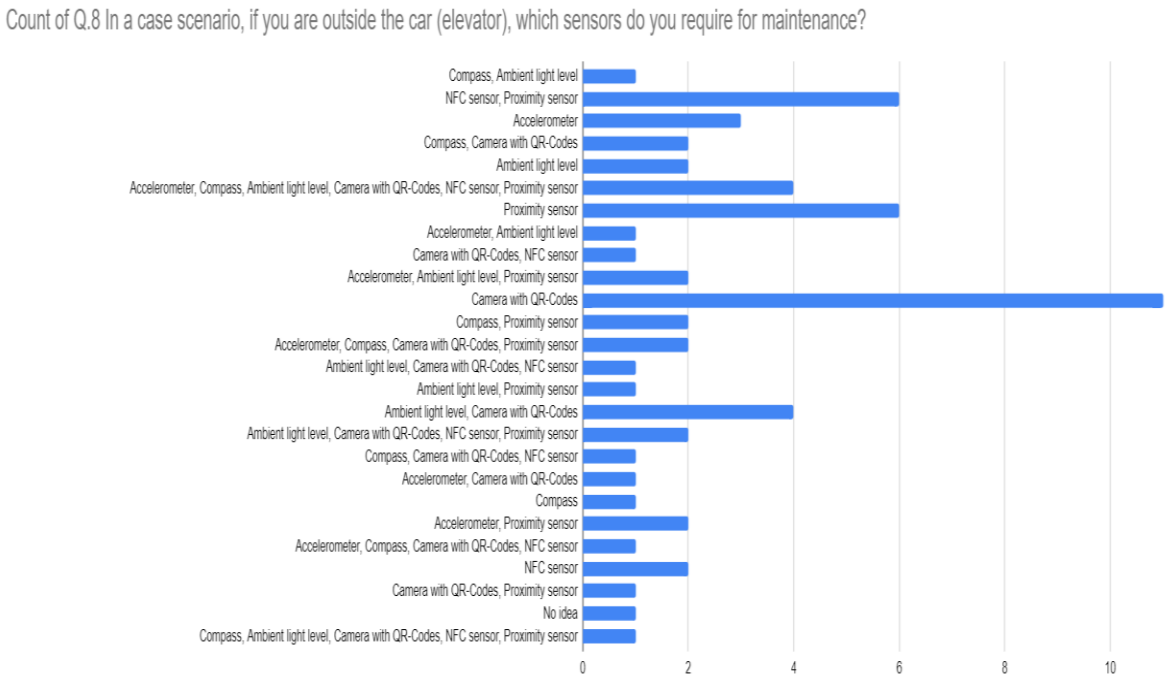
The users prefer to access the reports saved in online database and they don’t want it be saved in the phone’s internal storage.



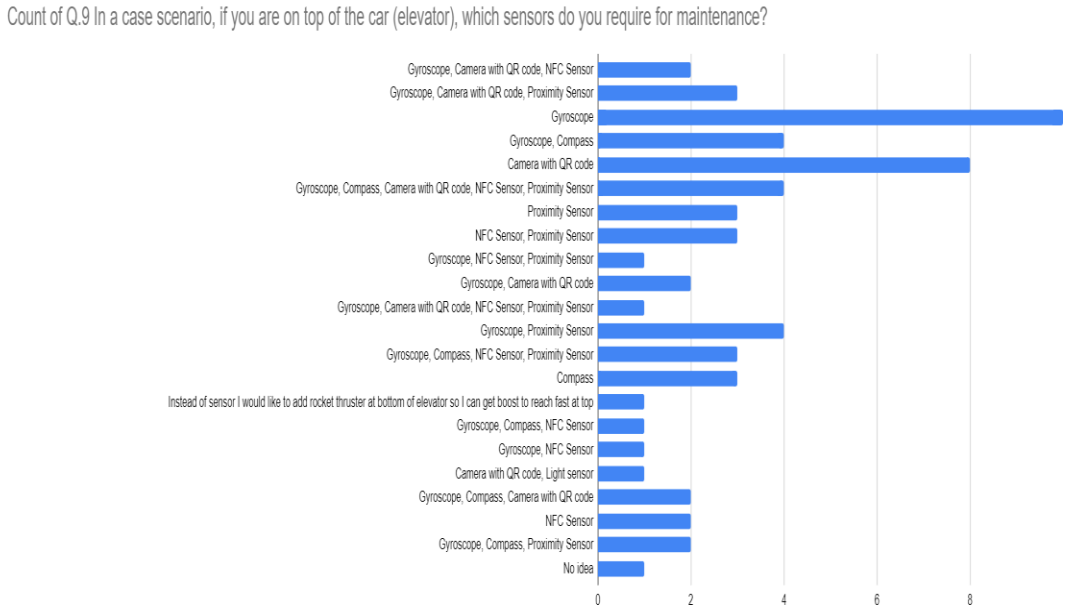
The users would like to login the App with Fingerprints and Username and Password.



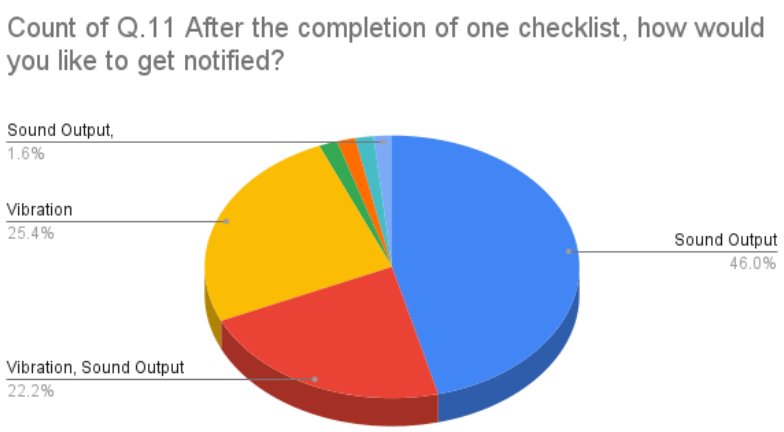
For Inside the car maintenance checklist, the user requires the accelerometer for assisting with the maintenance task involving lift speed check and orientation.



For the maintenance of outside the car, the user will require camera with QR code, in order to scan the QR to start the elevator maintenance and get the details for previous maintenance.



For the maintenance on top of the car, the user will require gyroscope to determine the object's position in space and monitor the object's movement.



The user will prefer to get notified after the completion of one checklist as sound output.

Problems and difficulties in similar products

- Problems during sign in and sign up
- Data syncing issues from database
- Unappealing UI layout

Personas

Mark, 52

Profession: Elevator Technician

Experience: 10 years

Goal: Wants to open his own farm

Wishes: An app that is not too complicated and difficult to learn

Likes: Gardening, working on his car in his garage, walking in the park

Dislikes: Loud noises, social media, gadgets.

Sandra, 44

Profession: Elevator Technician

Experience: 16 years

Goal: Send both her daughters to college

Wishes: An app that will help her with the documentation of maintenance reports and records

Likes: Spending time with her daughters, learning about new technological advancements, listening to music

Dislikes: Paperwork, working at a desk, being out of touch of new trends.

Dan, 20

Profession: Elevator Technician

Experience: 4 years

Goal: Open his own engineering company

Wishes: A very sophisticated and automated app that can do multiple tasks together while also adapting to user patterns

Likes: Skateboarding, rock climbing, partying, tech savvy.

Dislikes: Repetitive work, documentation.

Andrew, 39

Profession: Elevator Technician

Experience: 20 years

Goal: Be a good role model for his children

Wishes: A simple and minimalistic app that fulfills its functions

Likes: Collecting stamps, playing the piano, watching movies with his kids.

Dislikes: Outdoor activities, physical exercise.

Paige, 48

Profession: Elevator Technician

Experience: 11 years

Goal: Collect enough savings to be able to travel the world one day

Wishes: An app that enables her to do more work efficiently

Likes: Desserts and new cuisines, reading science blogs, dancing.

Dislikes: Annoying app notifications and alarms, bright flashing colors.

Step 2: Conception

1st iteration

Tasks

- Take login credentials from the user
- Give notification of successful user login or unsuccessful login attempt
- Make a call to a specified number when support button is tapped
- Turn on the mobile flashlight
- Turn on the mobile camera
- Take serial number input from the user
- Show the user elevator maintenance history
- Show the user previous maintenance sessions summary
- Take user input for maintenance detail view preference
- Show the user a checklist of all the previous problems
- Show the user a calendar view of previous problems and maintenance sessions
- Show user the different checklist options
- Take user input for which checklist they want to open
- Show the user their selected checklist in the form of a table
- Take user checklist parameters
- Generate the report when the user presses the print report button

Card Sorting

Checklists

1. Show user the different checklist options
2. Take user input for which checklist they want to open
3. Show the user their selected checklist in the form of a table
4. Take user checklist parameters
5. Generate the report when the user presses the print report button

Lift QR code / ID input

1. Turn on the mobile camera
2. Take serial number input from the user
3. Turn on the mobile flashlight
4. Show the user elevator maintenance history

History

1. Show the user a calendar view of previous problems and maintenance sessions
2. Show the user previous maintenance sessions summary

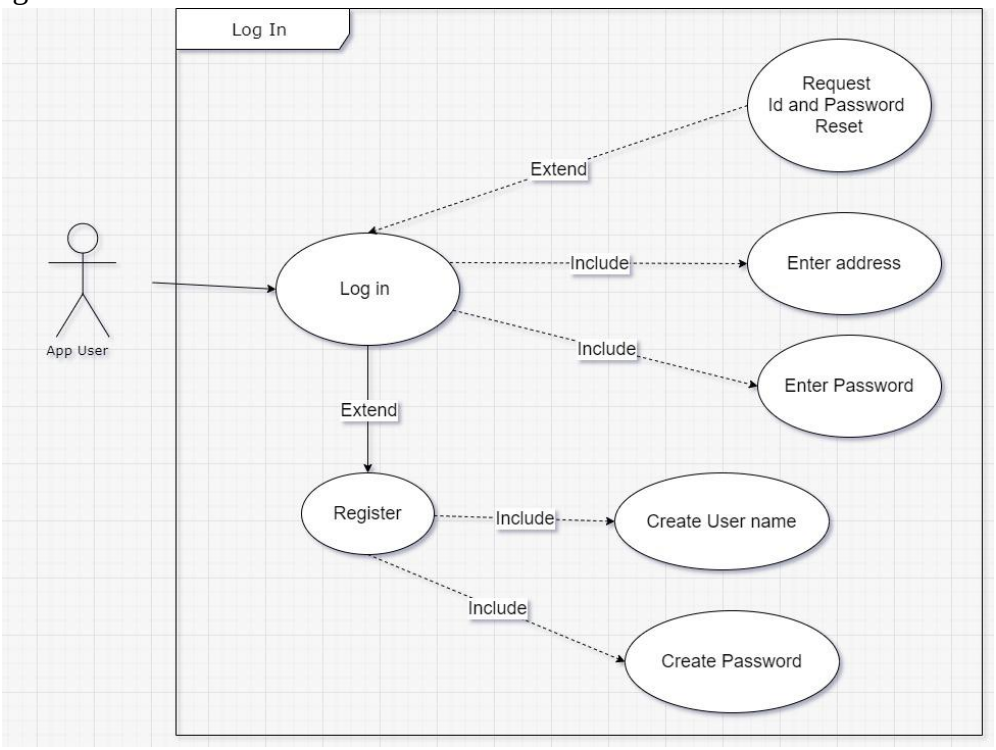
3. Show the user a checklist of all the previous problems
4. Take user input for maintenance detail view preference

Login

1. Take login credentials from the user
2. Give notification of successful user login or unsuccessful login attempt
3. Make a call to a specified number when support button is tapped

