UI/UX Case Study

PART I

Exer 1: Project Title & Subtitle

Implementation of a Comprehensive Driver Behavior Reporting System for Transportation Industry.

Client/Company/Project type

The objective of this project is to create an extensive system that tracks and provides insights into the conduct of motorists in the Philippines. This system will encompass multiple facets of driver behavior, including compliance with traffic regulations, promoting road safety, and encouraging responsible driving practices. It will serve as a valuable tool for government bodies, law enforcement agencies, or private enterprises with a keen focus on fostering safe and responsible driving habits.

Project date

This study was undertaken as part of our coursework for the subject of System Integration and Architecture, which constitutes our final academic requirement. I dedicated the entire month of May in the current year to conducting this research and completing the project. Meanwhile, in this case study I started working this on the end of September, I estimated this to finish on October or November.

Exer 2: Your role

I am responsible for a wide range of tasks as part of the Comprehensive Driver Behavior Reporting System project. First, I'll conduct extensive research to understand the specific needs of the transportation industry in the Philippines. In addition, I'll take the lead in designing the user interface, with a focus on making it user-friendly and intuitive. I will also be responsible for testing, documentation, project coordination, and client communication. This demonstrates my ability to work independently and manage various aspects of the project effectively.

Project Summary/About this Project

The Comprehensive Driver Reporting System project was created in response to the urgent need for a customized solution in the Philippine transportation sector. It intends to address issues of road safety and defensive driving techniques by developing a user-friendly interface for tracking and reporting driver behavior. The impetus for this project came from alarming national statistics on traffic infractions and accidents, which highlighted the need for an effective reporting system. The main goal is to build a comprehensive platform that allows users to report incidents, enforce traffic laws, and promote safer roads. Through this project, I hope to demonstrate my UI/UX design and development skills while also significantly improving road safety in the Philippines.

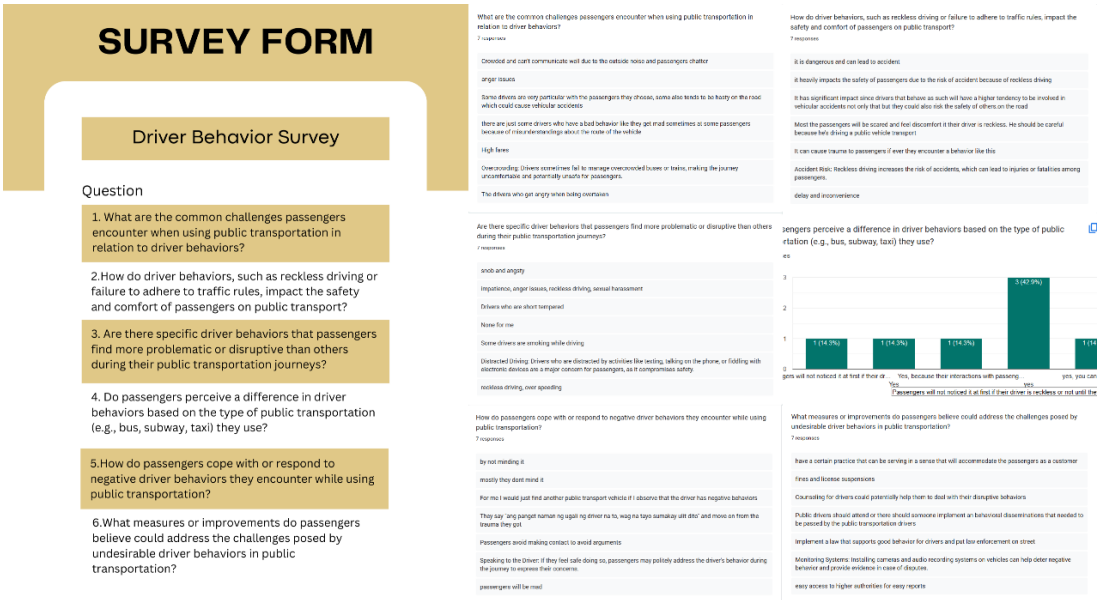
Exer 3: The challenge

The core challenge of this project is to tackle the pervasive issues surrounding driver behavior within the context of public transportation in the Philippines. These encompass safety concerns for passengers and road users due to erratic driving, discomfort faced by passengers, and inadequate reporting mechanisms for problematic driver behaviors. Moreover, regulatory compliance and

business requirements need to be considered to ensure a comprehensive solution. The project serves a diverse set of users, including passengers seeking a safe and comfortable commute, drivers aiming to improve their behavior, and transportation authorities needing effective tools for regulatory compliance. Addressing these multifaceted challenges while navigating technical constraints and business considerations is crucial to developing a successful and impactful Comprehensive Driver Reporting System.

