PUSL2021 Computing Group Project

Project Assignment

Group No 08

Vehicle Rental Website
Proposal Report

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Group Members

Project Leader	-	R. D. Kavindu Dilshan	-	10899153
Planning Leader	-	L. D. U. Thathsarani	-	10899602
Technical Leader	-	S. D. S. D. P. Wickrama	-	10899704
Programming Leader	-	W. H. G. Sasindu Nadun	-	10899729
Quality Leader	-	K. M. S. D. N. Kasthuri	-	10899583
Testing & Maintenance Leader	-	K. M. S. D. N. Kasthuri	-	10899583

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01. Introduction

The Vehicle Rental Website project is a transformative endeavor that seeks to create an innovative and user-centric online platform for car rentals. Our primary goal is to simplify the process of renting vehicles for various purposes, making it a hassle-free and efficient experience and providing a highly secure and reliable service. Through the strategic use of HTML, CSS, JavaScript, and PHP we intend to build a responsive and intuitive web application that meets the diverse needs of our target audience.

This project is driven to fulfill the desire to bridge the gap between those looking for reliable car rental services and those willing to rent their vehicles. The platform is designed to be a one-stop solution for consumers and vehicle owners, providing them with an easy and seamless interface to interact and transact.

For customers, the car rental website will provide a user-friendly portal where they can browse a wide selection of available vehicles, from everyday transportation to special occasion cars. Users are able to easily search, select and book their desired vehicles within a few clicks. This platform will not only improve the rental process but also provide transparency and reliability in booking.

On the other hand, vehicle owners have access to a dedicated portal where they can list their vehicles for rent. This feature provides an opportunity for individuals and businesses to monetize their passive assets, providing a profitable way of earning. With the ability to manage rental requests and track their vehicles, owners have full control over their listings.

An integral part of this project is the inclusion of a robust vehicle tracking system that allows the project manager and administrators to track the locations of registered and currently rented vehicles. This feature increases the security of the platform and ensures the safety of both the owners' assets and the customers' rentals.

In addition to convenience, the car rental website will offer secure online payment facilities, making transactions between customers and vehicle owners a seamless and reliable process.

Our vision for the project extends beyond its initial launch. We plan to build a scalable foundation for future enhancements, including user reviews, ratings, advanced search filters and the introduction of mobile apps. This dynamic approach ensures that the platform remains adaptable and responsive to the evolving needs of our users.

Finally, the car rental website project is set to revolutionize the car rental industry by providing a simple and user-friendly solution for renters and vehicle owners. The power of HTML, CSS, JavaScript, and PHP will be used to create an online platform that streamlines the hiring process, adds transparency, and improves the overall experience for all stakeholders. With our robust tracking system and secure payment facilities, the project ensures a safe and efficient rental experience. As we embark on this journey, we are committed to continuously improving the platform to provide a top-notch solution that evolves with the needs of our users.

02. Objectives

1. **Responsive Website and Database Development:**

   The primary objective of the project is to develop a responsive, visually appealing website using a technology stack that includes HTML, CSS, JavaScript, and PHP. Additionally, we are creating a robust database to store and manage critical information regarding vehicles, customers, and transactions.

2. **User Registration and Login System:**

   To improve user experience and security, the project will implement a user registration and login system for customers. This allows users to create accounts, access personalized features and securely manage their rental activities.

3. **Vehicle listing feature:**

   The website features a complete vehicle listing system with detailed descriptions, high quality images and pricing information. This feature will provide consumers with the information they need to make informed rental decisions.

4. **User-friendly booking and reservation system:**

   One of the primary objectives of the project is to design an intelligent booking and booking system. This system allows customers to easily select and book vehicles by specifying their rental period and other preferences.

5. **Admin panel for vehicle management and user support:**

   An essential part of the project is the creation of a board of directors. This panel will serve as the control center for vehicle management and user support. Administrators have the tools to monitor listings, resolve user issues, and maintain the integrity of the platform.

6. **Secure and Efficient Payment Processing System:**

   The project will ensure the inclusion of a secure and efficient payment processing system, enabling users to transact online with confidence. This system will facilitate secure financial transfer between customers and vehicle owners.

7. **Complete Inspection:**

   We prioritize website quality by conducting thorough testing to ensure functionality and usability. Rigorous testing includes various scenarios including user interaction, transaction processing and platform stability.