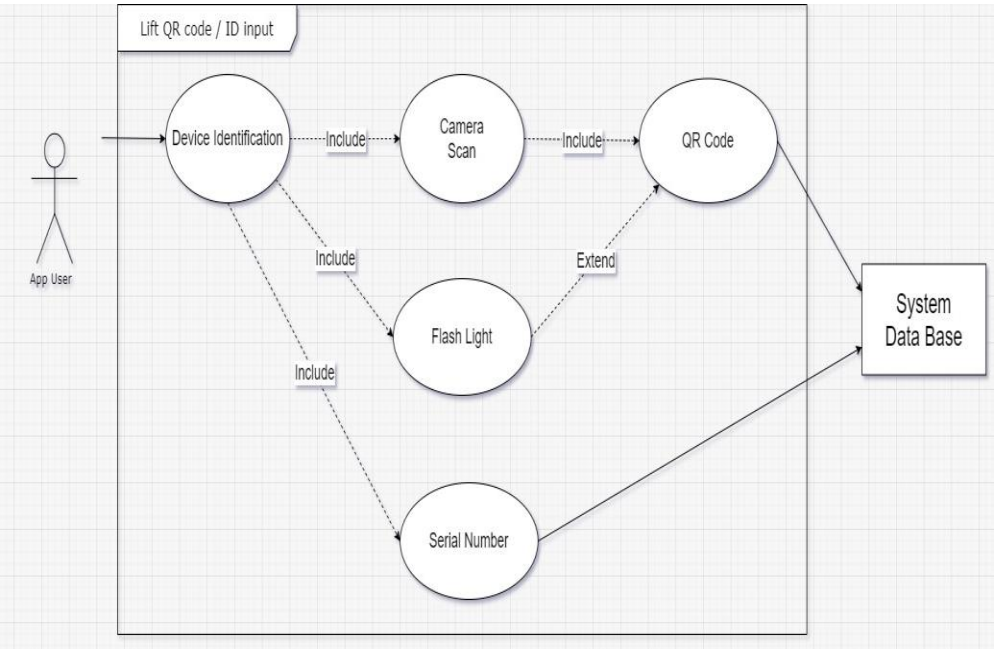
User Cases

Case 1: Log In



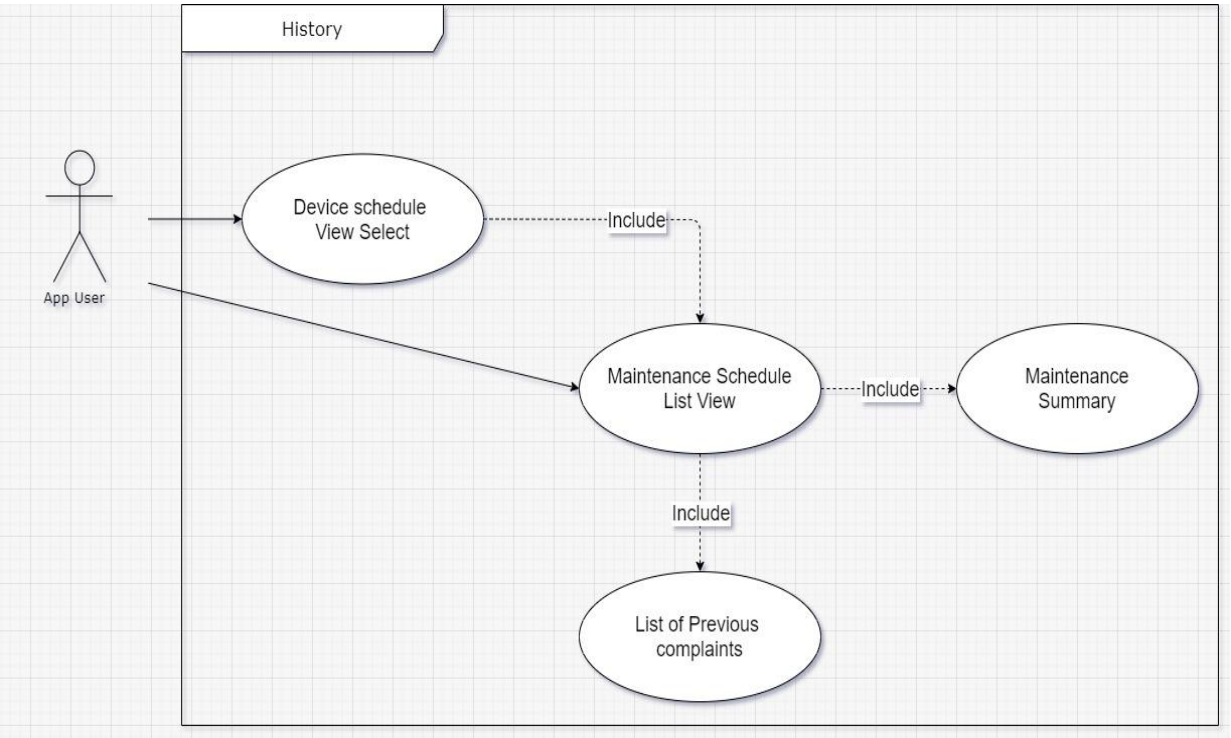
When the user opens the app, the first page they see is the login page. On the login page the user can enter the email address and their passwords and can also register a as a new user.

Case 2: Lift QR code



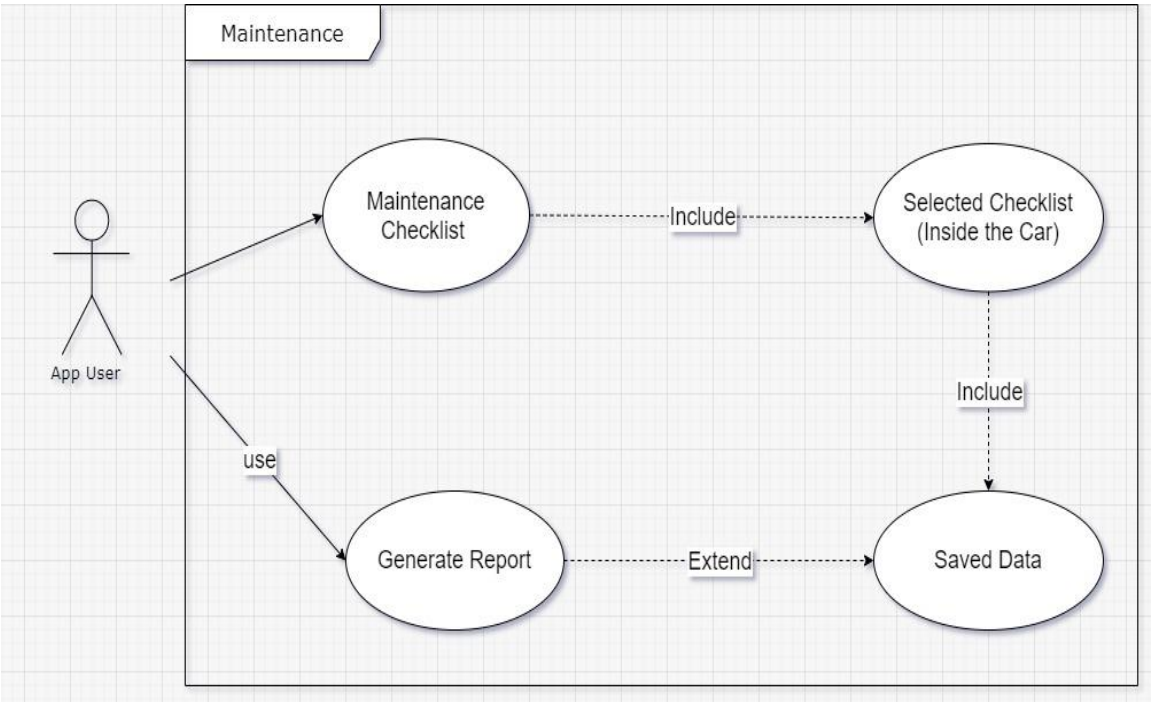
After the login is successful, the device identification is done. On the device identification page the camera is opened to scan the QR code. The user can also turn on the flashlight along with the camera in order to scan the QR code during low light conditions. If in any case the user is not able to scan the QR code he can also enter the device's serial number for the device identification.

Case 3: Maintenance History



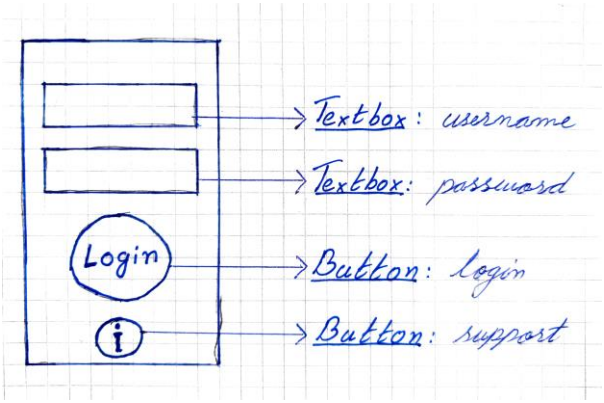
After the device identification, the user can see the history dashboard. The user can select the device schedule with a calendar view or list view. The user can see the maintenance summary through the list of maintenance schedules and he can also see the list of previous complaints.

Case 4: Maintenance Page

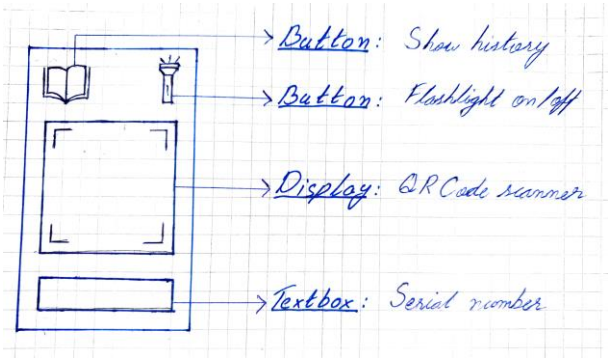


After the maintenance schedule list, the maintenance checklist page is there. The user selects type of maintenance (inside the car, outside the car etc.). Accordingly, the user can perform the maintenance tasks with the checklists. When all the checklists are completed, the data is saved and the user can access the report in a form of pdf to see the summary of maintenance.

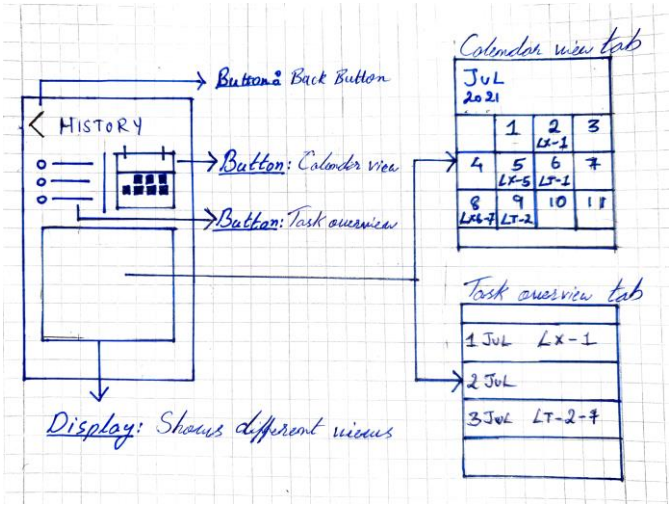
Scribbles



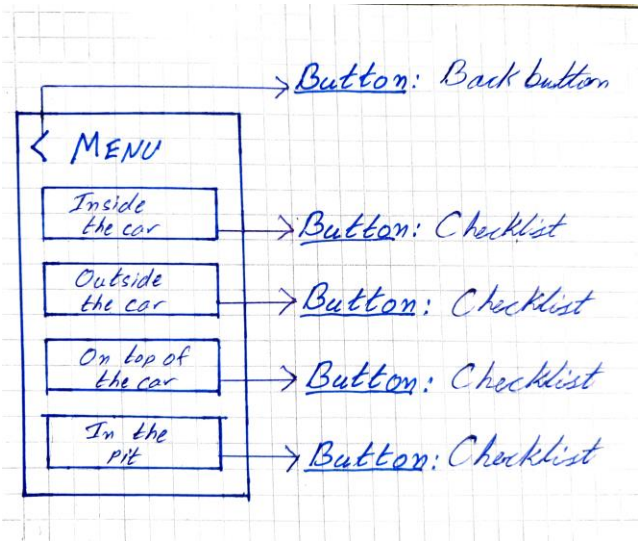
The User Login page consists of textboxes where the user will enter their username and password before they press the "Login" button to proceed. In case of any problems during login, the user can also tap on the support button to be connected to a service operator who will guide them through the login process.