- **Problem Statement** - The problems we're seeing in public transportation here in the Philippines, well, they're really about how drivers behave on the roads. I mean, it's pretty scary out there with all the reckless driving, speeding, and not following the rules. And let's not forget how uncomfortable and inconvenient it can be for us passengers when drivers suddenly slam on the brakes or make sharp turns. What makes it even tougher is that there aren't many easy ways for us to report these issues, and the authorities struggle to keep tabs on everything. Plus, there's just not enough data to really understand what's going on. So, what we really need is a system that helps us passengers report these problems, keeps a closer eye on driver behavior, and, well, makes our journeys safer and more comfortable. That's what this Comprehensive Driver Reporting System is all about.

- **User Interviews**
  To gain a deeper understanding of the challenges commuters face due to driver behaviors, we conducted interviews with them. During these interviews, we posed a series of questions to gather valuable insights and perspectives.



- **Pain Points**
  These pain points, as quoted directly from our survey respondents, shed light on the real challenges passengers face when using public transportation due to undesirable driver behaviors. They emphasize the critical need for solutions that prioritize safety, comfort, and effective reporting mechanisms to enhance the overall passenger experience.

  Pain Point 1:
  Safety Apprehensions due to Reckless Driving
  User Quote:
  "It's risky and could lead to accidents because of reckless driving."
  Description:

Passengers often convey feelings of fear and unease when they encounter drivers who engage in reckless driving behaviors. This not only imperils their safety but also erodes their confidence in the driver's competence.

Pain Point 2:
Discomfort and Inconvenience
User Quote:
"Most passengers become anxious and uncomfortable when their driver behaves recklessly."
Description:
Passengers frequently mention sensations of uneasiness and inconvenience resulting from disruptive driver behaviors, such as abrupt stops and aggressive driving. These actions significantly diminish the overall comfort of the journey.

Pain Point 3:
Limited Reporting Options
User Quote:
"In my case, I'd seek alternative public transportation if I witness negative driver conduct."
Description:
Many passengers opt to evade confrontations or are unaware of proper channels to report problematic driver behaviors, leading to a dearth of effective reporting mechanisms. This frustration prompts passengers to simply avoid specific public transportation options altogether.

- **Affinity Mapping**
  The data was gathered through online interviews with respondents who provided their perceptions and experiences of problems with public transportation and driving practices.

COMMON CHALLENGES ENCOUNTERED BY PASSENGERS:	IMPACT OF DRIVER BEHAVIORS ON PASSENGER SAFETY AND COMFORT:	PERCEPTIONS OF SPECIFIC DISRUPTIVE DRIVER BEHAVIORS:	PASSENGER RESPONSES TO NEGATIVE DRIVER BEHAVIORS:
• Noise and Communication Challenges.	• Safety Concerns.	• Negative Driver Behavior Traits.	• Ignoring the behavior.
• Behavior of Drivers.	• Passenger Comfort.	• Perception Differences.	• Finding another public transport vehicle.
• Cost-related Issues.			• Avoiding contact with the driver.
• Specific Instances of Driver Behavior.			• Voicing concerns or complaints.

