

Chapter 1 Project Proposal	3
Introduction:	3
Rationale and Background:	3
Aims and Objectives:.....	3
Research Approach:	3
Planning:	3
Hardware and Software Requirements:.....	3
Conclusion:.....	3
Chapter 2 Literature Review	3
Introduction:	3
Literature Review	3
Investigation and Research:	3
Research Findings:	3
Conclusion:.....	3
Chapter 3 Design	3
Introduction:	3
Design Approach and Methodology:	3
Design Documentation:	4
Risk Assessment:	4
Conclusion:.....	4
References:.....	4

Chapter 1 Project Proposal

Introduction:

In response to the ever-evolving landscape of the automotive marketplace, the proposed project, "AutoFleetHub," emerges as a critical solution aimed at revolutionizing the process of buying and selling cars. In recognizing the existing challenges and gaps within the current automotive trading platforms, the project seeks to redefine the standards, providing a cutting-edge website tailored for car enthusiasts and potential buyers alike.

The motivation behind the project comes from a keen understanding of the deficiencies in previous approaches to online car transactions. Existing platforms often fall short in delivering a seamless and user-centred experience, leaving car enthusiasts and buyers frustrated with the complexities and limitations. This project aims to address these shortcomings by introducing a highly intuitive and feature-rich website, prioritizing user-friendliness to elevate the entire car shopping experience.

As the automotive industry advances, there is an increasing demand for a platform that not only facilitates transactions but enhances the overall journey of buying and selling cars. The project rises to this challenge by incorporating innovative features and user-centric design principles. By undertaking this project, the aim is to set a new standard in the automotive trading sector, providing a reliable and efficient solution for individuals seeking a modern and fulfilling car-buying experience.

Rationale and Background:

The motivation for the initiation of this project is featured by the growth towards online car purchases, particularly fuelled by the effects of the COVID-19 pandemic (Brewer, 2023). In the wake of the pandemic, there has been a remarkable shift in consumer behaviour, with a substantial surge in the preference for online transactions and contactless experiences.

Recent statistics highlight the significant impact of these changes, revealing a 17.9% increase in online car purchases resulting in 1.9 million vehicles being sold in 2023 (Reuters, 2024). This trend is indicative of a broader societal shift towards the digital realm, with consumers seeking convenient and efficient alternatives to traditional, time-consuming processes.

Acknowledging the existence of online car marketplaces, it's evident that current platforms often fall short in providing immersive experiences, interactivity, and detailed visual representation - crucial elements that resonate with modern consumers. This project, therefore, is strategically positioned to fill this gap in the market by implementing innovative features.

By incorporating advanced technologies such as 360-degree view, the project aims to not only meet but exceed customer expectations. Statistics underscore the increasing demand for immersive online experiences in the automotive sector, with 70% of consumers expressing a preference for platforms offering enhanced interactivity (Schmith, 2023).

The primary goal of this project is to revolutionize the online car marketplace by bridging the gap between customer expectations and current platforms. By enhancing user interaction, simplifying the purchasing process, and introducing a level of experiential depth previously unavailable, we aspire to establish a robust online marketplace that sets new industry standards for buying and selling cars.

Aims and Objectives:

Aim: The goal of this project is to establish a new industry benchmark, setting standards for user-friendly design and immersive experiences in the realm of online car buying and selling.

Objectives:

- Market Research and Analysis:

Objective: Conduct in-depth market research to discern the competitive landscape, target audience dynamics, and emerging trends within the online car buying and selling industry.

Outcome: A comprehensive market analysis report outlining key insights, competitive strengths and weaknesses, and a strategic understanding of industry trends.

- User Research and Analysis:

Objective: Execute user surveys and interviews to gain deep insights into the specific needs and preferences of car buyers and sellers. Analyse user behaviour data to extract valuable insights into their interactions within the online car marketplace.

Outcome: A detailed user profile report, providing a deep understanding of user expectations, pain points, and behaviour patterns to inform the platform's design and functionality.

- 360-Degree View Feature:

Objective: Implement a robust 360-degree view feature allowing users to explore vehicles comprehensively, both inside and out, for a detailed and immersive visual representation.

Outcome: Integration of a fully functional 360-degree view feature, enhancing the platform's visual appeal and providing users with a unique and engaging car exploration experience.

- Test Drive Scheduling Functionality:

Objective: Develop a seamless test drive scheduling feature enabling potential buyers to effortlessly book appointments and experience vehicles firsthand, bolstering their confidence in making informed purchase decisions.

Outcome: Successful implementation of a user-friendly test drive scheduling system, contributing to a positive and personalized user experience.

- Car Comparison Tool:

Objective: Implement an intuitive car comparison feature allowing users to evaluate and compare different car models side by side, with detailed highlights of key features, specifications, and pricing.

Outcome: Integration of a user-friendly car comparison tool, empowering users with efficient tools for informed decision-making in their car-buying journey.

- Login and Sign-Up Feature:

Objective: Develop a secure and user-friendly login and sign-up system enabling users to create accounts, save preferences, and efficiently track their car buying journey.

Outcome: Implementation of a robust authentication system, contributing to enhanced user engagement and personalized experiences throughout their interaction with the platform.

By successfully accomplishing these objectives, the project will not only simplify the car buying process but also elevate user satisfaction, instilling confidence in their purchase decisions.

Research Approach:

To create a robust foundation for the development of the project, a combination of primary and secondary research methodologies will be employed. This dual-pronged approach is strategically chosen to gather comprehensive insights into the unique needs and preferences of car buyers and sellers, ensuring the project aligns precisely with user expectations and industry trends.

Primary Research:

Primary research will be conducted through user surveys and interviews, directly engaging with participants in the car buying and selling environment. This method allows for a tailored approach, leveraging open-ended questions and discussions to investigate deep into the complexities of user experiences (Gaille, 2020). This qualitative research method is ideal for capturing non-numeric, descriptive data that provides nuanced insights into users' needs and preferences. By customizing survey questions to align with specific research objectives, the primary research phase aims to reveal unique and valuable perspectives from the target audience.

However, potential risks inherent in this approach must be acknowledged. Privacy concerns will be carefully addressed to safeguard participants' personal information. Accurate protocols will be established to prevent data breaches and ensure the confidentiality of participant data. Moreover, while qualitative research offers rich insights, the limitation of generalizability to the entire target population due to a relatively small sample size will be acknowledged and considered in the interpretation of findings.

Secondary Research:

Complementing the primary research, a comprehensive analysis of existing car marketplaces and an exploration of best practices in web development and user experience design will constitute the secondary research phase. This approach taps into a wealth of existing knowledge and industry insights (Taylor, 2022). Analysing data from established marketplaces will reveal trends, customer preferences, and competitive landscapes, providing a contextual backdrop for decision-making. Studying best practices in web development and user experience design will inform the project's design choices, ensuring alignment with industry standards and user expectations.

However, ethical considerations are vital in the secondary research phase. Respecting copyright and intellectual property rights will be a priority, and permissions or licenses will be secured to access and utilize data from existing car marketplaces (Tripathy, 2013).

By linking these research methodologies, the project aims to not only meet but exceed industry standards, creating a user-centric car buying and selling platform that stands at the forefront of innovation. The approach is precisely designed to mitigate risks, prioritize participant privacy, and ensure the ethical use of data throughout the research process.

Planning:

1. Initiation:

The project begins with the initiation phase, where the scope, objectives, and key stakeholders are defined. Resources and the project team are allocated, and a detailed project plan is created, outlining milestones and timelines.

2. Gathering Literature:

Extensive research is conducted in the gathering literature phase. This involves collecting relevant data and insights related to online car marketplaces, user behaviour, industry trends, and best practices in web development, and user experience design. This research forms the foundation for informed decision-making throughout the project.