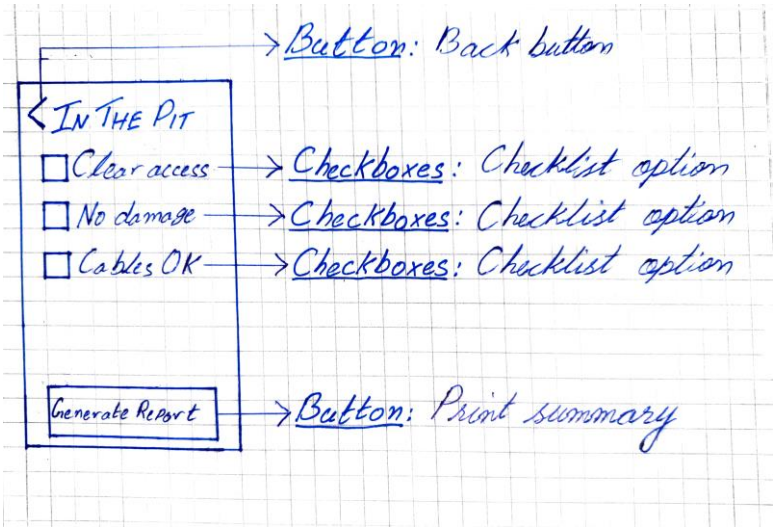
The Lift ID page provides the user the option of either scanning the QR Code in the lift or entering the serial number manually in the text box field. Along with these the page also has a flashlight button that turns on the smartphone flashlight and a history button that takes the user to the maintenance history page.



The Maintenance History page showcases a back button at the top left corner of the page and gives the user the option of choosing between two view preferences. Selecting the task overview sorts the history of maintenance according to previous tasks, whereas selecting the calendar view sorts them according to dates on a calendar. Selecting a particular task or date opens the maintenance summary of that particular task.

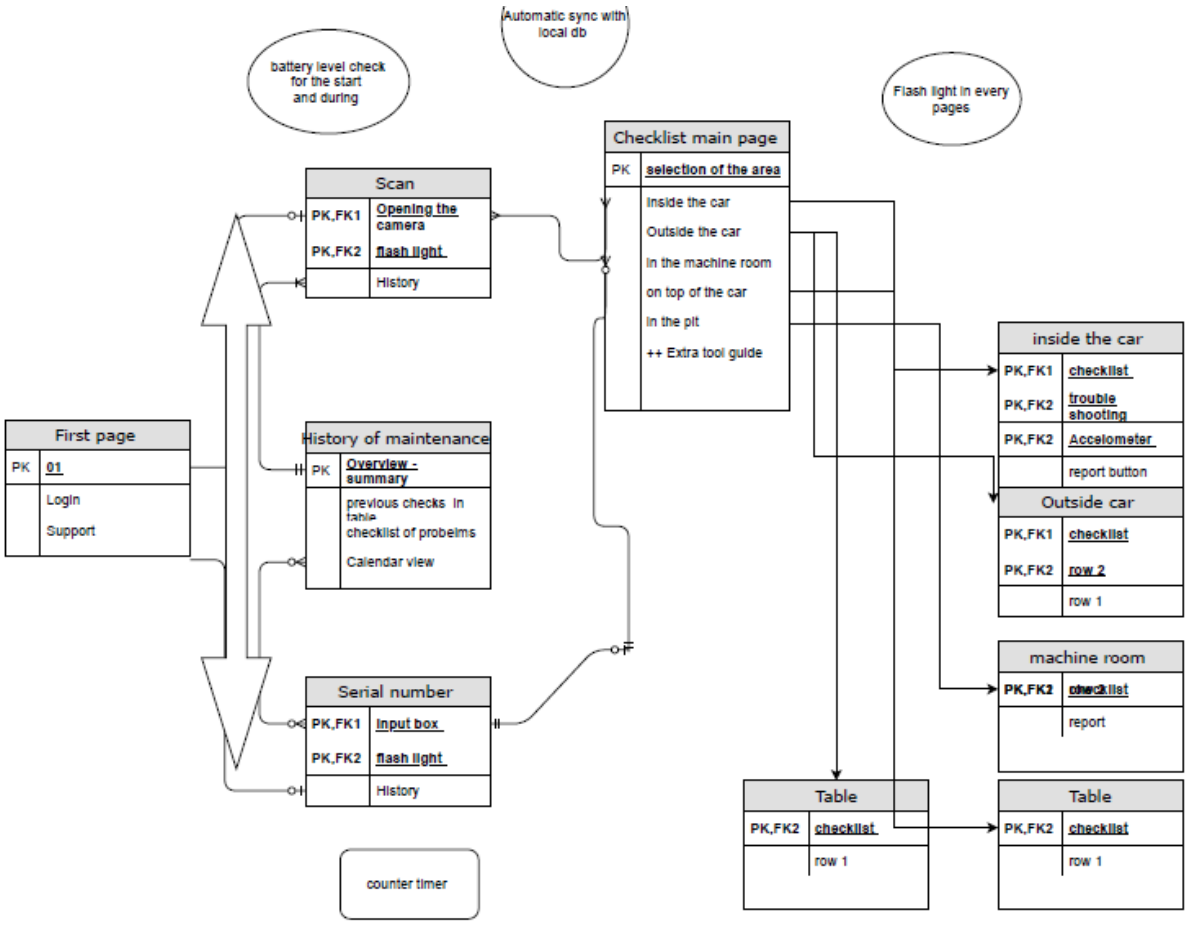


Scanning the QR Code or typing the Serial ID of the lift opens the Checklist Menu page of the app. This also has a standard back button at the top left corner along with a series of buttons that take the user to their selected checklist page.



Next, the Checklist Table page is similar for all the options but differs in the parameters that need to be inspected at various instances of the lift. It contains checkboxes where the user can mark which parameters they have checked and are OK. After the user is done with this checklist, they can find a button at the bottom of the page that prints the summary of the selected table.

Wireframes



A rough flow of how each page will be connected to the others is shown in the diagram shown above. The arrows and the connected lines depict which page comes after the other and how the user is expected to operate the application.

After creating this wireframe, it was realized that there were a number of factors and options that were still missing and needed to be added in the application. The focus group then decided that it would be better to start over “Step 2: Conception” with a second iteration in order to improve the design and development of the app.

2nd Iteration

Tasks

Device identification and Registration

- Scan the QR code of the device or enter the Serial number for identification
- Register the lift as a new device if the device ID is not found in the authentication list
- Show new ID and serial number after registering the lift as a new device
- Take registration confirmation from the user
- Sync history log to current maintenance list if device ID is already registered in the authentication list.

Start Maintenance –

- Show the main checklist with their current completion or priority status
- Display a checklist as completed if all of its tasks have been completed
- Make a call to a specified number when the “Expert Engineer Contact” button is selected.
- Display lift ID and location on top of the page
- Show user manual when the “User manual” button is selected for easy problem solving
- Autosave and sync all changes to the database.
- Generate summary when “Print Summary” button is selected.

Login –

- Display option of logging in using username and password or fingerprints
- Take username and password as inputs
- Take user fingerprints as inputs
- Display “Successfully logged in” message and reroute to Device Registration page if user credentials are authenticated
- Display “Wrong credentials” message and reroute to Login page if user credentials are not authenticated

Maintenance History –

- Show the previous maintenance sessions as a list view
- Show date and summary of the previous session issue
- Make a call to a specified number when the “Expert Engineer Contact” button is selected.
- Display lift ID and location on top of the page
- Autosave and sync all changes to the database.
- Show user manual when the “User manual” button is selected for easy problem solving

User Schedule –

- Take title and date inputs from user when “Create task” button is selected
- Show the saved schedule in calendar view with task marked on their respective dates with their lift ID
- Autosave and sync all changes to the database.

Notification –

- Display any emergency alerts
- Display upcoming tasks
- Display checklist status updates

User Profile –

- Display User ID, status, and details

About Us –

- Display contact details (email ID or website)
- Display customer support helpline
- Display aim of the application

Card Sorting

Device Identification

1. Scan the QR code of the device or enter the Serial number for identification
2. Sync history log to current maintenance list if device ID is already registered in the authentication list.
3. Register the lift as a new device if the device ID is not found in the authentication list
4. Show new ID and serial number after registering the lift as a new device
5. Take registration confirmation from the user

Maintenance Checklists

1. Display lift ID and location on top of the page
2. Show the main checklist with their current completion or priority status
3. Display a checklist as completed if all of its tasks have been completed
4. Generate summary when “Print Summary” button is selected.
5. Autosave and sync all changes to the database.
6. Make a call to a specified number when the “Expert Engineer Contact” button is selected.
7. Show user manual when the “User manual” button is selected for easy problem solving

History

1. Display lift ID and location on top of the page
2. Show the previous maintenance sessions as a list view
3. Show date and summary of the previous session issue
4. Autosave and sync all changes to the database.
5. Make a call to a specified number when the “Expert Engineer Contact” button is selected.
6. Show user manual when the “User manual” button is selected, for easy problem solving

User Login

1. Display option of logging in using username and password or fingerprints
2. Take username and password as inputs
3. Take user fingerprints as inputs
4. Display “Successfully logged in” message and reroute to Device Registration page if user credentials are authenticated
5. Display “Wrong credentials” message and reroute to Login page if user credentials are not authenticated

Miscellaneous

1. Show the saved schedule in calendar view with task marked on their respective dates with their lift ID
2. Display User ID, status, and details
3. Take title and date inputs from user when “Create task” button is selected
4. Autosave and sync all changes to the database
5. Display any emergency alerts
6. Display upcoming tasks
7. Display checklist status updates
8. Display contact details (email ID or website)
9. Display customer support helpline
10. Display aim of the application

Dashboard Navigation

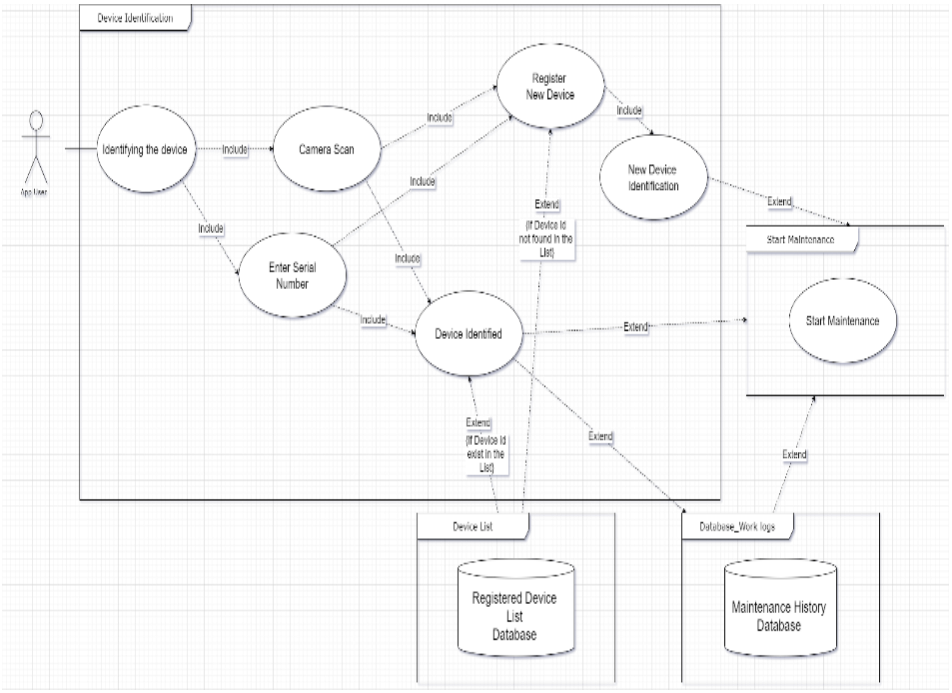
1. Device ID
2. View Schedule
3. Notification
4. User Profile
5. Info / About Us