8. Production and Issuance of Certificates:

As part of the project, we will submit and issue certificates validating the successful completion of the project. These documents will serve as proof of our commitment to provide a high-quality, fully functional vehicle rental platform.

Ultimately, the car rental website project aims to achieve many essential goals, from building a responsive and visually appealing website to implementing a secure payment processing system. By combining HTML, CSS, JavaScript, and PHP, we create a dynamic platform that meets the needs of customers and vehicle owners. Through user registration, detailed vehicle listings and an intuitive booking system, we aim to provide a seamless and user-friendly experience. The inclusion of an admin panel improves monitoring and support, and thorough testing ensures the platform's reliability. Finally, the issuance of certification documents underlines our commitment to deliver a successful project.

03. Target Users

In the project proposal report for the car rental website, it is very important to include a detailed description of the target users to ensure that our development efforts align with the needs and expectations of those sellers and buyers. Below is a detailed description of the target users for our car rental website.

1) Users

a. Consumers:

- General users: This includes people who want to rent vehicles for personal or business use. They may be locals or tourists looking for convenient and affordable transportation options.

- Frequent travelers: These users always need reliable car rental services for their travel needs. They may want long-term rental options and want to find the best deals.

- Special Occasion Renters: Users looking for vehicles for special events such as weddings, anniversaries, or parties. They may want access to a range of luxury vehicles.

- Tourists: They are visitors to a region who need temporary transportation for sightseeing and exploration. They often look for user-friendly and convenient booking systems.

b. Vehicle Owners:

- Individual owners: These are people who have personal vehicles and want to rent them out for extra income. They are looking for a hassle-free way to list their vehicles and manage rental requests.

- Fleet Manager: They are businesses or individuals who own several vehicles or a fleet of cars for rent. They need a platform that can efficiently manage their inventory and bookings.

c. Administrators and Project Managers:

- Platform administrators: These people are responsible for monitoring the site's operation. They need administrative tools to manage users, vehicles and ensure smooth operation of the platform.

- Project Managers: They oversee the entire project and ensure that it aligns with the initial vision and future improvements.

d. Application Developers:

- Developers: If you plan to introduce mobile apps in the future, app developers will be an essential part of your target audience. They will use your API or system to integrate it into the mobile app.

2) User needs and expectations.

- **Customers** expect a user-friendly interface, a wide selection of vehicles, convenient prices for the amount in hand, secure payment options and a seamless booking process. They need functionality and responsive design across multiple devices.

- **Vehicle owners** need a simple process to list their vehicles, manage bookings and track their assets. They also want assurances that their vehicles will be used responsibly.

- **Administrators** and project managers need tools to manage user accounts, vehicle listings and monitor platform performance. They also expect strong security features to protect user data.

- **App developers** need access to APIs and documentation to seamlessly integrate your platform into mobile apps.

3) Unique selling points.

- **Ease of use:**

If the website is intuitive and user-friendly, it will be easier for customers to find and book vehicles and for vehicle owners to list their assets.

- **Transparency:**

Transparent pricing and detailed vehicle information instill confidence in consumers and vehicle owners.

- **Security:**

If a robust vehicle tracking system increases security for consumers and vehicle owners, this ensures users that their assets are safe.

- **Payment facilities:**

Secure online payment facilities provide users with a reliable and convenient way to transact.

- **Scalability:**

The platform is designed to grow with users' needs. Future improvements such as user reviews, advanced search filters, and mobile apps will complement evolving user requests.

04. Project Scope

1. **Project Overview and Objectives:**

   - Creating an innovative and user-targeted car rental website using HTML, CSS, JavaScript, and PHP.

   - Simplifying the car rental process, ensuring it is hassle-free and secure.

   - Providing a one-platform solution for customers and vehicle owners to interact and transact.

2. **User Interfaces:**

   - Developing user-friendly and eye-catching web interfaces for customers and vehicle owners.

   - Implement a responsive design to ensure functionality and efficiency across multiple devices.

3. **Customer Portal:**

   - Giving customers the opportunity to browse a wide selection of available vehicles.

   - Implementation of a search feature for easy vehicle selection.

   - Allowing customers to securely book their desired vehicles.

4. **Vehicle Owner Portal:**

   - Development of a dedicated portal for vehicle owners to list their vehicles for rent.

   - Provide tools for owners to manage rental requests and track their assets, verify identity.