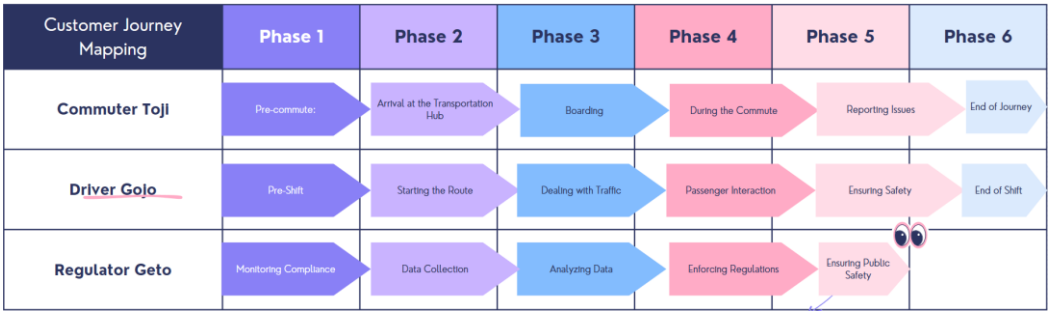
- **Personas:**
  Personas with different roles of People:

Commuter Toji: Toji, a 40-year-old office manager in Palawan, seeks safe and comfortable daily commutes, valuing her safety, comfort, and easy reporting options for negative driver behaviors during her journeys.

Driver Gojo: Gojo, a 20-year-old bus driver, aims to provide a smooth and safe ride for his passengers, but occasional stress and frustration with traffic can lead to moments of impatience.

Regulator Geto: Geto, a 20-year-old transportation regulator, is tasked with overseeing driver compliance and safety, needing accurate data and efficient reporting systems to enforce regulations effectively.

- **Customer Journey Mapping**
  The customer journey mapping was developed with the aim of visually representing and elucidating the unique experiences and distinct phases that each persona undergoes during their individual journeys. This mapping serves as a comprehensive tool to provide insight into the sequence of interactions, touchpoints, and challenges encountered by each persona throughout their respective paths.



Exer 4: Solution

- **Design Solutions**

Pain Point 1: Safety Apprehensions due to Reckless Driving

Design Solution 1: Real-time Driver Behavior Monitoring

Implement a system that monitors driver behavior in real time using in-vehicle sensors and GPS technologies. This device will monitor variables such as speed, sudden stops, and aggressive driving. An alarm is delivered to both the driver and the transportation authorities if risky activity is identified. This encourages safer driving habits and reduces dangers.

Design Solution 2: Driver Behavior Feedback System

Develop a feedback method in which passengers may submit rapid feedback on driver conduct via a mobile app. This information is communicated to the driver and transportation authorities, allowing for prompt corrective action. It urges drivers to be more careful and responsible behind the wheel.

Pain Point 2: Discomfort and Inconvenience

Design Solution 3: Passenger Comfort Ratings

Include in the transportation app a function that allows users to review the comfort of their ride. Passengers can rate things such as ride smoothness, seating comfort, and overall experience. Drivers who routinely earn high comfort ratings are rewarded, pushing them to give a more enjoyable journey.

Pain Point 3: Limited Reporting Options

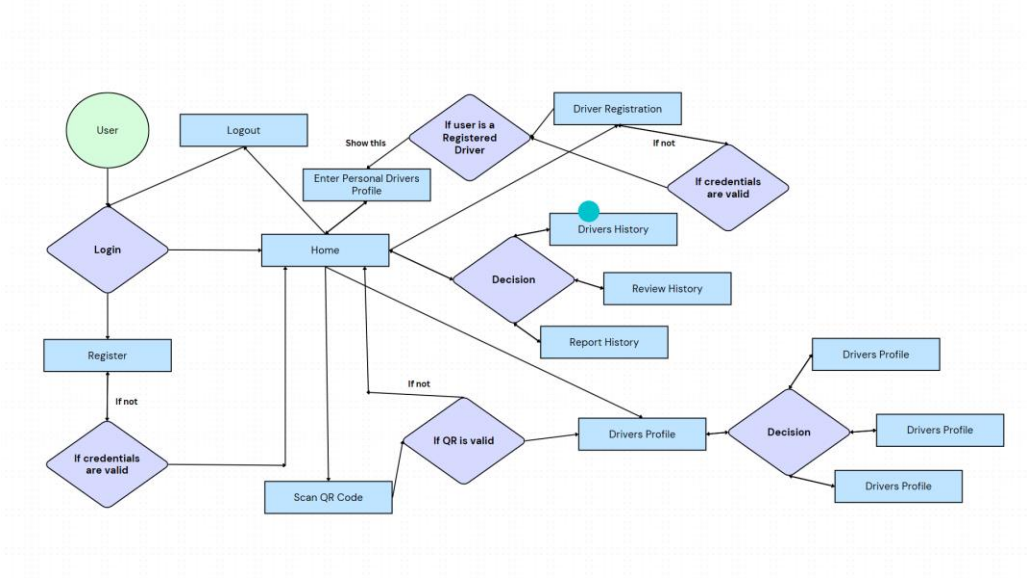
Design Solution 4: In-App Reporting

Create a specific section inside the transportation app for reporting complaints relating to driver conduct. Passengers may simply report incidents, which might include descriptions, images, or videos. These complaints are routed directly to transportation authorities for follow-up, resulting in a more efficient reporting procedure.