Maintenance Menu Navigation

1. Outside the Car
2. Inside the Car
3. In the Machine Room
4. On Top of the Car
5. In the Pit

User Cases

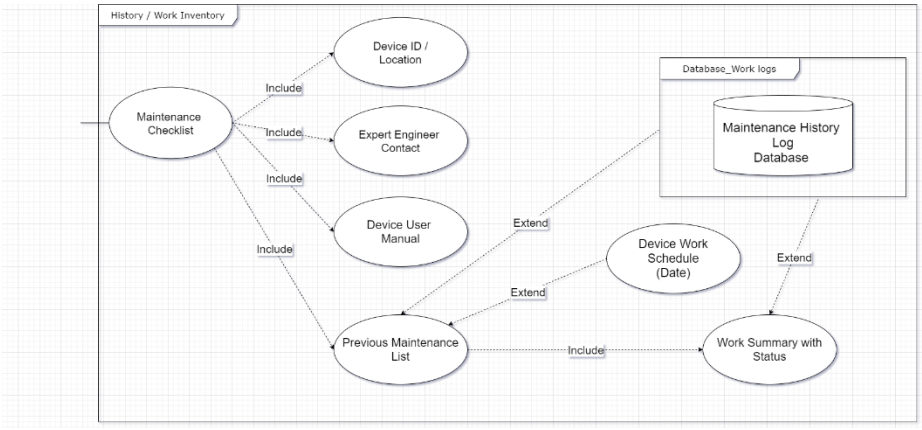
Case 1: Device Identification



For device identification, the user will scan the QR code of the elevator or can enter the serial number of the elevator. If the maintenance has been already added in the data base, the device will be identified, and the user can start the maintenance.

If the elevator scanned is not recognized he can manually add the new device by registering all its details. The New elevator details will be added in the database, and he can start with the maintenance.

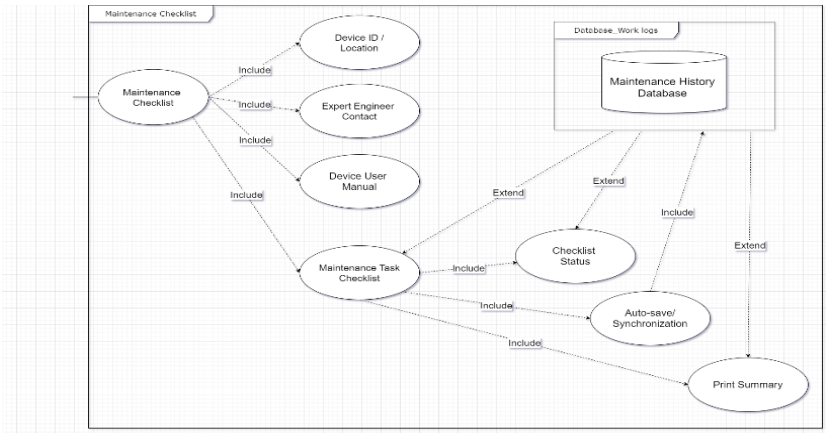
Case 2: History/ work inventory



The user can see the Maintenance history of the particular device, in the form of previous maintenance list containing the scheduled maintenance and the work summary with status.

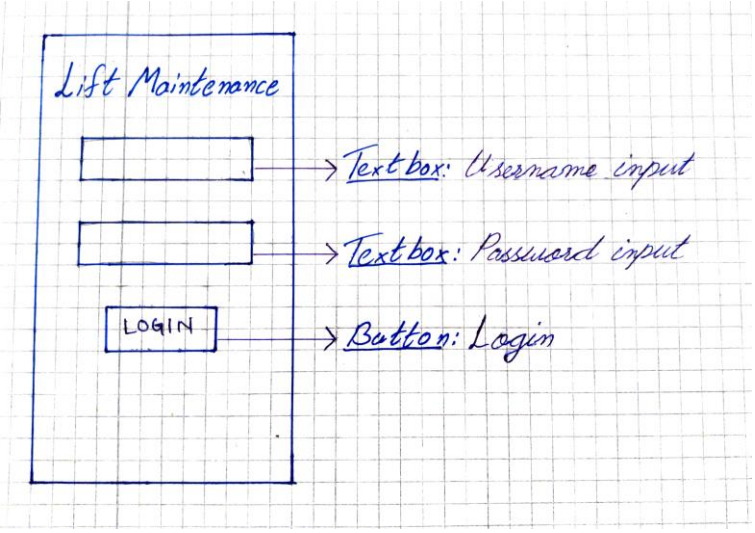
The History Page will also contain the Device location, Expert contact, and Device user manual that the user can access in case of doubts and further information.

Case 3: Start Maintenance Checklist

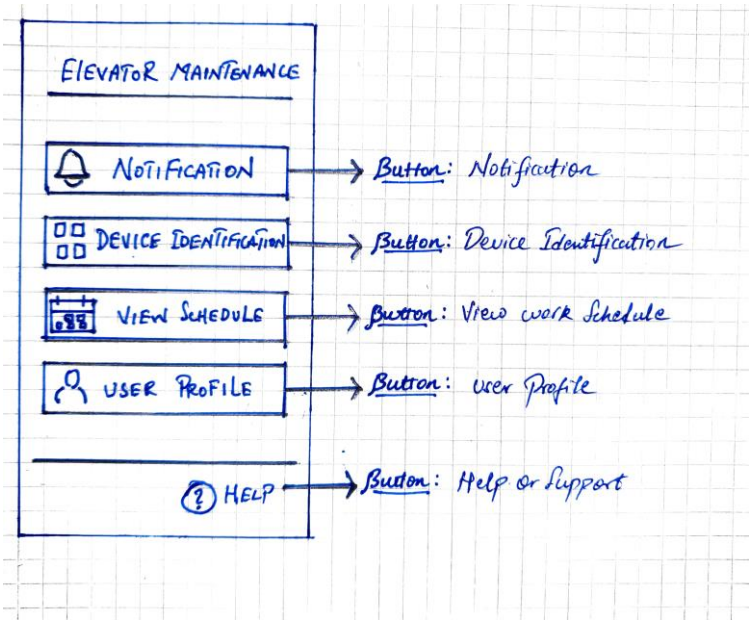


In the Start Maintenance checklist, the user will see the Task needed to be performed in different areas (Inside the car, outside the car etc.). After all the checklist is done the user can print the summary of the maintenance checklist, as well as the current status of all the tasks done and/or remaining.

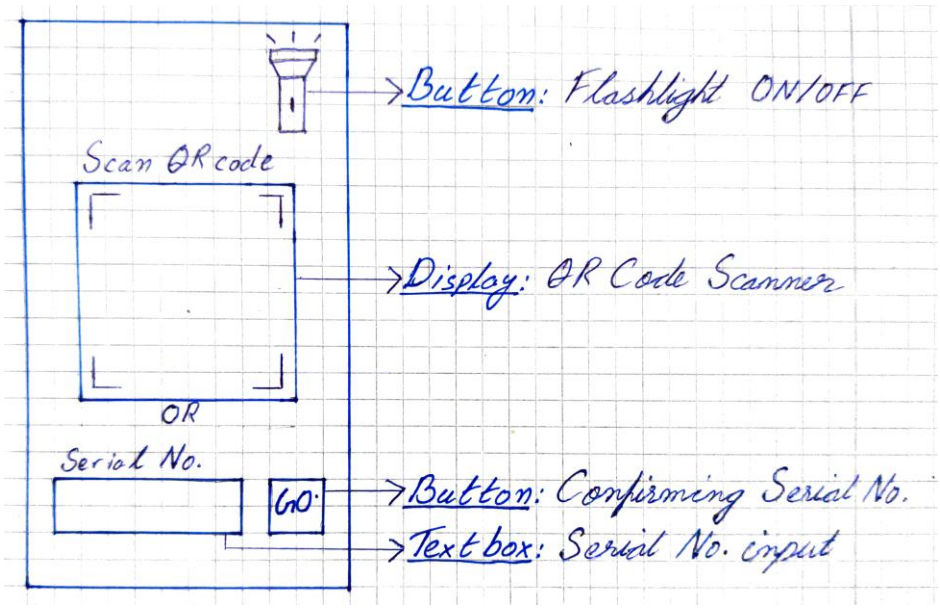
Scribbles



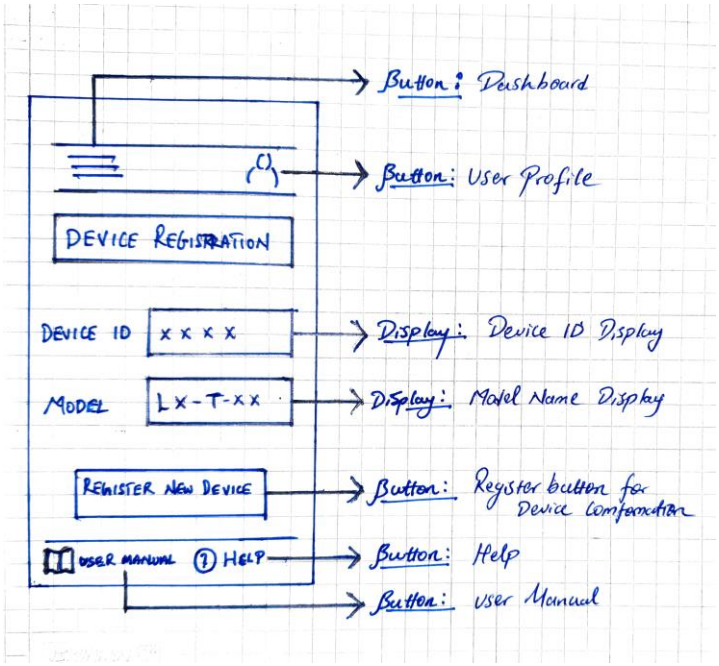
The User Login page asks the username and password input in the above shown textboxes. Once they are done with typing their credentials, they can tap on the "Login" button to check their credentials. The user is shown this page again if their credentials are not authenticated, otherwise they are taken to the next page if they are authorized.



The Dashboard shows the user a number of different options to choose from after they have logged in. The "notification", "device identification", "view schedule", and "user profile" buttons redirect the user to their respective pages while the "help" button opens the help and support contact.