5. **Vehicle Tracking System:**

   - Integrating a robust vehicle tracking system.

   - Allow project managers and administrators to track the locations of registered and rented vehicles.

   - Ensuring the security and identity of both customer rental and vehicle owner assets.

6. **Online Payment Facility:**

   - Implementation of secure online payment options for seamless and reliable transactions between consumers and vehicle owners.

7. **Scalability and future improvements:**

   - Building a scalable foundation for future enhancements, including user reviews, ratings, advanced search filters and the introduction of mobile apps.

   - Ensuring the platform is adaptable and responsive to evolving user needs.

8. **Security:**

- Implementing security measures to protect user data and payment information.

- Regularly update and maintain the system to address security vulnerabilities.

9. **Checking:**

- Conduct end-to-end testing of the website to ensure functionality, usability, and security.

- Conducting user acceptance testing to gather feedback from real users.

10. **Documents:**

- Provide detailed documentation for website code and functionality.

- Introducing a set of rules and regulations including user guides for consumers, vehicle owners and administrators.

11. **project management:**

- Establishing a project management structure with defined roles and responsibilities.

- Setting up regular communication and progress reporting mechanisms.

12. **Continuous Improvements:**

- Commit to continuous improvement and maintenance to meet evolving user needs and industry standards.

13. **Milestones:**

- Defining key project milestones and delivery deadlines.

- Establish a clear timeline for project completion and launch.

14. **Budget and Resources:**

- Allocation of required resources including developers, designers, and servers.

- Prepare a budget covering development, maintenance, and future improvements.

15. **Legal and Compliance:**

- Ensuring compliance with legal regulations related to online payments, user data protection and rental agreements.

16. **quality assurance:**

- Implementing quality assurance processes to maintain high standards on the site.

17. **User Training:**

- Provide training for administrators and support to ensure users can use the platform effectively.

18. Marketing and Promotion:

   - Developing a strategy for website marketing and promotion to attract customers and vehicle owners.

19. Post-Launch Support:

   - Provide post-launch support to address any issues, bugs, and user feedback.

20. Project Closure:

   - Conduct thorough project reviews to assess site success and collect lessons learned.

05. Project Features & Description

1. **User Registration and Authentication:**

   - Users can register with the site using their email or social media accounts and secure authentication ensures that user data is protected.

2. **User Dashboard:**

   - This will provide personalized dashboards where users can manage their profiles, bookings, reviews and saved preferences.

3. **Vehicle Search and Listings:**

   - Users can search vehicles by location, type, and dates to rent. Vehicle owners are given the ability to create listings with vehicle details, pricing, and images.

4. **Booking and reservation system:**

   - Customers can make reservations by selecting available vehicles for specific dates and times and after paying an advance amount, the system will generate rental agreements and invoices.

5. **Ratings and Reviews:**

   - Users can leave ratings and reviews for vehicles and owners to foster trust and transparency in the community.

6. **Secure online payments:**

   - Secure payment gateways will be implemented for online transactions, ensuring that payments between customers and vehicle owners are reliable and secure.

7. **Vehicle Tracking System:**

   - Providing vehicle owners and administrators with access to a tracking system to monitor the real-time location of rental vehicles helps increase security and peace of mind for both parties.

8. **Notifications and Alerts:**

   - Users are notified via email or in-app messages for confirmations, payment reminders and important updates.

9. **Help and Support Center:**

   - Users will be given access to a comprehensive support center that includes FAQs, live chat support and a ticket-based customer support system.

10. **Admin Panel:**

   - This separately includes access to a control panel for administrators to manage users, vehicle listings and system performance.

11. **Mobile Responsiveness:**

   - The website is designed to be responsive, providing an optimal viewing experience across multiple devices, including mobile phones and tablets.

12. **Scale:**

   - The site is built with scalability in mind, allowing for future upgrades and increased user traffic.

13. **Privacy and Security:**

   - Strong security measures protect user data, payment information and the website from potential threats.

14. **Legal Compliance:**

   - The website complies with legal regulations related to online payments, data protection and rental agreements.

15. **Reporting and Analytics:**

   - Generates reports and analytics to track website performance, user activity and financial transactions.

16. **Marketing and Promotion:**

   - Marketing features are developed to promote the website, including special offers, referral programs and user engagement campaigns.

17. **Post Launch Maintenance:**

   - Provide ongoing maintenance and support to resolve issues, update content and ensure the website is running smoothly.