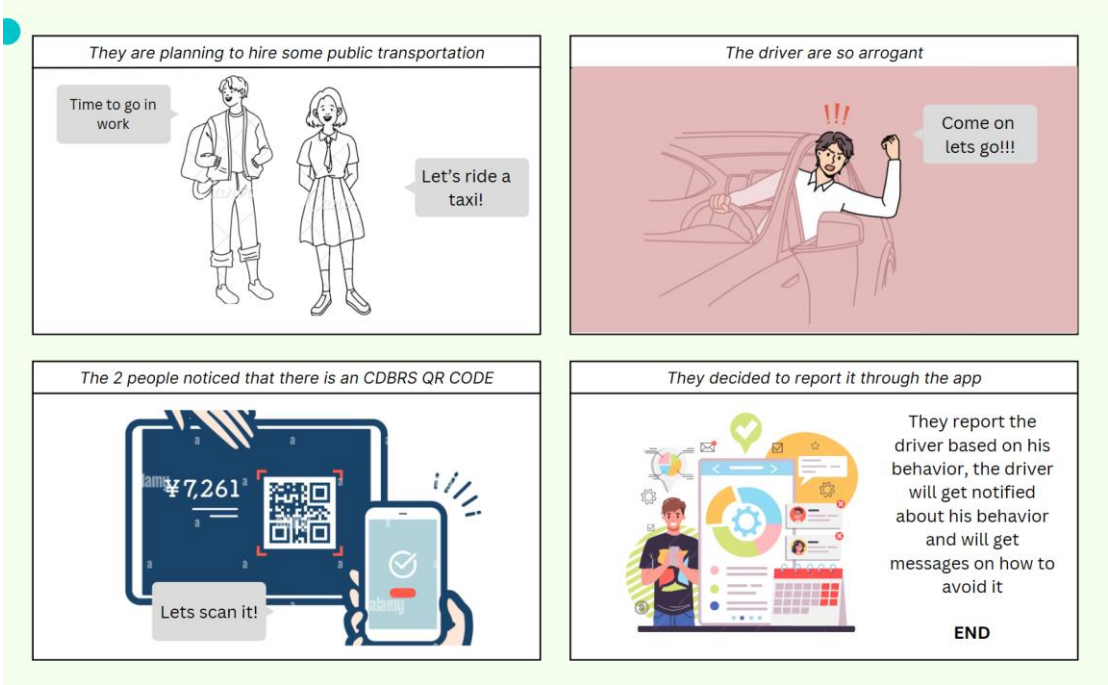
Design Solution 5: Anonymous Reporting Option

Provide an anonymous reporting option for travelers who are concerned about retaliation This tool allows travelers to report problems without disclosing their name. It guarantees that any harmful driver actions are reported without fear of repercussions.