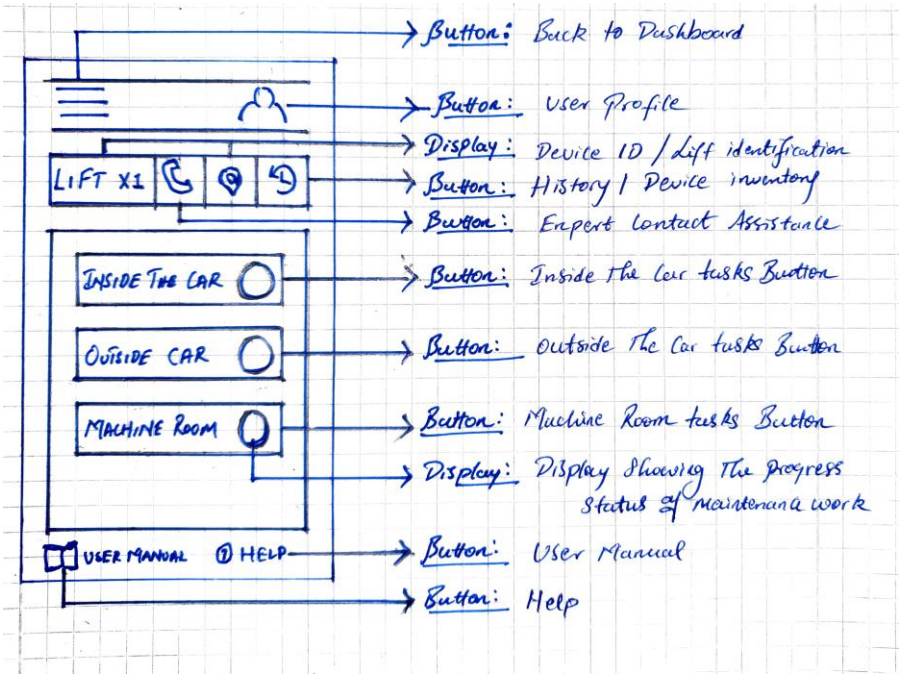


The QR or Serial No. page is shown to the user when they select the "Device Identification" option from the Dashboard. This page gives the user the option to either scan the QR Code of the lift or manually enter the serial number in the textbox provided at the bottom. Camera access is required in order to scan the QR code on the lift and the display is shown on the screen. The page also has a button in the shape of a flashlight at the top right in order to activate the mobile flashlight when the working conditions are dark.

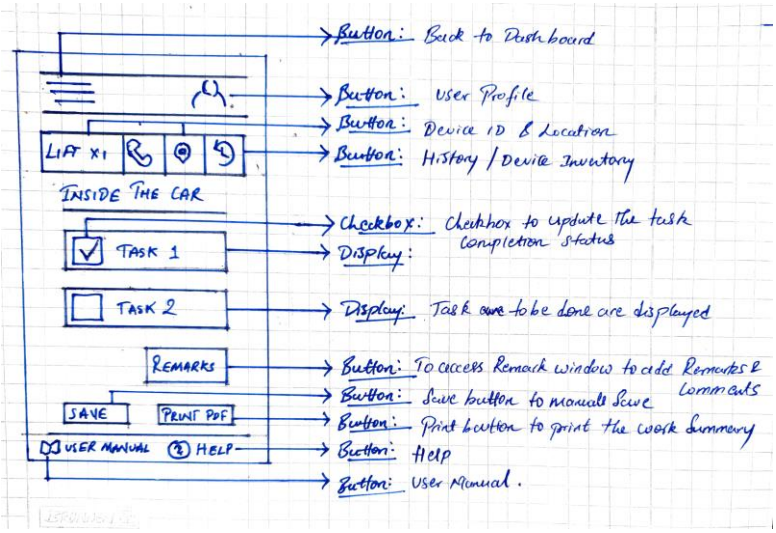


After the user inputs the lift credentials, the app authenticates it from their database. If the app notices that the credentials are of a new lift it reroutes the user to the Device Registration page. The app automatically detects the Device ID and the Model from the credentials and displays them to the user before asking them if they want to register their device. Once the user taps on the

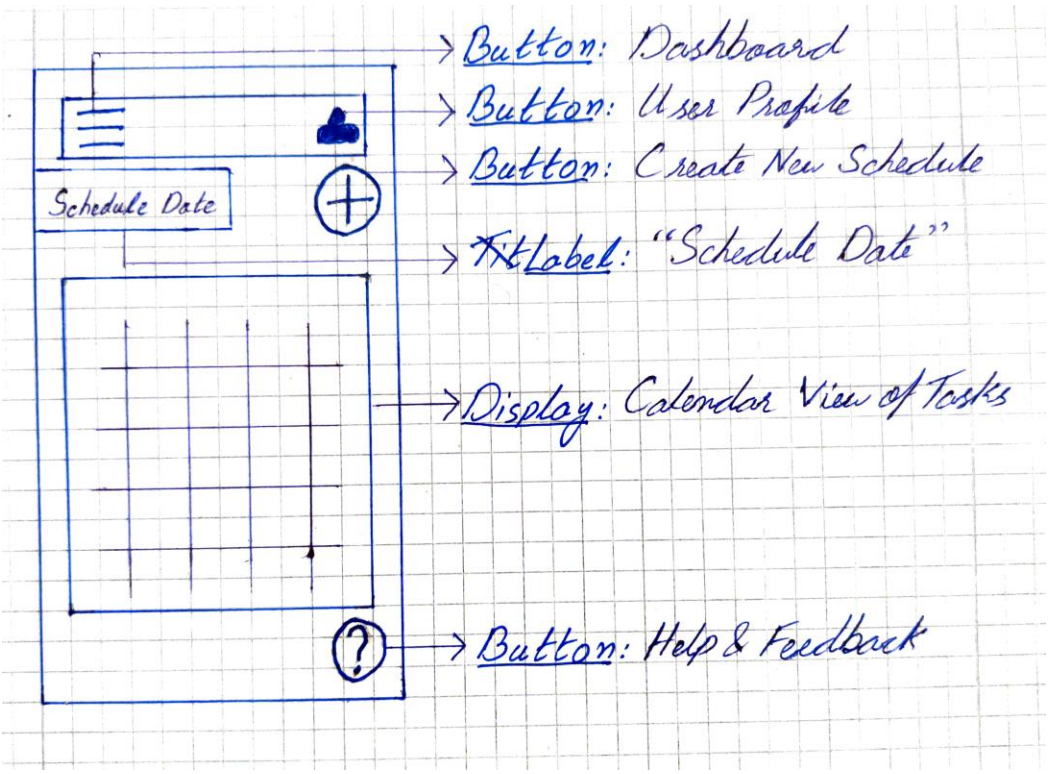
"Register New Device" button they are taken to the next page of the "Maintenance Menu". This page also has the "User manual" and the "Help and Support" button.



If the scanned device is an old device, then also the app reroutes the user to the Maintenance Menu page after it is done authenticating it. The page shows the "Dashboard" and the "User Profile" button on top of the page and right below that bar it displays the lift ID along with buttons of "Contact", "Location", and "History". This page also has the "User Manual" and "Help" button at the bottom of the page like the previous one, while the different checklists are in the form of buttons at the center of the screen.

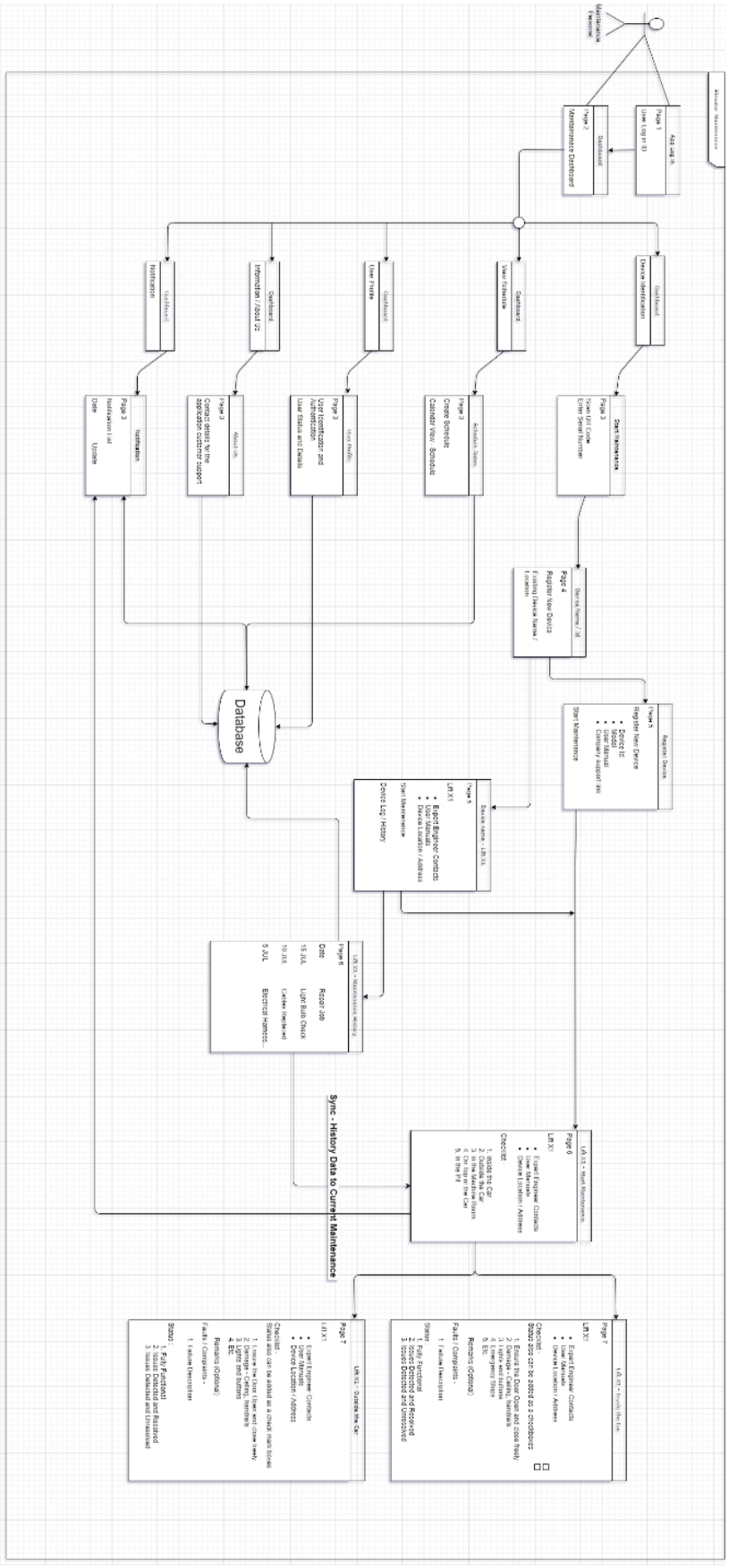


Selecting any of those checklist buttons takes the user to the Checklist Table page where most of the layout is the same as the previous page except for some changes in the center area of the page. The center of the page comprises of several checkboxes for the user to mark and a textbox to add further comments. At the end of the checklist, the user also has the option to save the checklist or generate the summary of the session.



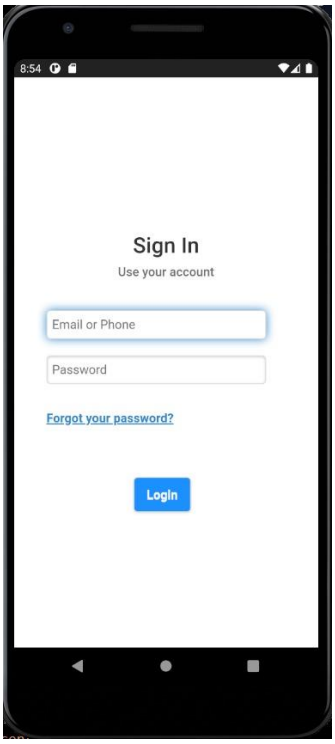
Another option that the users can select from the Dashboard is the “View Schedule” which will take the users to the User Schedule page. This also has the “Back to Dashboard” and the “User Profile” buttons at the top of the page and “Help and Feedback” button at the bottom. The schedules are displayed in calendar view to the user at the center of the page. They can also create their own task in the schedule by tapping on the “Create New Schedule” button right above the display area.