18. **Continuous Improvements:**

   - Mobile applications will be committed to a continuous improvement process with plans for future improvements such as advanced search filters and additional user features.

06. Project Timeline & Time Frame

❖ **Phase 1: Gathering Plans and Requirements (October 4, 2023 - November 11, 2023)**

1. **Project Start (October 4, 2023 - October 10, 2023)**

   - Define project goals and objectives.

   - Assemble the project team and roles.

   - Separate responsibilities.

2. **Needs Analysis (October 11, 2023 - October 30, 2023)**

   - Gather detailed requirements from stakeholders.

   - Create a comprehensive project requirements document.

3. **System Design (October 31, 2023 - November 10, 2023)**

   - Design the database plan.

   - Create wireframes and mockups for the website's user interface.

❖ **Phase 2: Development (November 11, 2023 - February 28, 2024)**

4. **Frontline Development (November 11, 2023 - January 10, 2024)**

   - Start HTML, CSS, and JavaScript development.

   - Implement user interface based on wireframes.

   - Ensuring a responsive design for different devices.

5. **Background Development (January 11, 2024 - February 10, 2024)**

   - Develop server-side functionality using PHP.

   - Implement user registration and authentication.

   - Integrate secure online payment facilities.

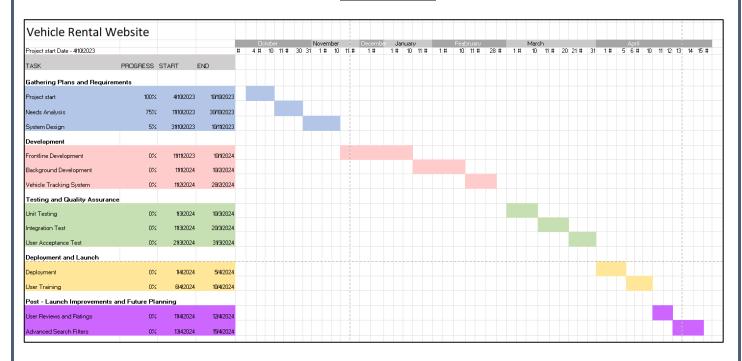6. **Vehicle Tracking System (February 11, 2024 - February 28, 2024)**

   - Develop vehicle tracking system for administrators.

   - Ensuring tracking of registered and rented vehicles.

❖ **Phase 3: Testing and Quality Assurance (March 1, 2024 - March 31, 2024)**

   7. **Unit Testing (March 1, 2024 - March 10, 2024)**

      - Conducting unit tests for individual website components.

   8. **Integration Test (March 11, 2024 - March 20, 2024)**

      - Test interactions between front-end and back-end systems.

   9. **User Acceptance Test (March 21, 2024 - March 31, 2024)**

      - Engage stakeholders in testing site usability and functionality.

❖ **Phase 4: Deployment and Launch (April 1, 2024 - April 10, 2024)**

   10. **Deployment (April 1, 2024 - April 5, 2024)**

      - Deploy the website on a suitable web hosting platform.

      - Configure domain and hosting settings.

   11. **User Training (April 6, 2024 - April 10, 2024)**

      - Train administrators on the use of the tracking system.

      - Prepare user guides for vehicle owners and renters.

❖ **Phase 5: Post-Launch Improvements and Future Planning (April 11, 2024 - April 15, 2024)**

   12. **User Reviews and Ratings (April 11, 2024 - April 12, 2024)**

      - Implement user review and rating features.

      - Collect feedback from early users for improvements.

   13. **Advanced Search Filters (April 13, 2024 - April 15, 2024)**

      - Improve search functionality with advanced filters.

      - Prepare for mobile application development.

   This timeline will describe the main stages and activities for our car rental website project. It moves from design and development to testing, deployment and future enhancements. We would also like to mention here that we make sure to adjust the schedule as needed and allow extra time for unexpected challenges or changes in project scope.