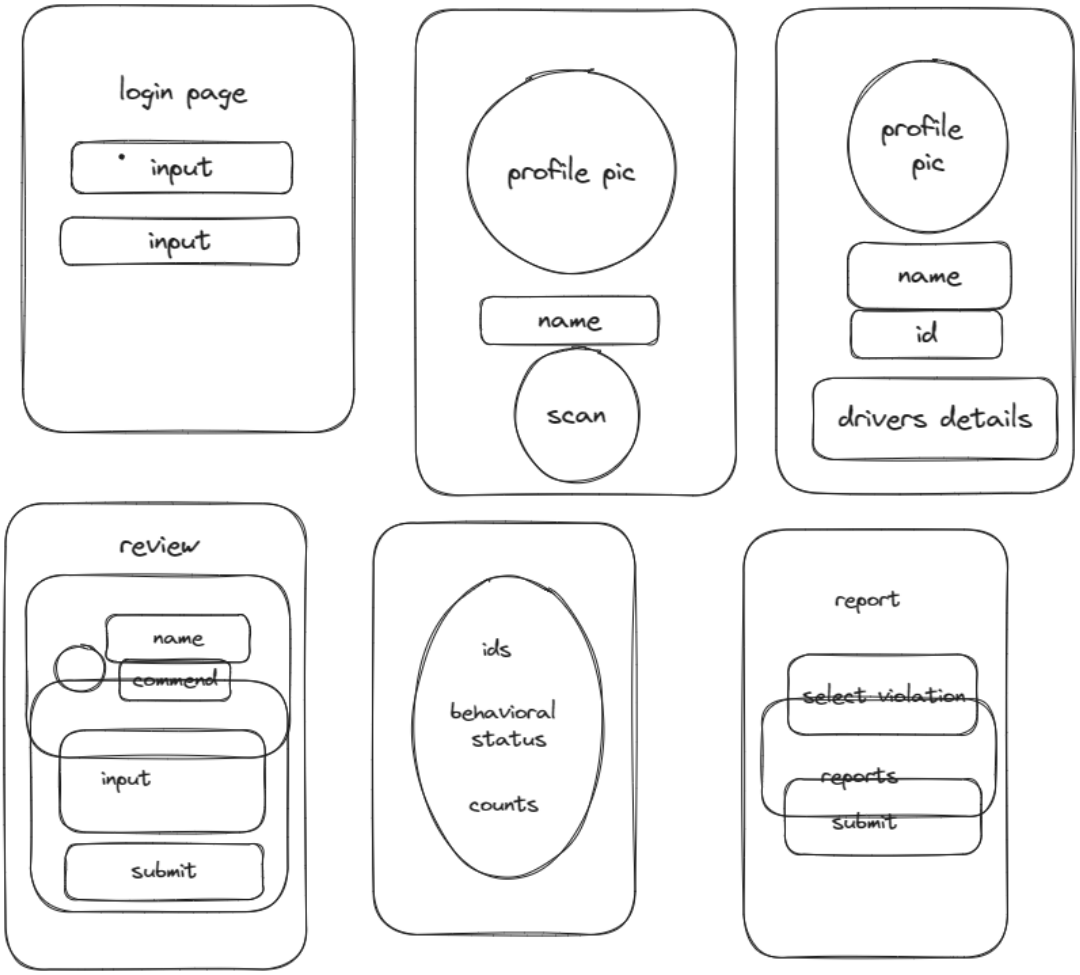
- **User Flow**



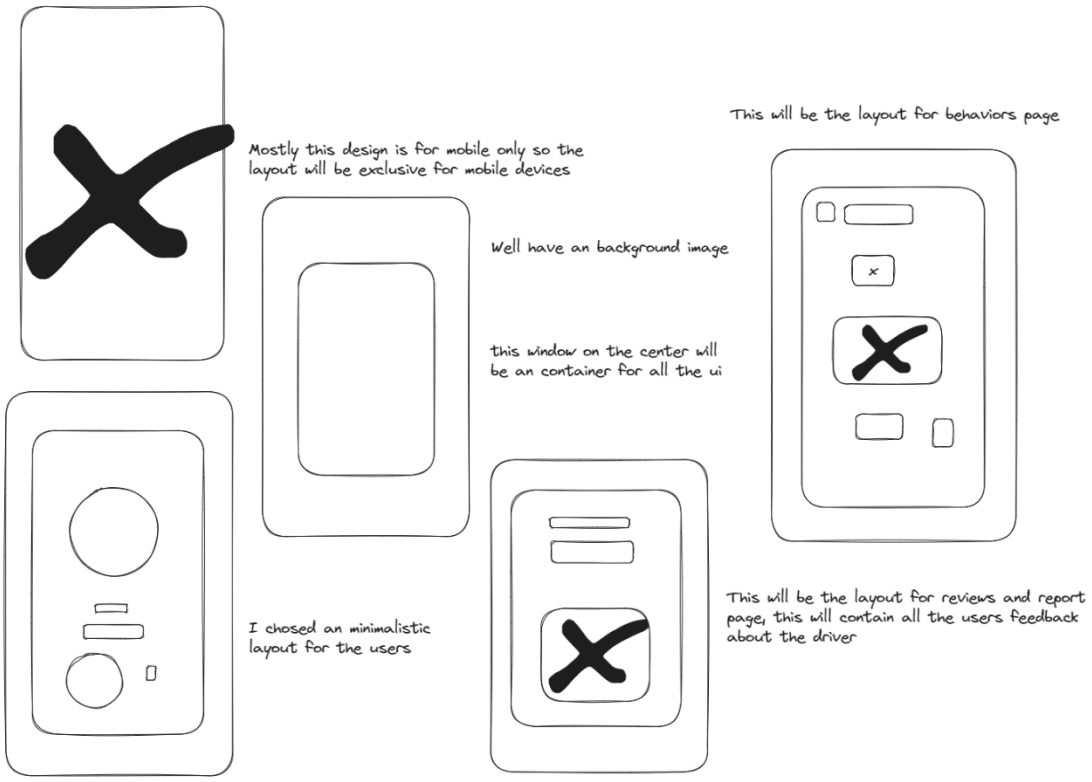
- **Storyboards**



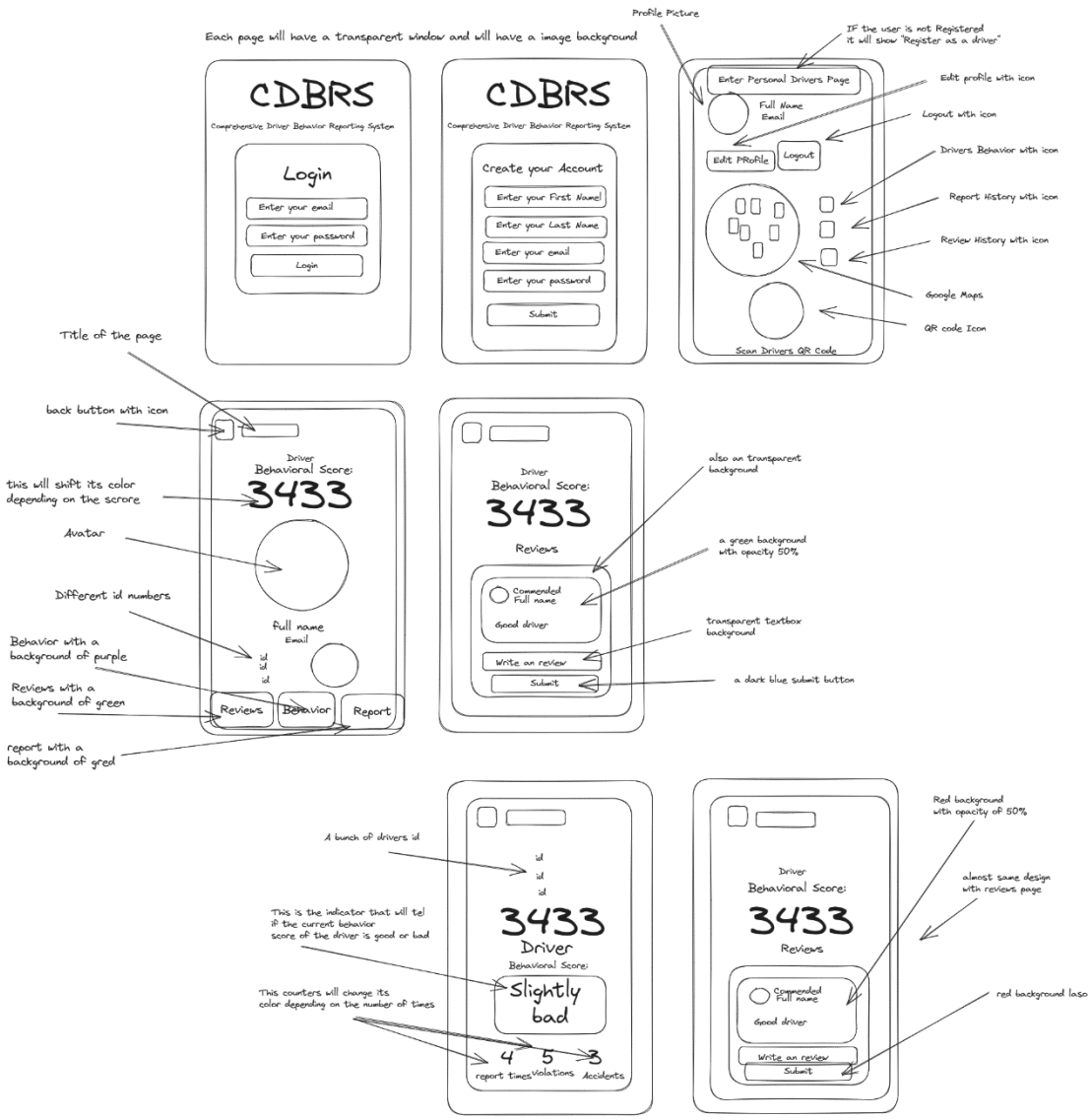
- **Sketches**



- **Wireframes**



- **Visual UI Design**



The smartphone app's design choices, such as the relaxing color scheme for safety and warm tones for comfort, as well as real-time data visualizations for driver behavior, address the pain points linked with passenger discomfort and safety concerns as a result of irresponsible driving. The simple "Behavioral Score" function allows passengers to quickly assess the driver's conduct, resulting in a more comfortable and trustworthy journey. The specialized incident reporting system guarantees that concerns are addressed as soon as possible. These design features work together to produce a user-friendly interface that encourages drivers to adopt safer and more courteous driving habits, hence improving road safety and passenger pleasure in the Philippines' public transportation sector.

- **Prototype**

  We've provided a prototype for this project that would show how the user will interact and navigate. And also, this will showcase each part of the UI design.

  Refer to the included video for the demonstration.

PART II

Comments/Suggestions

After presenting my study on the comprehensive driver behavior reporting system, I engaged in a fruitful discussion with my classmates, during which they raised several intriguing questions and points of interest. One of the key topics that emerged from their inquiries was the significance of implementing such a system in enhancing road safety. They were curious about the specific features and functionalities of the reporting system and how it differs from traditional reporting methods.