3. Designing:

The design phase follows, where detailed specifications are developed. This includes designing the user interface, user experience flow, database structure, and architectural components of the car buying and selling platform. Specific features, such as the 360-degree view, test drive scheduling, login and sign-up feature and car comparison tools, are outlined in this phase.

4. Implementation/Building:

Implementation or building is the phase where the design specifications are transformed into functional code and components. This involves developing both the front-end and back-end of the website, establishing databases, and realizing the features outlined in the project objectives.

5. Testing:

The testing phase is critical to ensure the platform's functionality, performance, and security. Various tests, including functional, user experience, security, and performance testing, are conducted. The goal is to identify and address any issues or bugs before the platform goes live.

6. Evaluation:

Finally, the evaluation phase assesses how well the platform meets project objectives and user needs. User surveys, feedback collection, and user interaction analysis are performed. This evaluation informs refinements and improvements to the platform.

Work Breakdown Structure (WBS), Gantt Chart, and Milestones:

The Work Breakdown Structure (WBS) will be developed to decompose the project into manageable components, providing a hierarchical representation of tasks and deliverables. This will feed into the creation of a Gantt Chart, offering a visual timeline of project activities, dependencies, and milestones. Key milestones, such as the completion of the design phase, initiation of implementation, and successful completion of testing, will serve as crucial indicators of progress and success throughout the project lifecycle.

WBS:

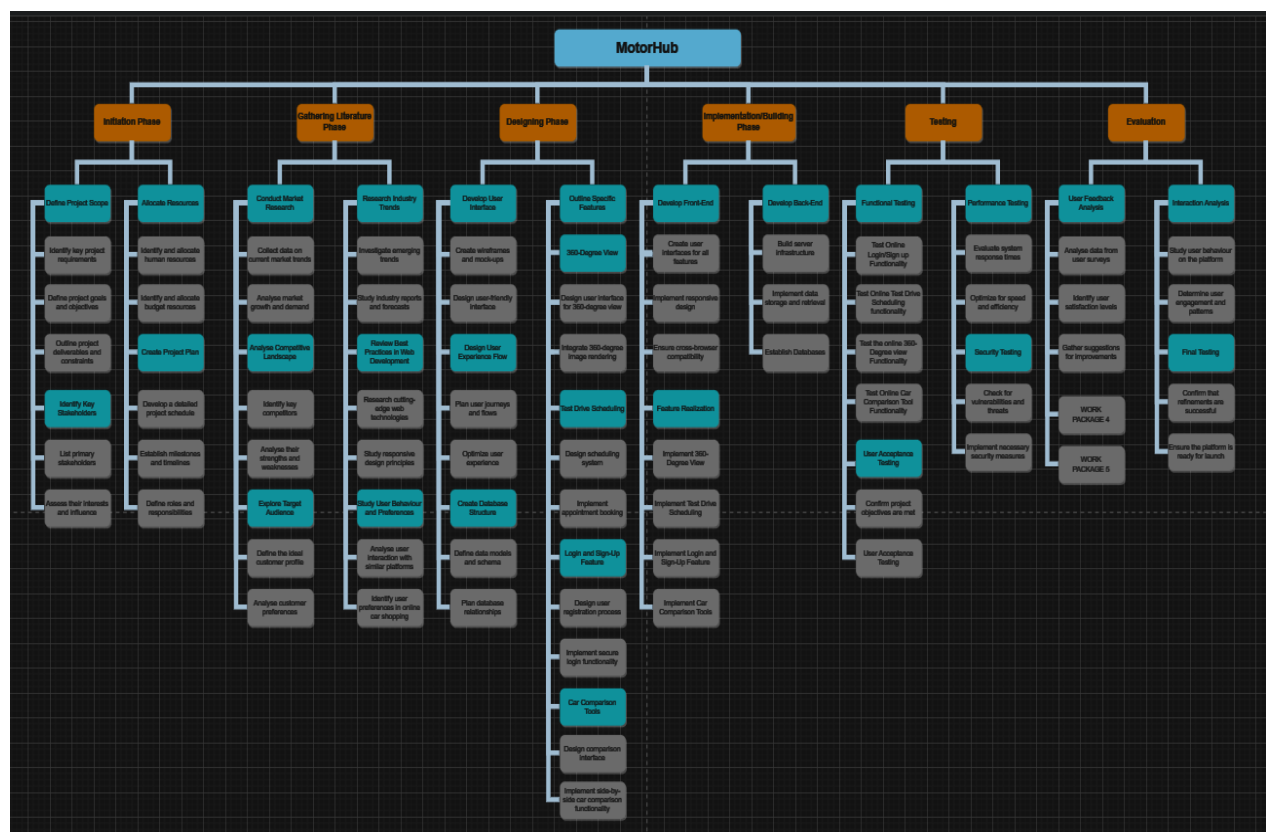


Figure 1

Gantt Chart:

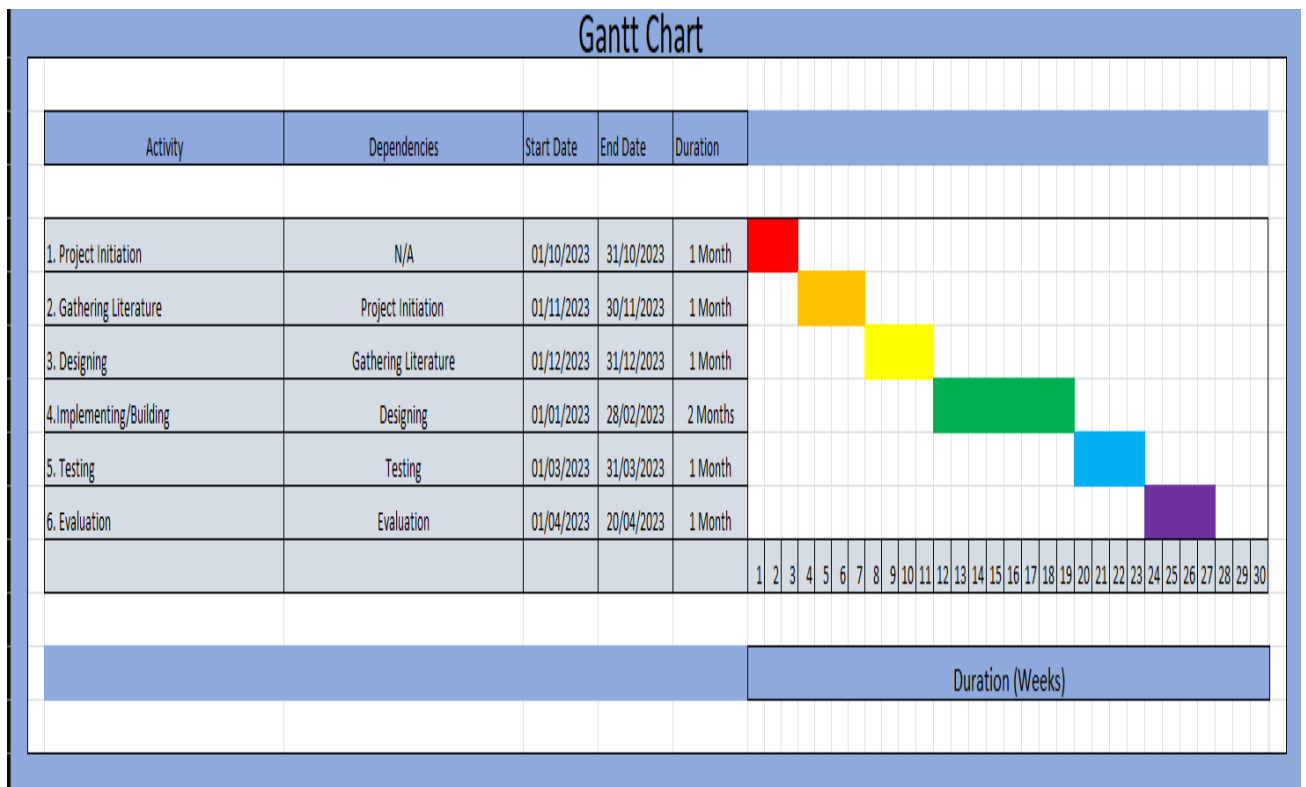


Figure 2

Milestones:

Phase	Duration	Key Activities	Deadline
Initiation	1 month (Oct)	- Define project scope, objectives, and key stakeholders.	Oct 31
		- Allocate resources and assemble the project team.	
		- Create a comprehensive project plan with milestones.	
Gathering Literature	1 month (Nov)	- Conduct extensive research on online car marketplaces, user behaviour, industry trends, and best practices in web development and user experience design.	Nov 30
		- Collect relevant data and insights to inform project decisions.	
Designing	1 month (Dec)	- Develop detailed specifications for the project.	Dec 31
		- Design the user interface, user experience flow, and database structure.	
Implementation/Building	2 months (Jan-Feb)	- Transform design specifications into functional code and components.	Feb 28
		- Develop both front-end and back-end elements of the website.	
		- Establish databases and integrate the specified features from the project objectives.	
Testing	1 month (Mar)	- Perform various tests, including functional, user experience, security, and performance testing.	Mar 31
		- Identify and address any issues or bugs to ensure a robust platform.	
Evaluation	1 month (Apr)	- Assess how effectively the platform meets project objectives and user needs.	Apr 30
		- Conduct user surveys, gather feedback, and analyse user interactions.	
		- Utilize evaluation results to make refinements and improvements to the platform.	
Finalization	11 days (May 1-11)	- Prepare final documentation, reports, and presentations.	May 11

Figure 3

Hardware and Software Requirements:

Hardware:

- Servers: Essential for storing and managing data related to the project, including user information, vehicle details, and multimedia content.
- Storage: Adequate space to securely store and manage a vast database of user profiles, vehicle specifications, images, and videos.
- Internet Equipment: Routers and switches to establish a reliable internet connection, facilitating seamless communication between users and the platform.

Software:

- **Website Building Tools:** Utilize website building tools or programming languages (e.g., HTML, CSS, JavaScript) to create and maintain the platform, ensuring a user-friendly and visually appealing interface.
- **Database System:** Implement a robust database system (e.g., MySQL or MongoDB) to efficiently organize and securely store user data, vehicle details, and platform-related information.
- **Server-Side Software:** Employ server-side software (e.g., Node.js or PHP) to handle user requests, process data, and ensure smooth interactions between the client (user) and the server, enhancing platform responsiveness.
- **Data Analysis Tools:** Integrate data analysis tools (e.g., Google Analytics) to gain valuable insights into user behaviour, preferences, and engagement patterns, aiding in continuous platform optimization.
- **Security Software:** Implement security software measures, including SSL certificates and firewalls, to safeguard the website and user data, ensuring a secure and trustworthy environment for users.

This comprehensive set of hardware and software requirements lays the foundation for a robust and reliable platform, capable of delivering an innovative and secure online car buying and selling experience.

Conclusion:

In conclusion, my project will deliver a game-changing car buying and selling experience for the valued clients. By addressing the current limitations of online car purchases through innovative features and a user-centric approach, we aim to set a new industry standard, redefine user expectations, and adopt trust and satisfaction among car enthusiasts and potential buyers. Through accurate research and careful execution, I am confident in the success and impact of this project.

Chapter 2 Literature Review

Introduction:

The online car marketplace is undergoing substantial changes driven by factors such as shifting consumer preferences and technological advancements. This literature review aims to explore the current state of online car marketplaces by examining existing research and market practices. By investigating methodologies, findings, and limitations of previous studies, this review provides insights into challenges faced by traditional platforms and highlights emerging trends in the industry. The goal is to pave the way for the proposed research, offering a rationale for the innovative features incorporated in my project, a sophisticated car buying and selling website. This section serves as a primer for understanding the complexities of the online car marketplace and sets the stage for exploring how my project addresses these challenges and contributes to the evolution of the industry.

Literature Review

Investigation and Research:

Streamlining the car buying process:

According to Kuruzovich et al (2008), the growth of the Internet has significantly impacted the way consumers search for information, especially in sectors like auto retailing, where traditional purchase processes have often been perceived as unpleasant and inefficient as traditional car buying can be time-consuming, involving multiple visits to dealerships and extensive paperwork.

However, while online information sources (OISs) offer valuable price and product information, there is limited understanding of how this affects consumer behaviour. Kuruzovich et al (2008)'s study

highlights that consumers differ in their ability to retrieve information from OISs, particularly price and product details, and this discrepancy influences their decision to either make an online purchase based on referrals or continue searching in the physical marketplace. It's important to recognize the limitations in the existing approach. While OISs provide information, they may not fully bridge the gap between the online marketplace and the offline marketplace.

Similarly, the impact of COVID-19 on businesses has spurred a rapid and successful digital transformation, particularly evident in the surge of online car sales. Fan (2022)'s article highlights the significant growth in stock values of online car sales, such as Carvana, CarMax, and Copart, despite the automobile industry facing an 80% decline in new car sales. Carvana, for instance, has doubled its shareholder value since the World Health Organization declared COVID-19 a pandemic. This success demonstrates how businesses, forced to adapt by the pandemic, are finding innovative ways to connect with consumers in the digital world. The touchless delivery options and sanitation measures implemented by these platforms reflect the adaptability of businesses to changing consumer preferences and the need for a seamless online shopping experience.

However, there are limitations to this digital transformation. While Fan (2022)'s article emphasizes the rise of e-commerce, it acknowledges that approximately 90% of retail sales still occurred in-store in 2019. The challenge lies in convincing consumers to trust and embrace online shopping fully. Scepticism about making online purchases and the importance of trust in e-commerce are highlighted as crucial factors. The need for innovative digital sales initiatives is stressed, suggesting that businesses must go beyond mere virtual presence and actively engage consumers through technologies like virtual reality and augmented reality. The limitations lie in overcoming consumer scepticism, building trust, and creating a seamless, interactive online shopping experience that rivals or surpasses the in-store experience. Fan (2022)'s article encourages managers to address these challenges to ensure the sustained success of digital sales initiatives beyond the immediate impacts of the pandemic.

Therefore, by prioritizing user-friendliness and feature-rich functionality, my innovative approach aims to create a seamless transition between these spaces. Features such as a 360-degree view, test drive scheduling, and user-friendly car comparison tools directly address the limitations mentioned in the study. My project is poised to offer consumers an all-inclusive, user-centric platform that not only simplifies the car buying process but also enhances online search satisfaction, making the transition between the digital and physical marketplace more fluid and efficient. Therefore, my project endeavours to bridge the existing gap between OISs and the marketplace effectively.

360 Degree view

According to current practices in online car marketplaces, Li and Xie (2019) explore how high-quality and professionally shot pictures consistently lead to higher engagement as images play a crucial role in providing potential buyers with a visual representation of the vehicles. Existing platforms offer a collection of static images showcasing different angles and features of the cars. These images serve as a fundamental resource for users to gain insights into the vehicle's appearance, helping them make initial judgments about the cars they are interested in.

However, a limitation of this approach becomes apparent in the lack of interactivity and depth in the visual information presented. Static images can only offer a limited perspective, making it challenging for users to fully grasp the details and intricacies of a car's interior and exterior. This restriction can hinder users' ability to make well-informed decisions and may lead to doubts about their potential purchase.