Wireframes



Step 3: Developing the Design

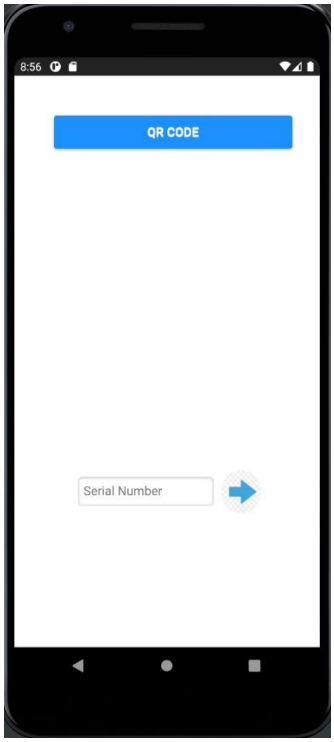
After the 2nd iteration of the conception step, it was analyzed that all the features and options were added were planned and added in the designing process. Therefore, the next step was the developing of a prototype using Cordova. It is important to note that this version of the application is in no way a final version and is just a partly functioning prototype of what the app was aimed to be developed.



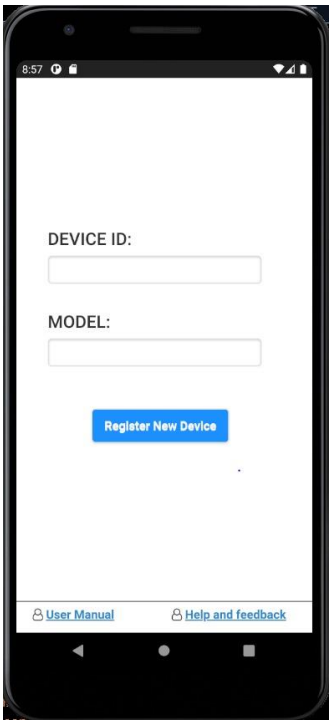
Early-Stage Prototype

The Sign In page is designed to be look as general as possible in order to include common android design elements so that a new user can also know how to login. The textboxes and the Login button are placed in such a way that they can be within the thumb's reach of the user if he/she is using it with only one hand.

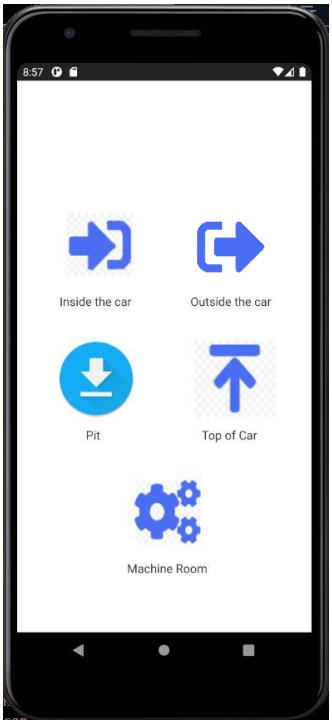
The QR Scan or Serial Number page has a QR Code button at the top of the screen that accesses the smartphone's camera and scans the QR code in the elevator. If there is a problem with QR code scanning the user can also manually input, the Serial Number of the elevator.



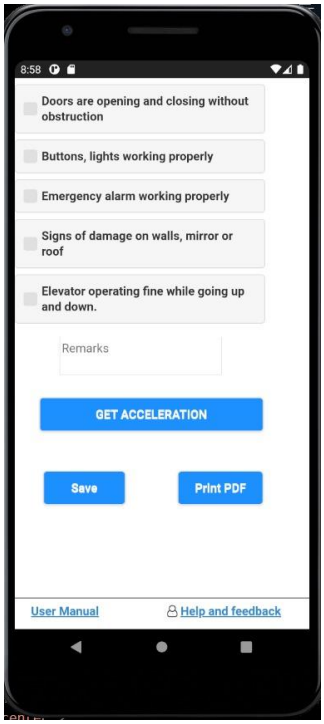
If in case the device scanned is not registered in the database, the Device Registration page is shown to the user. The Device ID and the Model are automatically detected by the application and the only input required from the user is the confirmation to register the device.



Once the user confirms the registration or scans an old device, they are rerouted to the Checklist Menu page where the user has the choice to tap on either of the shown buttons that will open the respective checklist table.

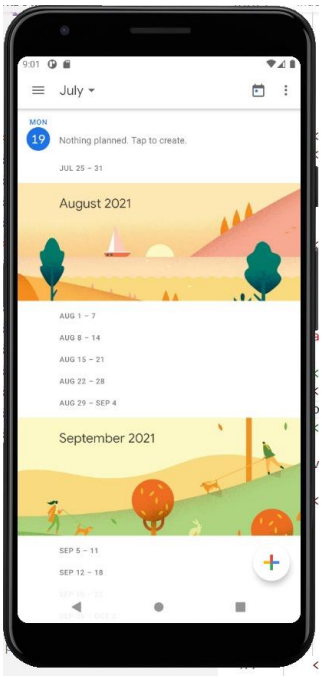


When a checklist is selected, the app opens the Checklist Table Page where the user can see the checklist depending on which part they select from the menu. The table fashions checkboxes which the user can select after inspection and can also access certain sensor outputs that will aid them in the inspection. After the checklist is complete, the user can tap on the Print PDF or the Save option. Printing the PDF generates a summary of the checklist, whereas the Save button only saves it in the database. A vibration actuation output is also activated when the user taps on the Print PDF button.

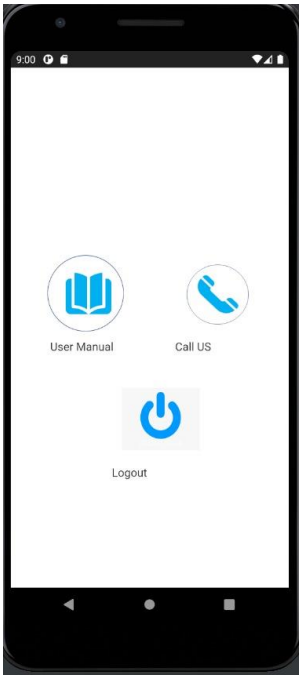


Going back to other options that are visible in the Dashboard when the user taps on the Notifications icons they are rerouted to the Notification page. This page shows the user upcoming events and tasks in their schedule and summaries of individual checklists.

Another feature that the technician can use is to view their schedule. Selecting the calendar icon opens the View Schedule page for the user where they are able to see their upcoming tasks in the form of a calendar view. The user can also add tasks by themselves in their schedule.



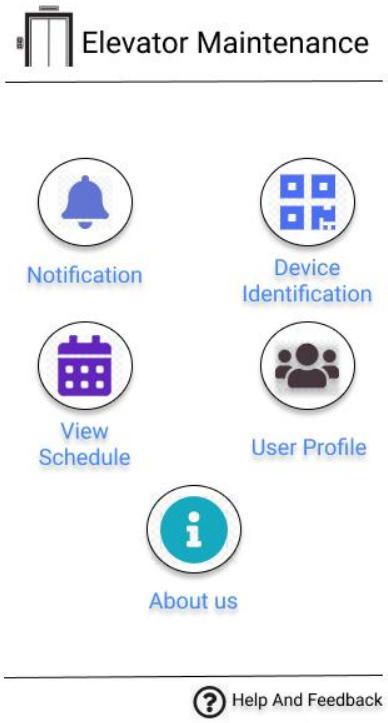
Lastly, the user can tap on the profile icon in order to open the User Profile page. This has the option for the user to consult a manual to help them in their maintenance process. If they face more problems, they also have the option to call an expert engineer by one tap of the call icon. In the end, when the user is done with the session, they can simply log out of the application.