There was a strong focus on the practicality of this system, with questions about its potential impact on reducing accidents. The discussion also delved into the potential challenges and limitations of implementing this system, considering factors like data privacy, user adoption, and the technical feasibility of widespread implementation.

Overall, the feedback and questions from my classmates underscored the relevance and complexity of the driver behavior reporting system in the context of cotemporary transportation and safety concerns.

Results /Conclusion

Prior to embarking on this study, I grappled with numerous questions and uncertainties regarding how to commence this research endeavor. These contemplations spanned across a spectrum of crucial aspects, such as the initial steps to establish a structured flow for the study, determining the appropriate target audience, defining the precise objectives to be achieved, and understanding the overarching significance of the research.

As I delved into the exploratory phase and conducted interviews to gather valuable insights, I gradually began to discern a potent solution that could revolutionize the transportation industry. This solution, a comprehensive reporting system with an integrated capability to monitor and record driver behaviors, gradually crystallized in my mind. The culmination of these interviews, which provided firsthand perspectives from stakeholders in the transportation sector, unveiled a pressing need for a multifaceted system that not only facilitates reporting but also offers a holistic approach to driver behavior monitoring.

This realization sparked a profound sense of purpose and direction for the study. The objective became clear, to design and advocate for a reporting system that stands as a paragon of innovation in the transportation industry. The system would be tailored to address the safety concerns and operational challenges that drivers, transportation companies, and regulatory bodies face daily. It would not only streamline reporting processes but also serve as a proactive tool for monitoring, analyzing, and enhancing driver behavior, with the ultimate goal of making roadways safer and more efficient.

The significance of this study extends beyond its academic or theoretical value; it pertains to real-world implications and tangible benefits. The transportation industry, plagued by safety issues and operational inefficiencies, would gain a cutting-edge tool to mitigate risks and optimize its operations. Moreover, society at large would reap the rewards of improved road safety, potentially leading to reduced accidents, better insurance rates, and more reliable transportation services. This study, therefore, serves as a pivotal step towards transforming the transportation landscape, fostering a safer, more efficient, and data-driven future for all stakeholders involved.