Therefore, my project addresses this limitation by introducing a revolutionary 360-Degree View feature. This innovative feature enables users to explore cars from all angles, both inside and out, providing a comprehensive and detailed visual representation. My project goes beyond static images,

allowing potential buyers to interact with the vehicle virtually, ensuring they have a more immersive and accurate understanding of the car. By integrating the 360-Degree View feature, my project enhances the car shopping experience and overcomes the limitation of existing marketplaces by providing a user-centric and visually immersive platform.

According to Kim, Baek and Yoon (2020)'s literature, the incorporation of 360-degree rotatable product images in online retail environments has demonstrated significant positive effects on consumer purchase intention. The studies conducted by the researchers provide robust evidence that such interactive and immersive product presentations surpass the impact of static images. The findings from Kim, Baek and Yoon (2020)'s study reveal that consumers exhibit a higher inclination to make a purchase when exposed to a 360-degree rotatable image compared to a traditional static image. This aligns with the broader trend in e-commerce, where multisensory experiences are increasingly recognized as crucial in conveying product features and enhancing the overall online shopping experience.

However, despite the evident advantages of 360-degree rotatable images, a limitation persists in the form of the moderating factor of cognitive busyness. When consumers are cognitively busy, the positive effect of the rotatable images on purchase intention diminishes. This limitation underscores the need for a solution that ensures the effectiveness of 360-degree rotatable images even in situations where consumers may be preoccupied with cognitive tasks or distractions.

Therefore, the current project addresses this limitation by proposing a novel approach to optimize the impact of 360-degree rotatable product images. By understanding the potential obstruction posed by cognitive busyness, the project aims to implement strategic interventions that maintain and, if possible, amplify the positive influence of rotatable images on purchase intention. The 360-degree feature is not merely a static enhancement, but a dynamic tool designed to engage consumers effectively, even when faced with cognitive challenges.

Test Drive Booking System:

According to Purnomo (2023), the current landscape of online car marketplaces, several platforms have integrated innovative features to enhance the car buying experience. These features have been strategically designed to attract and engage consumers by providing them with rich information and interactive tools. While many existing marketplaces offer impressive features, certain limitations persist in the car buying process. For instance, these platforms may excel in presenting detailed vehicle specifications and high-quality images, but they often fall short when it comes to addressing the fundamental need of potential buyers.

However, the limitations within existing marketplaces become evident when consumers are unable to experience the physical aspects of a car before making a purchase decision. The inability to schedule and execute a test drive directly on the platform has been a persistent issue. While potential buyers may gather substantial information online, the absence of a seamless test drive booking system often leads them to prolong the car buying process, making it more complex and less efficient. Consequently, this gap highlights the need for a solution that bridges the transition between online research and the real-world experience of a test drive.

Therefore, my project addresses this limitation by introducing the test drive scheduling functionality. This feature simplifies the process of booking a test drive, allowing potential buyers to effortlessly schedule appointments to test the vehicles of their choice. By incorporating this innovative functionality, my project facilitates the critical step of experiencing the car in person, thus transforming the way consumers explore and engage in the car buying process. In this way, the project aligns with the evolving demands of modern car buyers, providing a user-centric approach that overcomes the limitations present in existing marketplaces, making the car buying journey smoother and more satisfying.

Comparison Tool:

In the current landscape of online car marketplaces, consumer behaviour is increasingly shaped by the vast array of information available to them. Samson, Mehta and Chandani (2014)'s study reveals compelling statistics, indicating that "13% of buyers extensively explore over 20 websites to gather the necessary information", emphasizing the thoroughness of their research process. Remarkably, "92% of consumers visit a minimum of six websites before finalizing a car purchase", underscoring the accurate nature of their decision-making journey. Furthermore, the study identifies a significant portion, "69%, relying on traditional offline media for valuable insights into their car-buying decisions". These findings highlight the multifaceted approach consumers take when navigating the online car marketplace. To address evolving consumer preferences, the study indicates a strong demand, with 86% of customers expressing a desire for dealer sites with more integrated digital marketing. Additionally, 62% favour streamlined online information processes, reinforcing the need for simplicity in accessing relevant data. The integration of online chat features is also well-received, as 59% welcome the ability to engage with dealers digitally. Overall, the study emphasizes the critical role of interactive digital marketing and the continuous innovation of online car platforms to meet the dynamic expectations of consumers in the auto industry (Samson, Mehta and Chandani 2014).

However, despite the efforts of current marketplaces, a limitation still exists within the user experience of existing marketplaces. While they offer comprehensive information, they often fall short in providing a user-friendly and interactive means of comparing cars. The absence of a streamlined and intuitive car comparison tool lacks the ability of potential buyers to make direct comparisons, leading to inefficiencies and making it difficult to evaluate the most suitable options.

Therefore, my project is designed to address this limitation by introducing a user-friendly Car Comparison Tool feature. This innovative addition to the platform empowers users to evaluate and compare different car models side by side, with detailed highlights of key features, specifications, and pricing. My project ensures that potential buyers have a straightforward and efficient way to compare cars, facilitating a seamless decision-making process. As a result, this enhances the overall car shopping experience by overcoming the limitations of existing marketplaces and delivering a more user-centric platform.

Research Findings:

After extensive research into online car marketplaces and the evolving preferences of modern consumers, I have been profoundly influenced to integrate innovative features into my project.

1. Kuruzovich et al (2008) highlighted the impact of the internet on auto retailing, noting that traditional car buying processes were perceived as unpleasant and inefficient. Online information sources (OISs) offer valuable information, but the study emphasized the need to bridge the gap between the online and offline marketplace.
2. Fan (2022) demonstrated the successful digital transformation in the automotive industry during COVID-19, leading to a surge in online car sales. However, challenges like consumer scepticism and the importance of trust in e-commerce persist. The study encourages businesses to go beyond virtual presence and actively engage consumers through technologies like virtual reality.
3. The 360-Degree View feature in the project, inspired by Li and Xie (2019)'s exploration of high-quality images in online car marketplaces, aims to provide a comprehensive and detailed visual representation. This feature addresses the limitation of static images and enhances the overall car shopping experience.
4. Kim, Baek and Yoon (2020) literature emphasized the positive effects of 360-degree rotatable product images on consumer purchase intention in online retail environments. However, the study acknowledged a limitation related to cognitive busyness, prompting the project to propose strategic interventions to optimize the impact of these images.

5. Purnomo (2023) highlighted the limitations in existing car marketplaces, particularly the inability to schedule and execute a test drive directly on the platform. The project addresses this limitation by introducing the Test Drive Scheduling functionality, aiming to transform the way consumers explore and engage in the car buying process.
6. Samson, Mehta and Chandani (2014)'s study revealed the multifaceted approach consumers take when navigating the online car marketplace, emphasizing the importance of integrated digital marketing, and streamlined online information processes. The User-Friendly Car Comparison Tool in the project directly addresses the limitation of existing marketplaces in providing a user-friendly and interactive means of comparing cars.

These research findings collectively inform the innovative features incorporated into the project, contributing to the evolution of the online car marketplace.

Conclusion:

In conclusion, this literature review delves into the transformative landscape of online car marketplaces, examining the challenges faced by traditional platforms and uncovering emerging trends. The research findings underscore the profound impact of the internet on consumer behaviour in auto retailing, emphasizing the need for a seamless transition between online spaces and physical marketplaces. The study recognizes the success of online car sales during the COVID-19 pandemic, prompting businesses to adapt with innovative digital strategies. However, limitations persist, ranging from consumer scepticism to the absence of immersive experiences. Inspired by these insights, my project strategically integrates features like the 360-Degree View, Test Drive Scheduling, and a User-Friendly Car Comparison Tool, aiming to bridge the gap between online research and real-world experiences. By prioritizing user-friendliness and interactivity, the project endeavours to enhance the overall online car shopping journey, addressing the multifaceted needs of modern consumers in the dynamic auto industry.