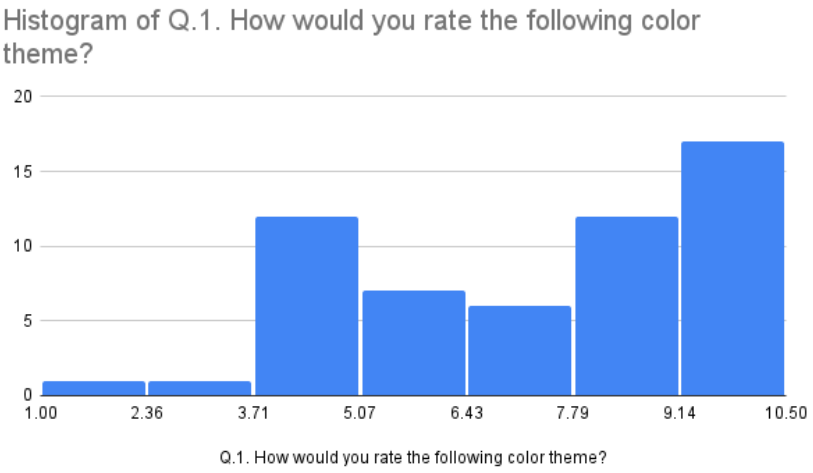


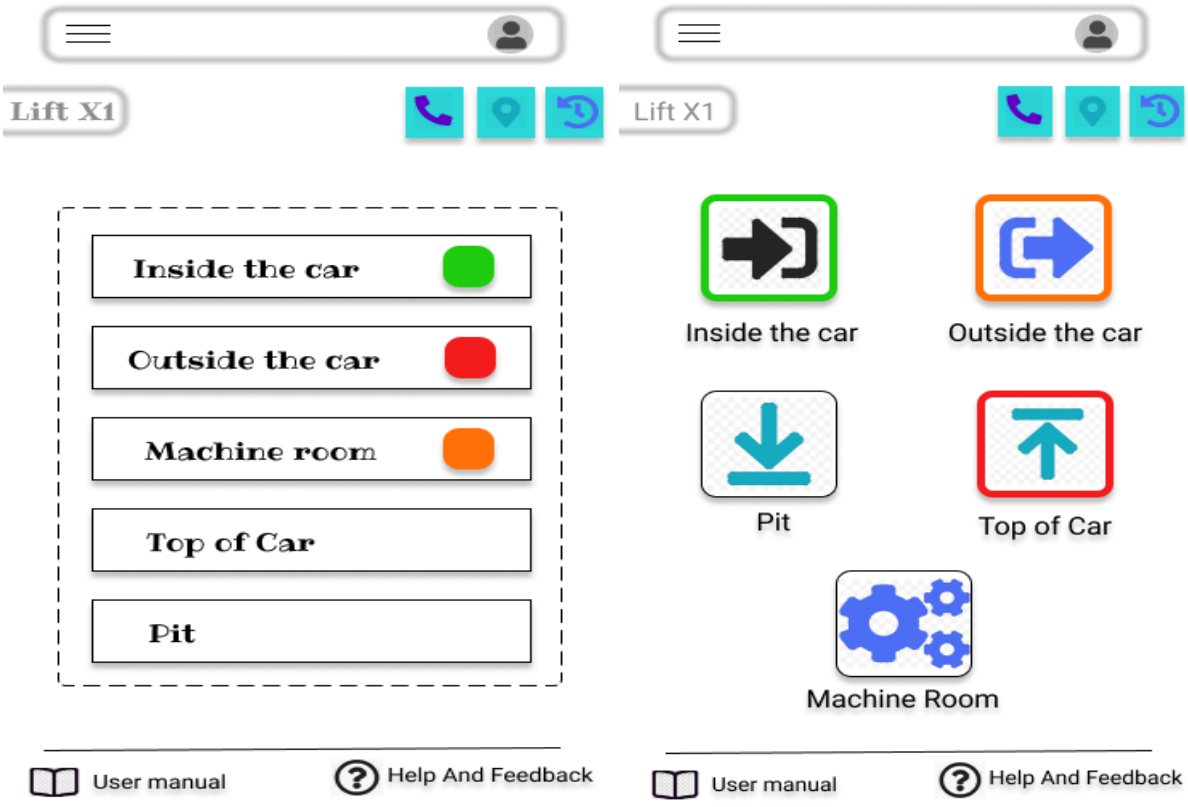
Step 4: Evaluation

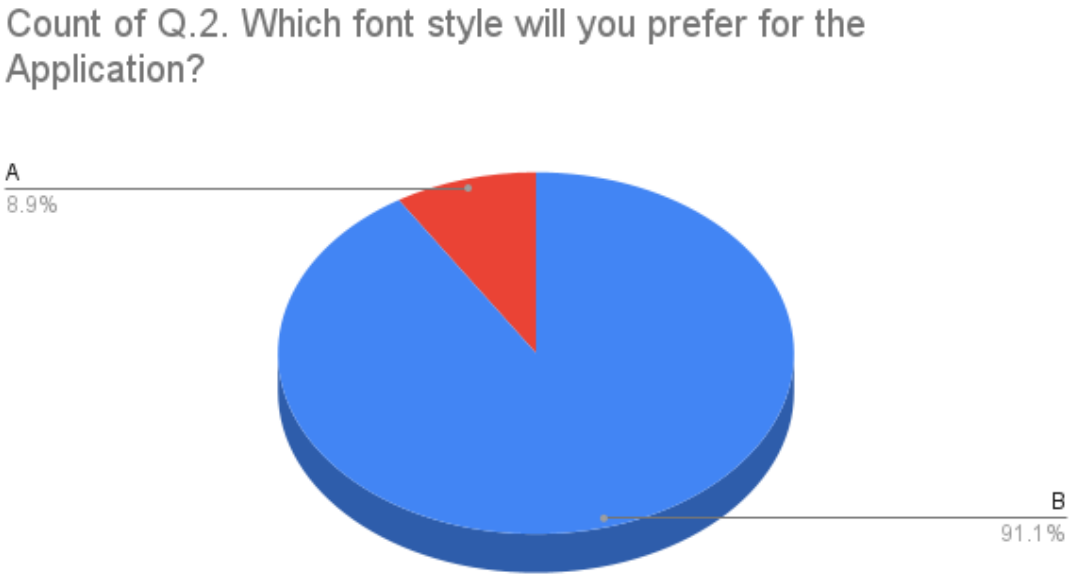
User Design Survey

A survey was conducted to get the feedback of users for the different design layouts.

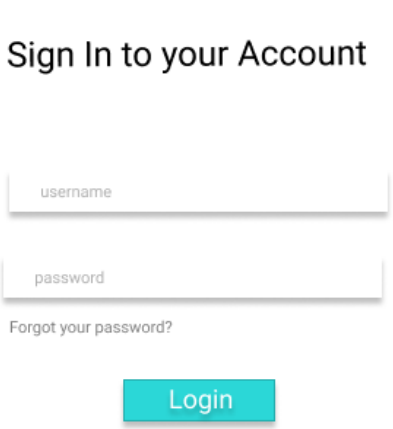


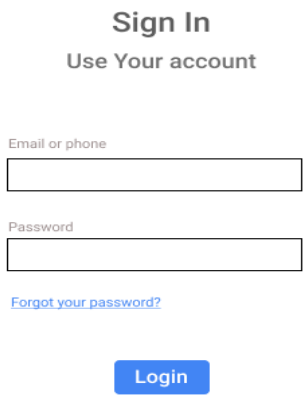


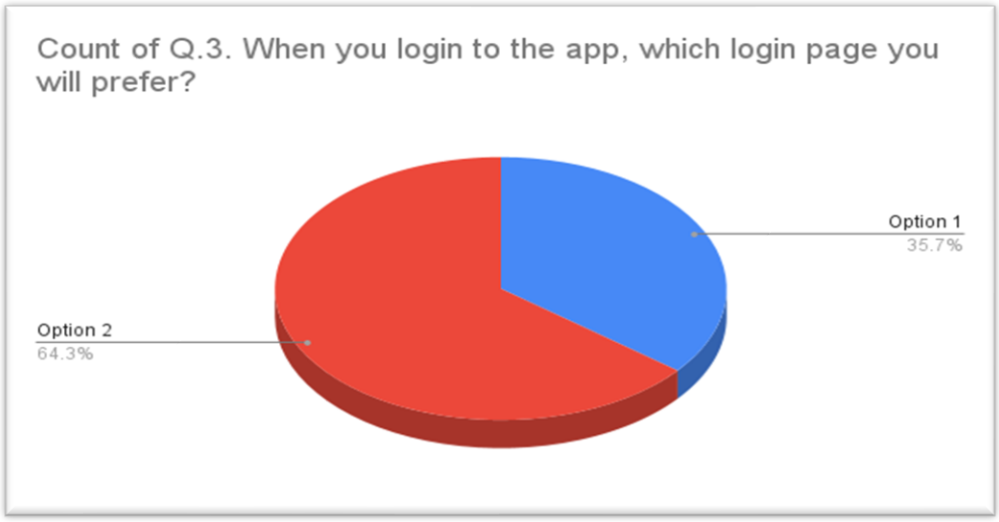




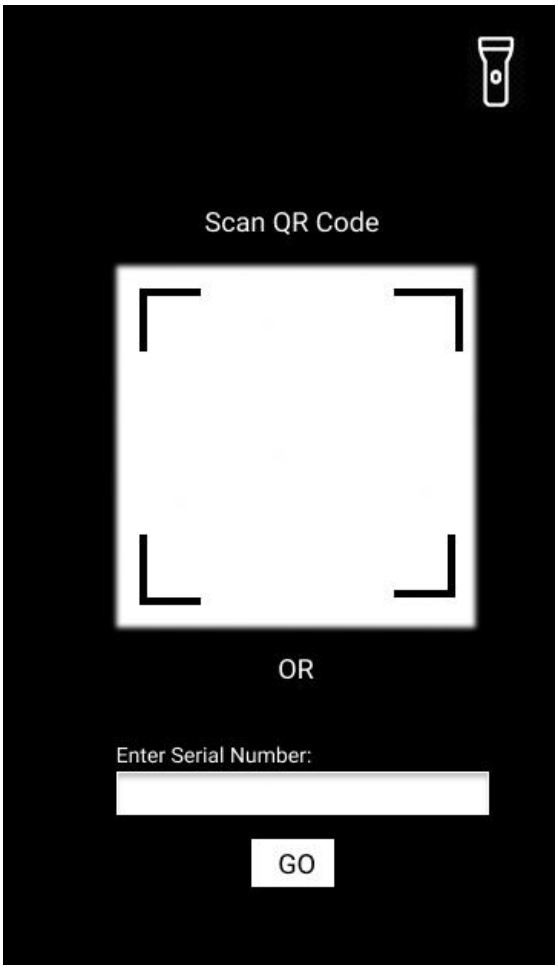
The user prefers a simple font like “Times New Roman” in the application as compared to other fancy fonts, because it is readable and simple.

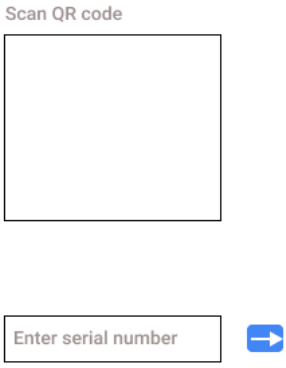


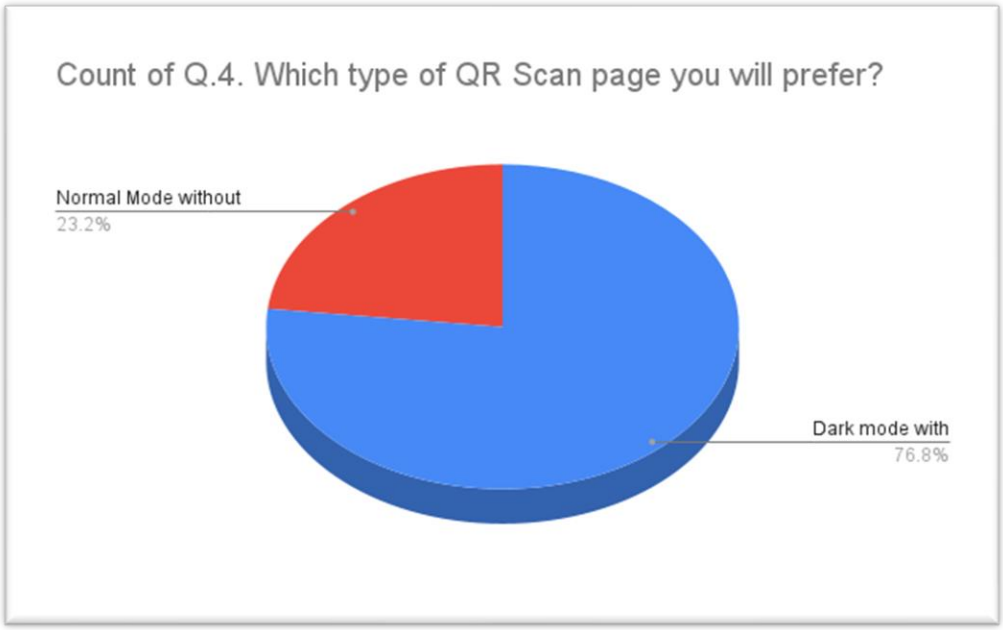




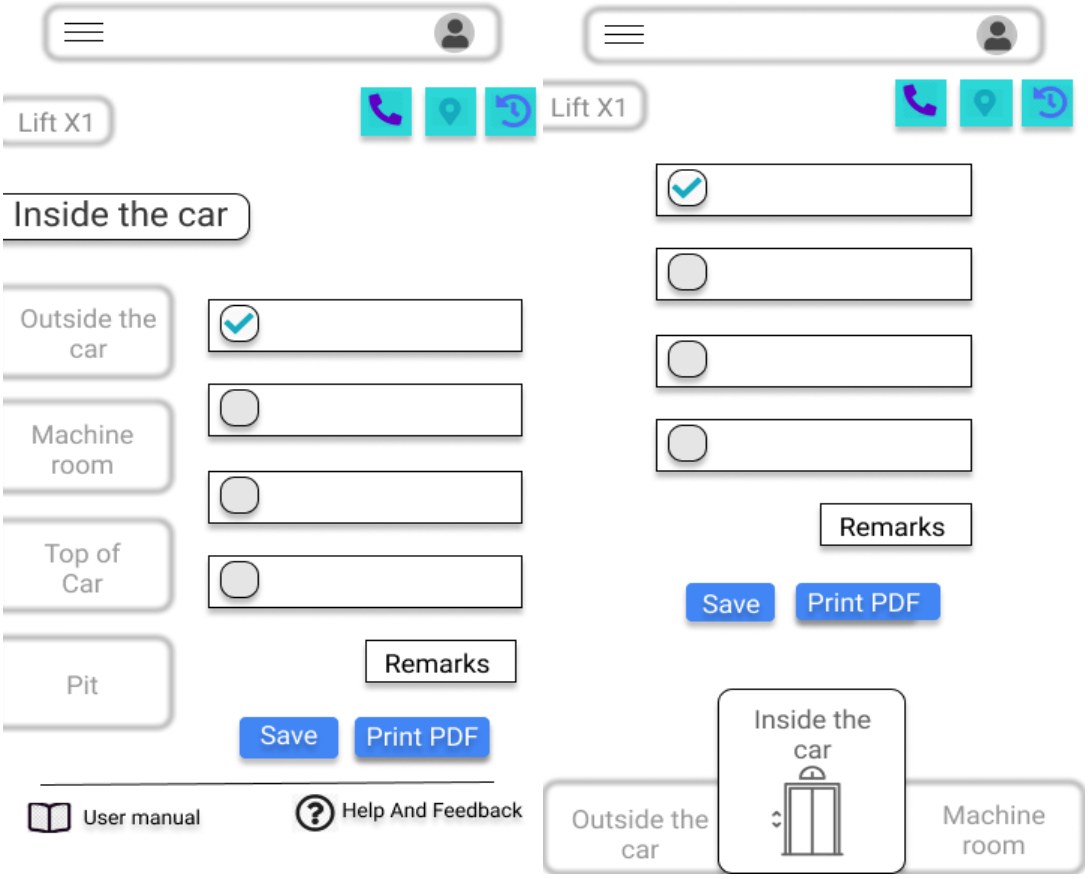
The users prefer second login page as compared to the first login page simple because of the aesthetics.