Gannt Chart

Vehicle Rental Website

Project start Date - 4/10/2023

TASK	PROGRESS	START	END
Gathering Plans and Requirements			
Project start	100%	4/10/2023	10/10/2023
Needs Analysis	75%	11/10/2023	30/10/2023
System Design	5%	31/10/2023	10/11/2023
Development			
Frontline Development	0%	11/11/2023	10/1/2024
Background Development	0%	11/1/2024	10/2/2024
Vehicle Tracking System	0%	11/2/2024	28/2/2024
Testing and Quality Assurance			
Unit Testing	0%	1/3/2024	10/3/2024
Integration Test	0%	11/3/2024	20/3/2024
User Acceptance Test	0%	21/3/2024	31/3/2024
Deployment and Launch			
Deployment	0%	1/4/2024	5/4/2024
User Training	0%	6/4/2024	10/4/2024
Post - Launch Improvements and Future Planning			
User Reviews and Ratings	0%	11/4/2024	12/4/2024
Advanced Search Filters	0%	13/4/2024	15/4/2024

06. Project Budget

1. **Development Costs**

   - Frontend Development: HTML, CSS, JavaScript development – Rs. 0.00

   - Backend Development: PHP development, database setup - Rs. 0.00

   - Web Hosting: One year of hosting for the website – Rs. 6, 250.00

   - Domain Registration: New domain registration (if needed) – Rs.3, 700.00

Description	Total
Unmetered Hosting - SSDG1 - SD - L1 - gamanata.lk (18/10/2023 - 17/10/2024)	Rs 6250.00
Domain Registration - gamanata.lk - 1 Year/s (18/10/2023 - 17/10/2024) + DNS Management	Rs 3700.00
Sub Total	Rs 9950.00
Credit	Rs 0.00
Total	Rs 9950.00

2. **Design Costs**

   - Graphic Design: Creation of logos, icons, and website graphics - Rs. 0.00

   - Wireframing and Mockups: Design and prototyping tools - Rs. 0.00

3. **Testing and Quality Assurance**

   - Quality Assurance: Testing tools and resources - Rs. 500.00

   - User Acceptance Testing: Stakeholder involvement and feedback collection - Rs. 1, 050.00

4. **Deployment and Launch**

   - Deployment Costs: Configuration of domain, hosting settings - Rs. 0.00

5. **Post-Launch Enhancements and Future Planning**

   - User Reviews and Ratings Feature: Implementation - Rs. 0.00

   - Advanced Search Filters: Development - Rs. 0.00

   - Mobile App Development (Future): Planning and initial setup - Rs. 0.00

6. **Miscellaneous and Contingency**

   - Contingency: Unforeseen expenses and adjustments -

Total Project Budget: Rs. 11, 500.00

➤ **Budget Justification:**

- Development Costs: The website's development is a fundamental aspect, involving both front-end and back-end development. Web hosting and domain registration costs are included for one year.

- Design Costs: Effective graphic design and prototyping are crucial for a user-friendly and visually appealing website.

- Testing and Quality Assurance: Ensuring quality through rigorous testing and user acceptance testing is essential.

- Deployment and Launch: This budget covers domain configuration and hosting settings.

- Post-Launch Enhancements: The budget includes implementation costs for user reviews and ratings, advanced search filters, and anticipates future mobile app development.

- Miscellaneous and Contingency: It is important to allocate a portion of the budget for unexpected expenses or necessary adjustments during the project.

07. Conclusion

Finally, the car rental website project can go a long way in our vision to revolutionize the car rental industry by providing an innovative and user-centric online platform for car rental. Our commitment to creating a hassle-free, efficient, secure, and reliable service using HTML, CSS, JavaScript, and PHP is the end result of this transformative effort.

The primary objective of the project is to bridge the gap between those who seek reliable car rental services and those who wish to rent their vehicles. By providing a one-stop solution for consumers and vehicle owners, we aim to provide an intuitive and seamless interface for all stakeholders to interact and transact.

For our customers, the platform offers a user-friendly portal, simplifying the process of browsing, selecting, and booking a variety of vehicles. This project will not only streamline the rental process but also increase the transparency and reliability of the booking process.

On the other hand, vehicle owners gain access to a dedicated portal where they can monetize their passive assets, thus providing a means of earning profits. With the ability to manage rental requests and track their vehicles, owners have full control over their listings.

One aspect of the project is a robust vehicle tracking system, improving security, and ensuring the safety of both owners' assets and customers' rentals. Additionally, the inclusion of secure online payment facilities facilitates seamless and reliable transactions.

As expected, our project was designed with scale in mind. We plan to build a foundation for future improvements, including introducing user reviews, ratings, advanced search filters and mobile apps, to ensure our platform adapts and responds to the evolving needs of our users.