Chapter 3 Design

Introduction:

In this key chapter, the design phase of the project is embarked on, unravelling the sophisticated process that transforms conceptual aspirations into a tangible digital experience. The approach and methodology illuminate the path taken in crafting an innovative platform, while careful design documentation serves as the blueprint for this digital revolution. A comprehensive risk assessment underscores our commitment to a seamless development process. Join us in this brief exploration as we navigate the intricacies of design, anticipating a transformative outcome that will redefine the online car trading landscape.

Design Approach and Methodology:

The design approach for this project centres on a user-centric principles, prioritizing simplicity and natural interactions. By using a human-centred design methodology, the needs and preferences of our users are put at the forefront. This involves understanding their behaviours, conducting user surveys, and iteratively refining our design based on feedback. The methodology is iterative, allowing us to continuously enhance and optimize the platform's usability. Embracing agile principles, the project fosters collaboration and adaptability throughout the design process, ensuring that the evolving needs of our users are effectively addressed. This approach not only streamlines the

development journey but also positions the project to resonate seamlessly with the diverse expectations of our user base.

Design Documentation:

Low Fidelity:

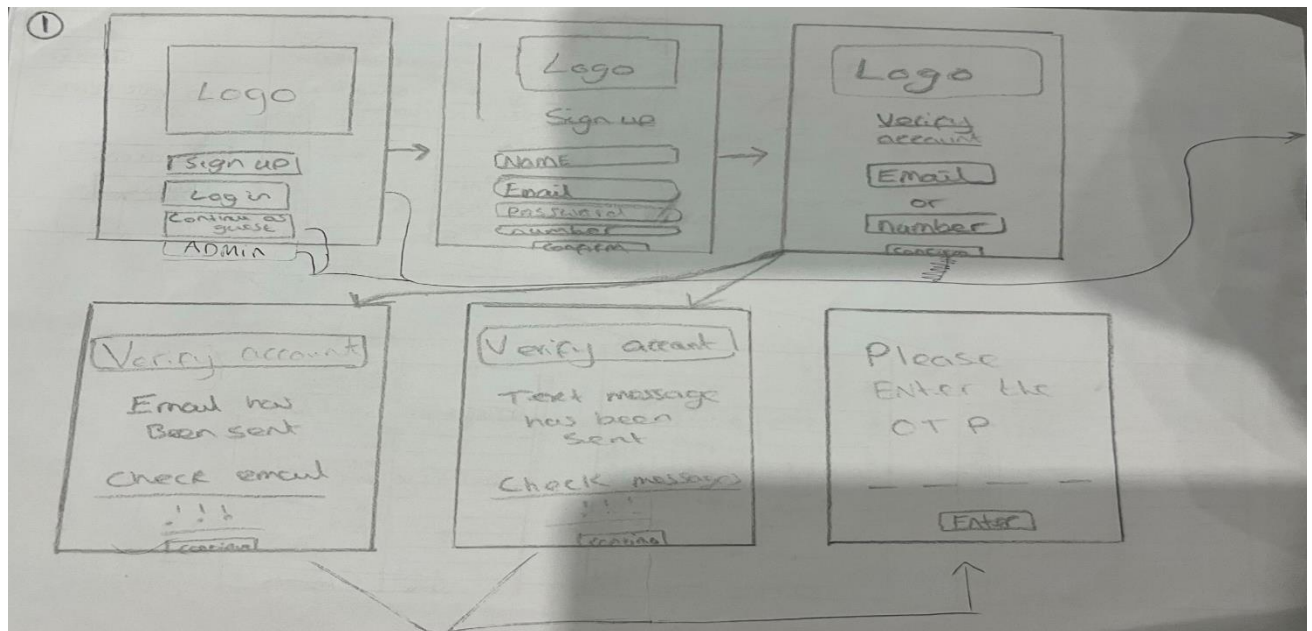


Figure 4

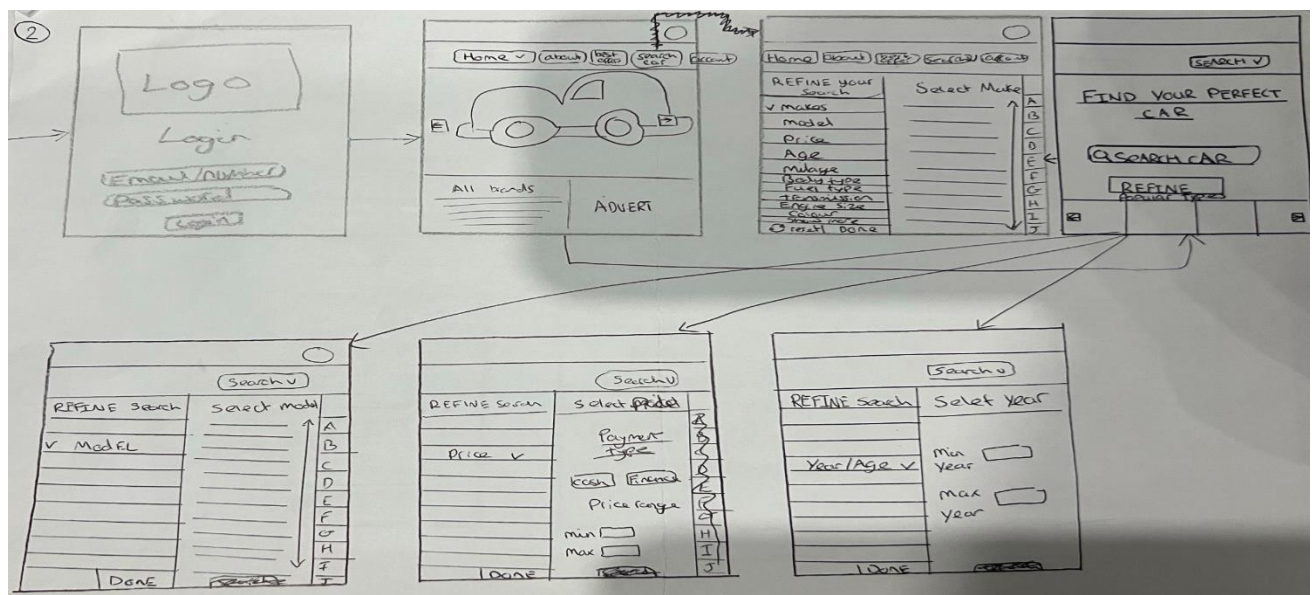


Figure 5

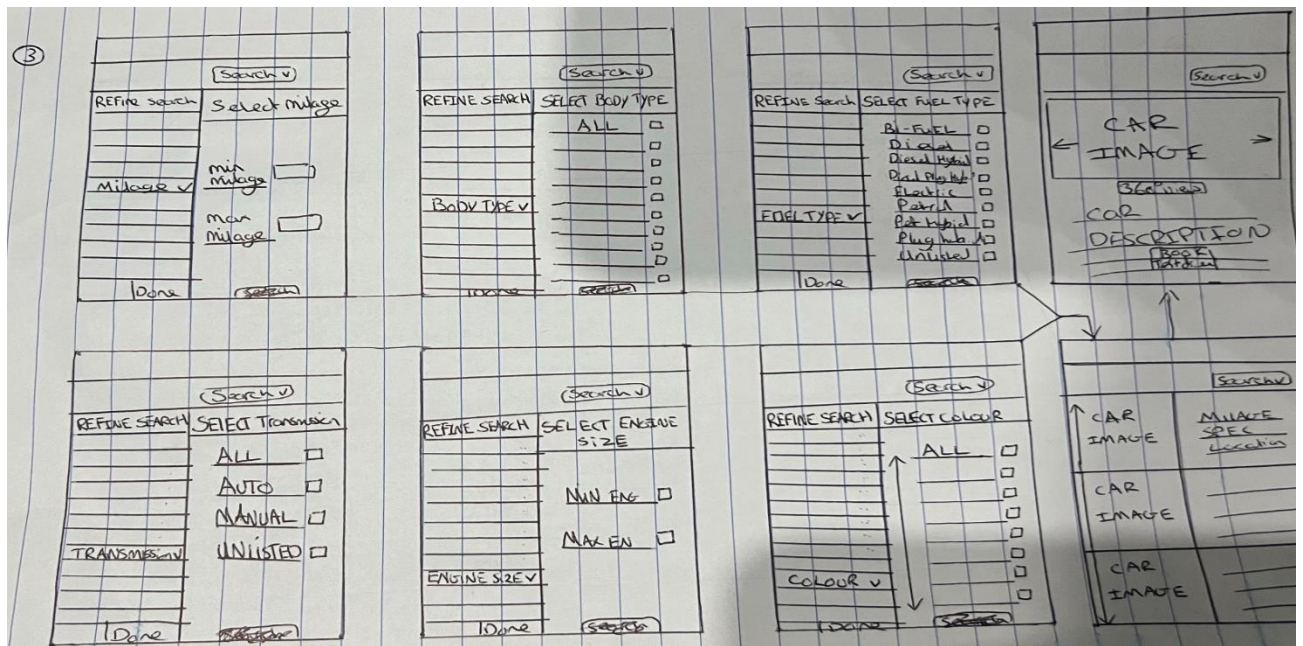


Figure 6

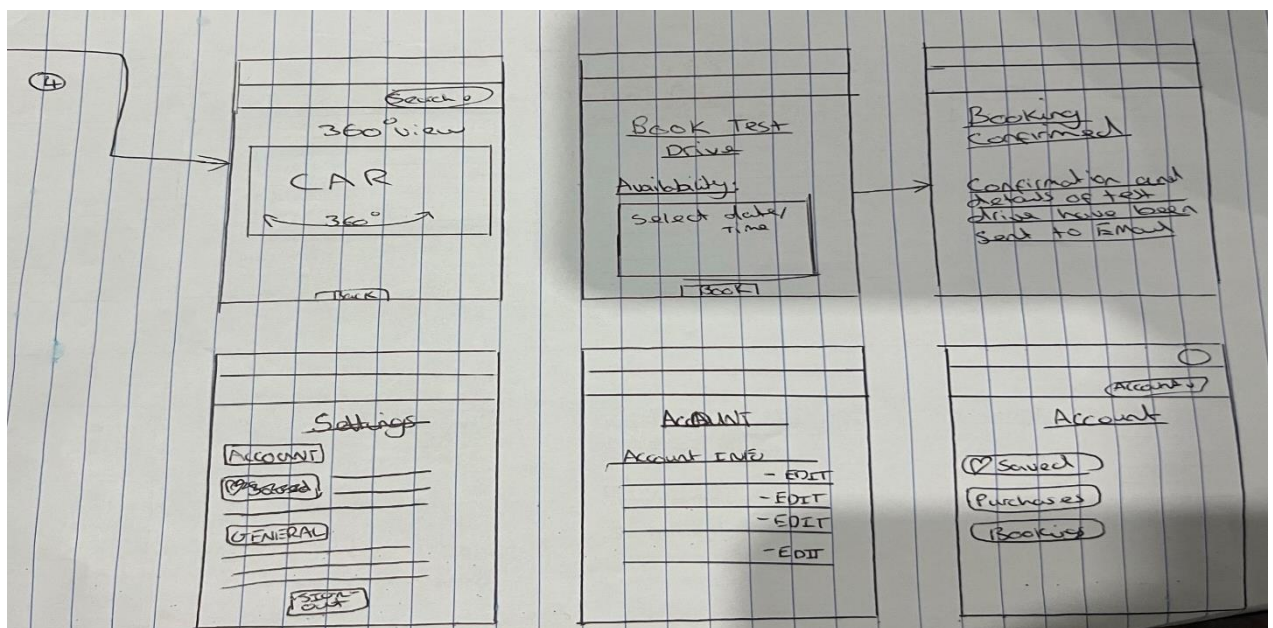


Figure 7

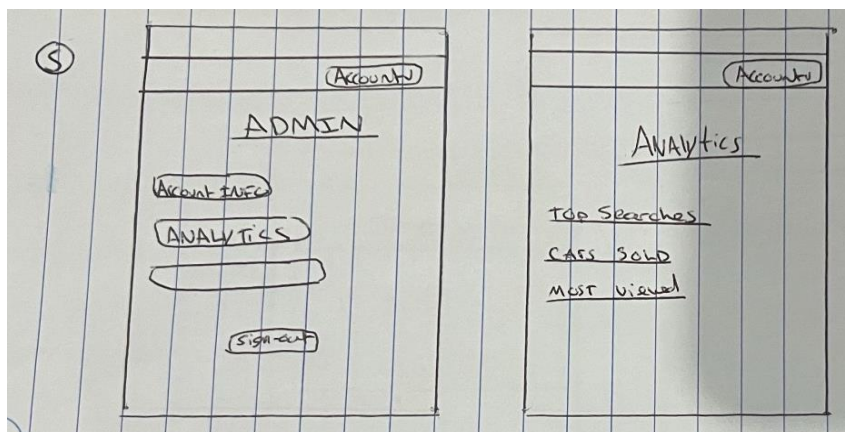


Figure 8

High Fidelity:

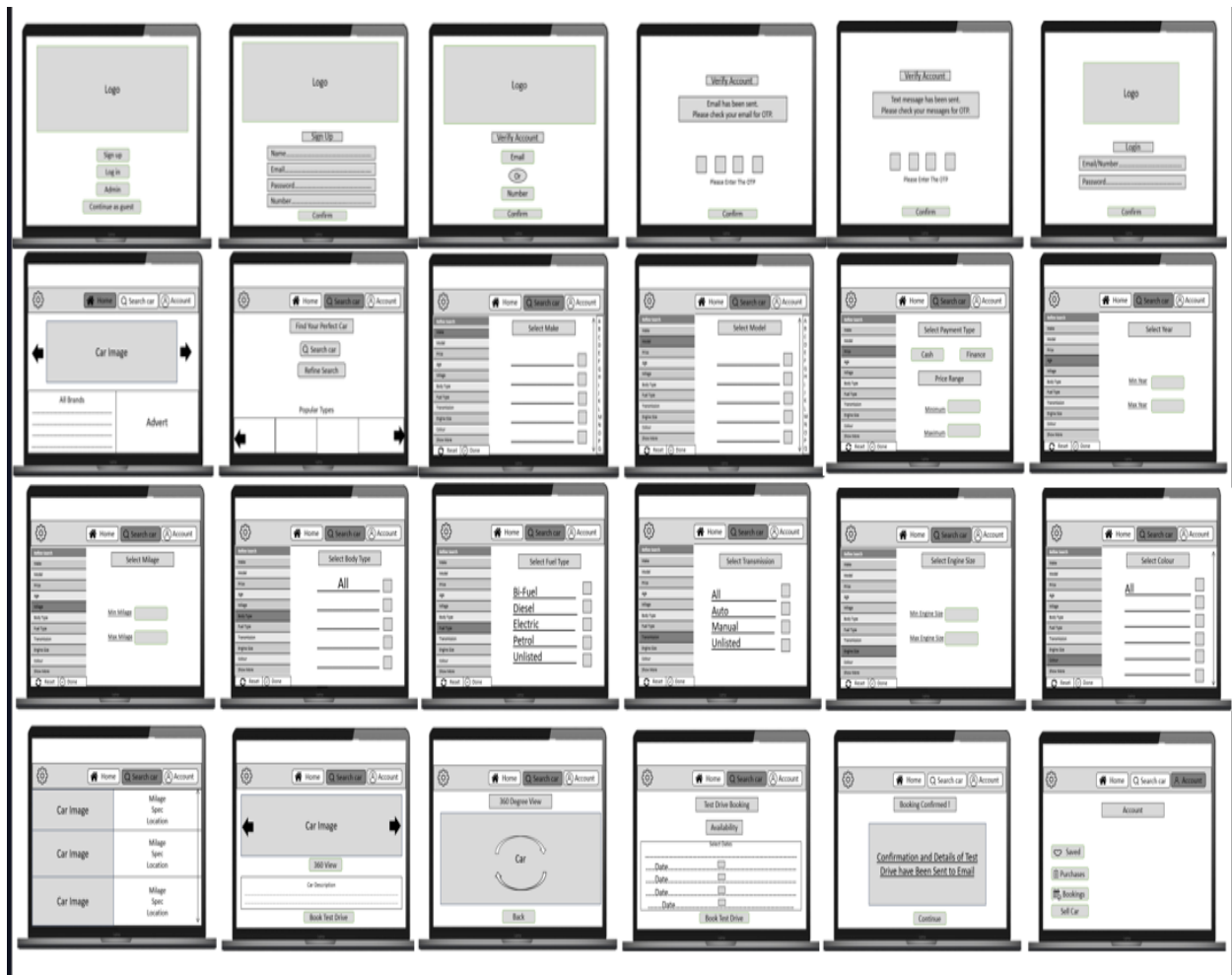


Figure 9



Figure 10

ERD:

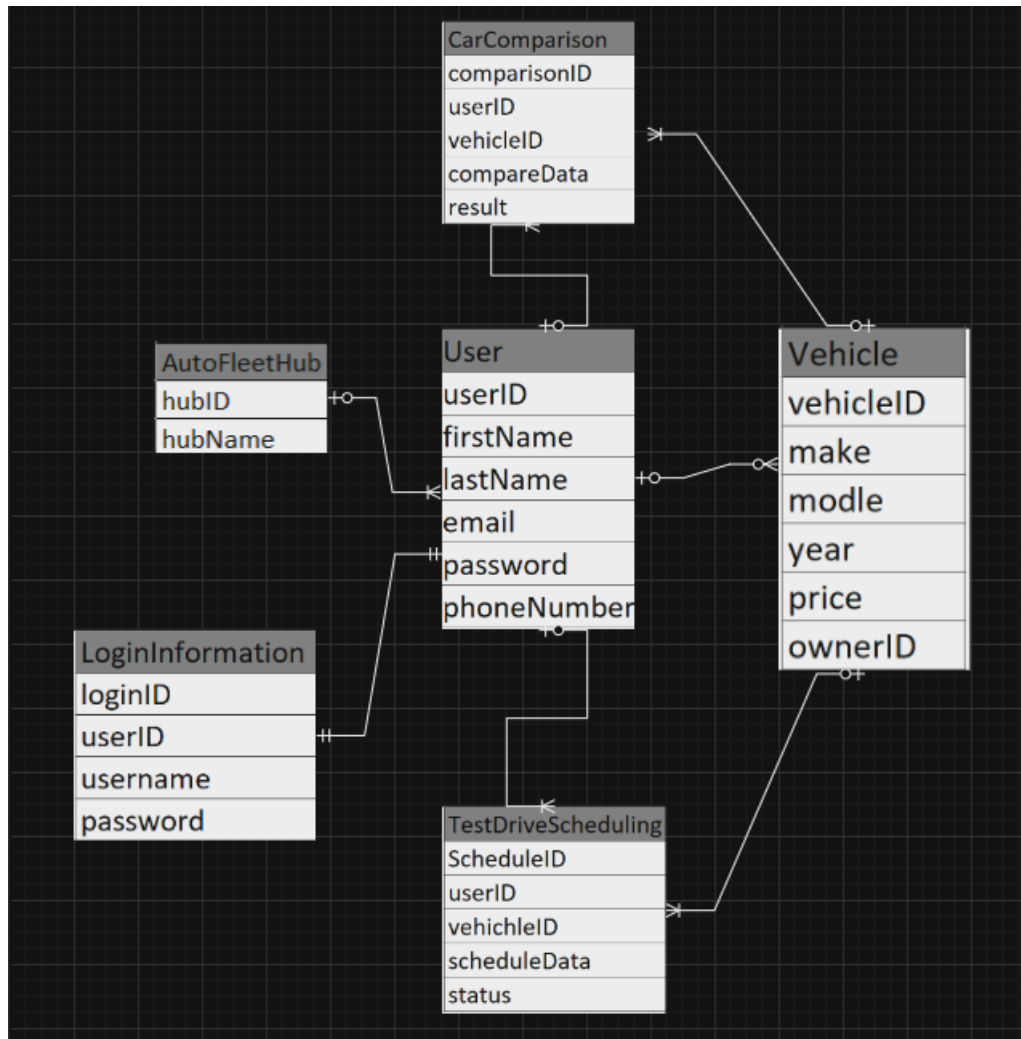


Figure 11

Story Board:

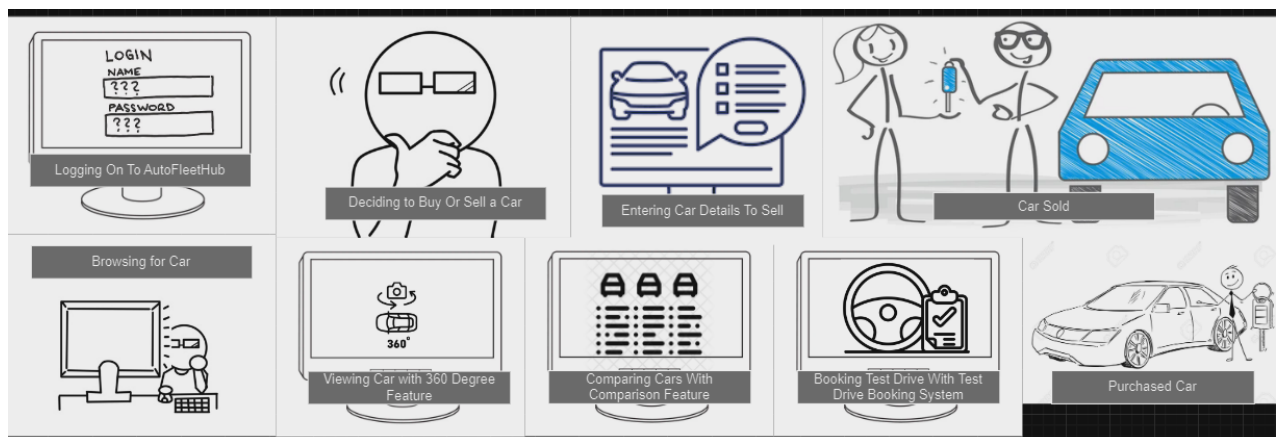


Figure 12

Use Case Diagram:

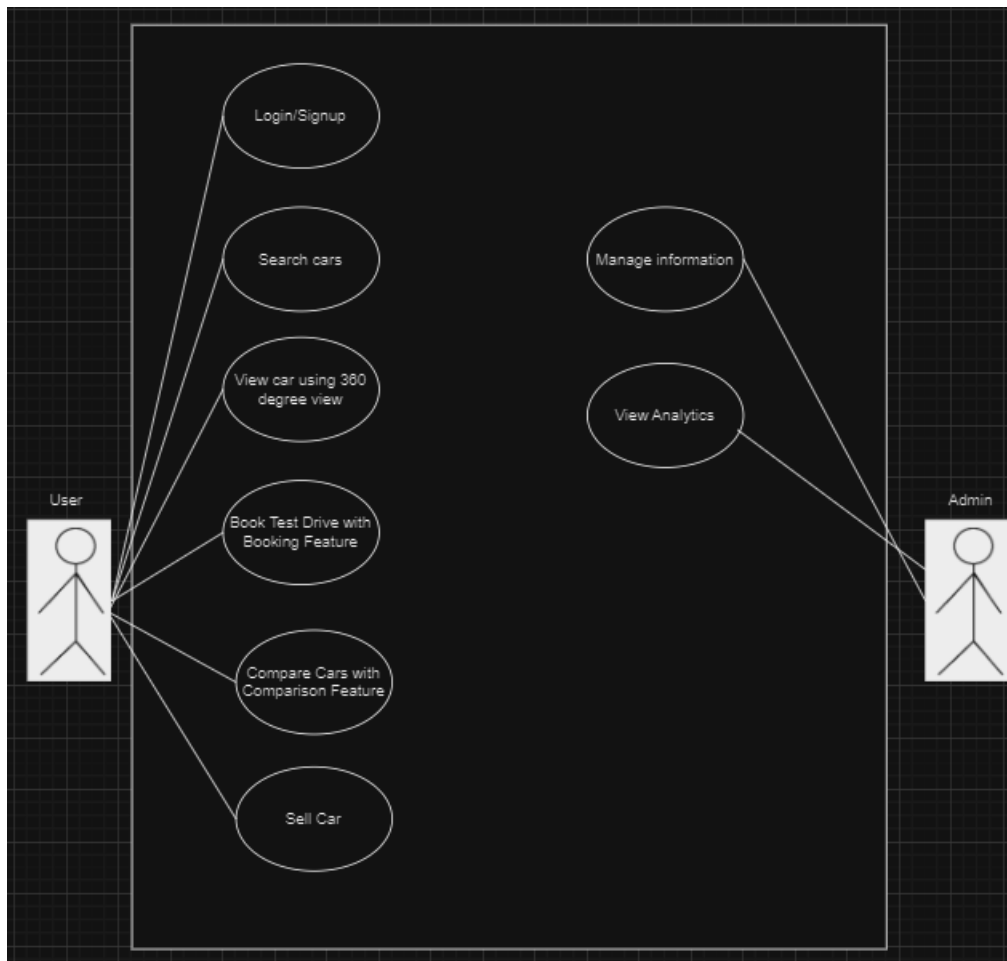


Figure 13

Risk Assessment:

Risk	Likelihood	Impact	Prevention	Mitigation
Technical Issues	High	High	Regular testing and quality assurance throughout development. Collaborate with experienced developers.	Have backup solutions ready. Allocate extra time in the schedule for unforeseen technical challenges.
Scope Creep	Medium	High	Clearly define project scope and requirements. Regularly communicate with stakeholders to manage expectations.	Implement a change control process. Assess and document the impact of scope changes.
Resource Constraints	Medium	Medium	Regularly monitor resource utilization. Have contingency plans for resource shortages.	Prioritize tasks and allocate resources efficiently. Consider outsourcing for specialized tasks if necessary.
Communication Breakdown	Low	Medium	Establish clear communication channels and	Use alternative communication methods in

Risk	Likelihood	Impact	Prevention	Mitigation
			protocols. Conduct regular team meetings.	case of breakdown. Document discussions and decisions for reference.
Data Security Breach	Low	High	Implement robust security measures and encryption protocols. Regularly update security systems.	Have a response plan in case of a breach. Notify relevant authorities and stakeholders immediately.
Stakeholder Disagreements	Medium	Medium	Facilitate open and transparent communication. Clearly define roles and responsibilities.	Mediate discussions and find compromises. Document agreements to avoid future disputes.
Unexpected External Factors (e.g., Legal Changes)	Low	High	Stay informed about relevant external factors. Have legal advisors review the project.	Develop contingency plans to adapt to unexpected changes. Regularly review and update project plans based on external factors.

This risk assessment table identifies potential risks, rates their likelihood and impact, outlines prevention measures, and proposes mitigation strategies to ensure the successful completion of the project. Regular monitoring and adaptability will be crucial to managing and minimizing these risks throughout the project lifecycle.

Conclusion:

In conclusion of Chapter 3 on Design, we've navigated the complexities of transforming ideas into a tangible digital experience. Our user-centric design approach, emphasizing simplicity and agility, aims to resonate with diverse user expectations. The design documentation, including low/high-fidelity representations and diagrams, serves as our guide. The risk assessment underscores our commitment to a seamless development process, anticipating and addressing challenges. Moving forward, this chapter sets the stage for a transformative outcome, shaping the future of online car trading.

References:

- Brewer, J. (2023). The shift to online purchasing in Automotive. [online] [www.linkedin.com](https://www.linkedin.com/pulse/shift-online-purchasing-automotive-jamie-brewer). Available at: <https://www.linkedin.com/pulse/shift-online-purchasing-automotive-jamie-brewer> [Accessed 28 Sep. 2023].
- Committee, C.R.E. (2020). SOME ETHICAL CONSIDERATIONS WHEN RETHINKING RESEARCH PROJECTS IN LIGHT OF COVID- 19 SITUATION For College of Arts Humanities and Social Sciences Researchers and PG Students (Version 4). [online] Available at: https://www.ed.ac.uk/files/atoms/files/rethinking_research_projects_in_light_of_covid-19_situation_ethical_considerations_final_version_4.pdf.
- Fan, M. (2022). Research on Marketing Strategies of Car buying Among Covid-19 Based on Experimental Analysis. [online] www.atlantispress.com. doi: <https://doi.org/10.2991/aebmr.k.220307.373>.

Gaille, L. (2020). 20 Advantages and Disadvantages of Survey Research. [online] Vittana. Available at: <https://vittana.org/20-advantages-and-disadvantages-of-survey-research>.

Kim, S., Baek, T.H. and Yoon, S. (2020). The effect of 360-degree rotatable product images on purchase intention. *Journal of Retailing and Consumer Services*, 55, p.102062. doi: <https://doi.org/10.1016/j.jretconser.2020.102062>.

Kuruzovich, J., Viswanathan, S., Agarwal, R., Gosain, S. and Weitzman, S. (2008). Marketspace or Marketplace? Online Information Search and Channel Outcomes in Auto Retailing. *Information Systems Research*, 19(2), pp.182–201. doi: <https://doi.org/10.1287/isre.1070.0146>.

Li, Y. and Xie, Y. (2019). Is a Picture Worth a Thousand Words? An Empirical Study of Image Content and Social Media Engagement. *Journal of Marketing Research*, 57(1), pp.1–19. doi: <https://doi.org/10.1177/0022243719881113>.

Reuters (2024). UK records best year for new car sales since the pandemic - SMMT. [online] Reuters. Available at: <https://www.reuters.com/world/uk/uk-records-best-year-new-car-sales-since-pandemic-smmt-2024-01-05/> [Accessed 5 Jan. 2024].

Schmith, S. (2023). Immersive Shopping: How Automotive Is Leading the Way in Immersive Experiences. [online] www.linkedin.com. Available at: https://www.linkedin.com/pulse/immersive-shopping-how-automotive-leading-way-steve-schmith?trk=public_post [Accessed 14 Jan. 2024].

Taylor, E. (2022). Advantages of Secondary Research. [online] www.ivoryresearch.com. Available at: <https://www.ivoryresearch.com/library/dissertation-articles/advantages-of-secondary-research/>.

Tripathy, J.P. (2013). Secondary Data analysis: Ethical Issues and Challenges. *Iranian Journal of Public Health*, [online] 42(12), pp.1478–1479. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4441947/>.