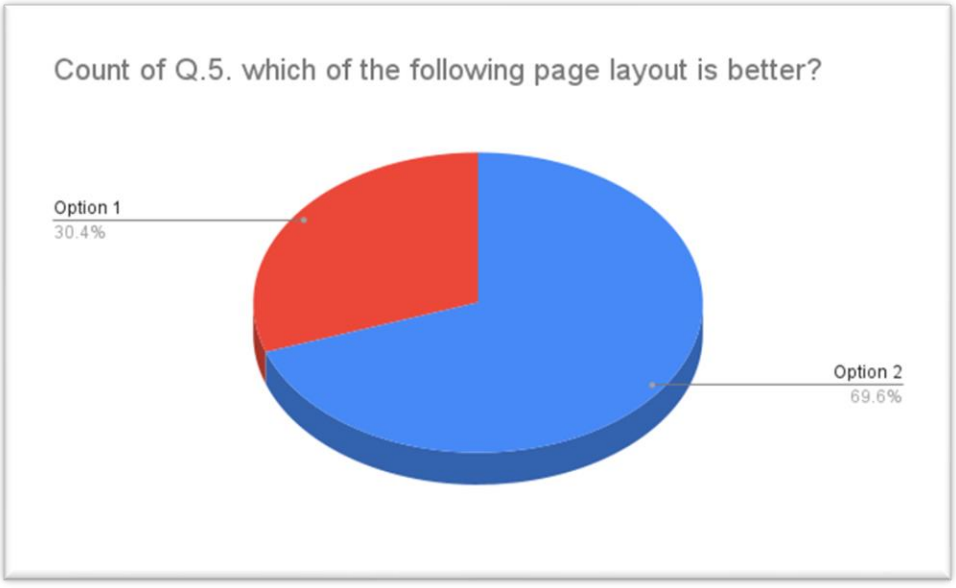




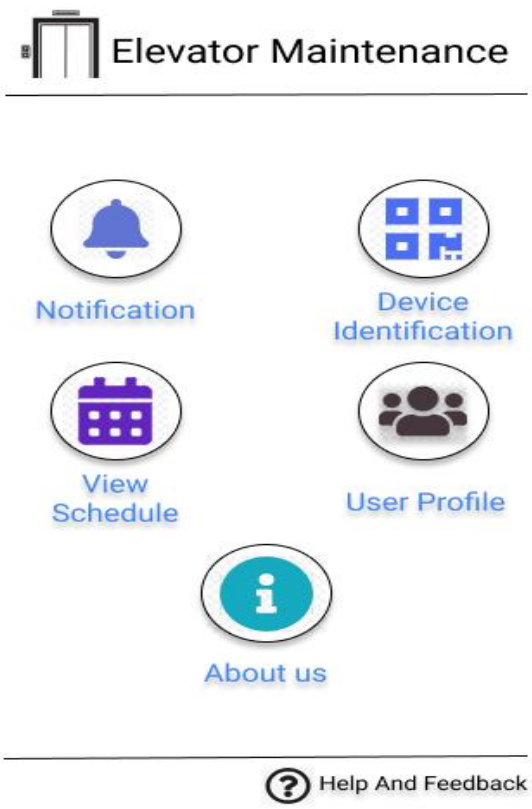


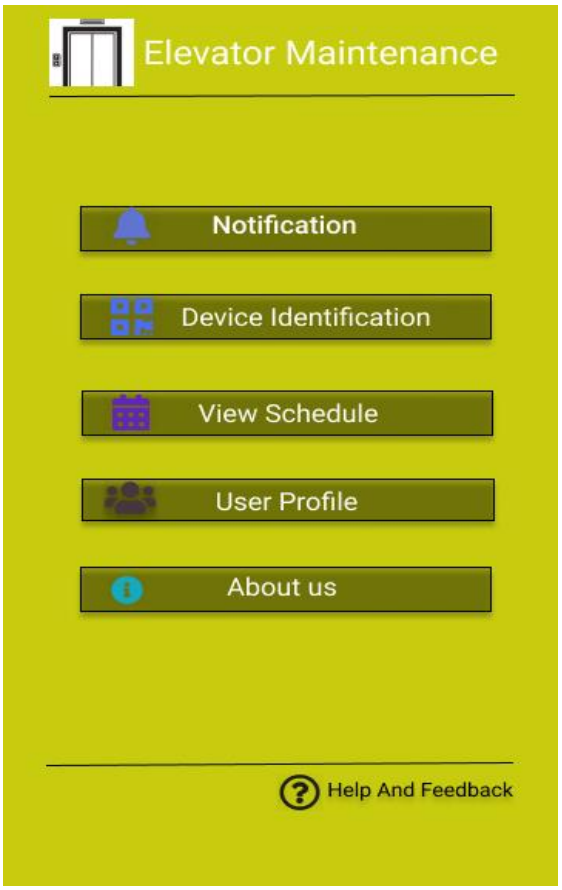
The user prefers the dark mode with flashlight for QR scan as compared to the normal because the flashlight output will increase the user experience and utility of the app.

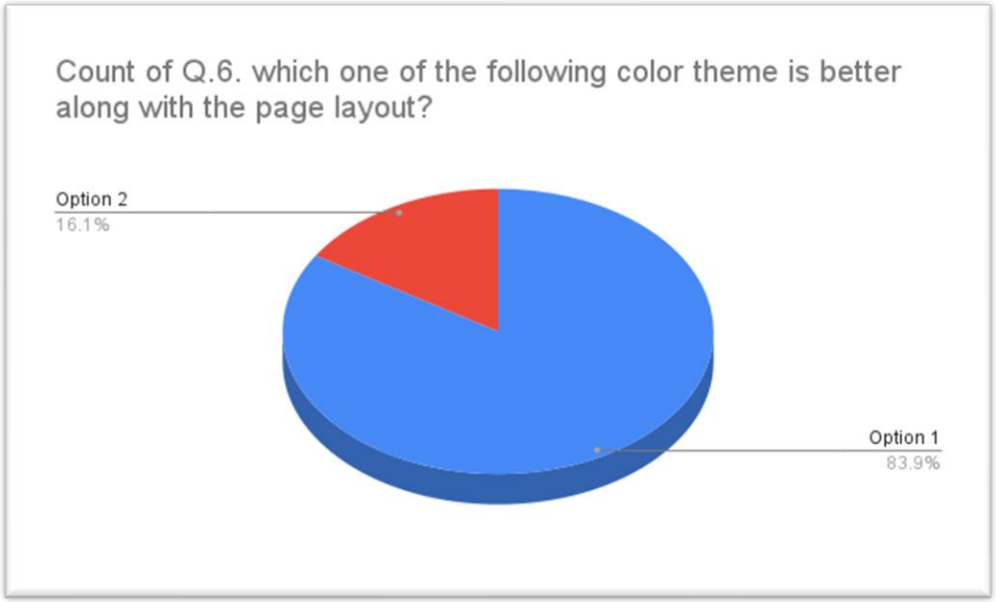




According to most of the users, the second layout is better than the first one because of the screen positioning, color theme and basic android design elements.







The color theme of the first option is better than the second layout because of the color contrast and color schemes. The user prefers the first layout for because of the buttons as well as the color scheme.

UI & UX Design Guidelines

The User Interface design (UI) and User Experience design (UX) is a wide domain, but their applications are limited to a few devices only. Even though smartphones, tablets, and computers have become even more widespread and common that they are being produced and distributed all around the world, they all have a generalized interface. There are certain standards that dictate the method and design of these devices, and it is also these international standards that ensure commercialization and large-scale production of such technology. ISO 9241 is one such standard issued by the International Organization of Standardization that deals with ergonomic standards pertaining to devices that are categorized under human-computer interaction.

These guidelines and standards are also applicable for UI and UX designing which is why they are an important consideration in the conception and designing process of the application. One of the first phases in the development process is first determining the requirements and objectives of the application including setting the tasks that the app will perform. These fall under the category of utility feature of the application as its objective is to fulfill basic functionality.

The utility of an application is analyzed by seeing whether it fulfills its decided requirements. The main objective of an application must be to cater to the needs of the users and by analyzing the user requirements and the application objectives set out by the focus it can be seen that it does so. In addition to this, it is important to note that the requirements of the users were the primary driving factor for the designing of the app, thus everything was designed and developed according to the user's needs. Traditionally the utility of an application is inspected after its completion by the target user, but in the case of developing prototypes this is also sufficient.

Another aspect that contributes to the evaluation of the user interface is the essential usability of the overall. This can be better understood by understanding learnability of an application which is a measure of how easily first-time users can accomplish their tasks by using the app. It is not only the first-time users who should be able to do so, but seasoned users who use the app after a long break must also be able to get back to speed with using the app without difficulty. The designated app was developed by specifically keeping this in mind which is why it showcases a very simple and generalized layout that aims to be user-friendly at the very least.

Several traditional design elements have been incorporated in the development such as the common back button to navigate between pages. This is also true in the case of the quick access toolbar that is placed at the top of the page for efficient functionality and familiar design of the user. Anyone who is familiar with using smartphones, tablets, and computers will be easily able to understand how the app works, even if they use it after a prolonged period of inactivity. All the features and functions of the app are designed to be simple and minimalistic so that the user can increase their working efficiency.

Every feature is available for use to the user in a few taps and gestures and they don't have to search and prod in the interface to find what they are looking for. The checklists and maintenance history can be viewed right after the device identification step which is also designed to be seamless for the user. It is developed in such a way that using the app doesn't get in the way of the user or wastes their time, instead it aims to save the users' time by aiding them in the checklist task.

UX Technical Aspects

In UX design, typography, color schemes, screen positioning and gestures are the main technical aspects. All of these technical aspects have been kept in mind in order to design the application.

1. Typography

During the app development, typography is important. For the app development both types of typography i.e., micro typography and macro typography were included in order to make the app more readable and understandable by the user.

For the font size a standard of 16 point was added so that the user will be able to read the texts easily. Less characters and more icons have been added in the app so that the user doesn't waste their time in reading the app and they can understand the application through the icons. Since our application is focused upon the maintenance checklist of different parts of the elevator, the user can either look at the icon or read the texts so as to make the user experience more interacting and easier. The font weights are used as hierarchical lay outing so the user gets the exact information they are looking for and doesn't get confused in the app, which is the main motive of the user experience.

2. Colors

Since colors are one of the main aspects for the UX design and makes the app layout look more presentable, it also gives an overview of what the application is about. In this application, the page layouts are of blue and white color. Since blue is defined in the technical array and white background is used for readability and simplicity.

The color scheme of the pages are triadic with the combination of blue, white and black. The color contrast In the app is used in a way of bright/dark contrast with black fonts and white background.

3. Screen Positioning

The app has three areas positioned on the screen. The main navigation area on the top, main display area where the checklist is displaced, and all other dashboard options are there and the secondary navigation area for the back buttons and to go to the home page.

Along with floating button and the app bar is there for further functionalities. The pages are designed while keeping in mind the interaction with the thumb and screen in the main screen where the user will be able to navigate easily with one hand.

Future Prospects

The app is still in its prototype phase which is why it is far away from reaching its maximum potential at his stage. In order to optimize the app a lot of testing and iterative development would be required to ensure that it fulfills the user experience and fulfill the best quality of experience. As of now, it operates with most of its functionality and holds the potential to fulfill its requirements of helping an elevator technician in their maintenance checklist process.