A person sitting on a car

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CAR RENTAL MANAGEMENT SYSTEM

**Acronyms**

|  |  |
| --- | --- |
| **Acronym** | **Full form** |
| GPS | Global Positioning System |
| CEO | Chief executive officer |
| IT | Information Technology |
| API | Application Programming Interface |
| SDK | Software Development Kit |
| UI | User Interface |
| QA | Quality Assurance |
| PMBOK | Project Management Body of Knowledge |
| HR | Human Resources |
| UX | User Experience |
| IOS | iPhone operated system |
| GPU | Graphics Processing Unit |

**Scenario**

Traveler Rentals is a well-known car rental company in the market, offering a wide range of vehicles to customers. They have a large fleet of cars available for rent at various locations. To streamline their operations and enhance customer experience, Our Traveler Rentals has approached Code Wave Solutions to develop a car rental management iOS application.

**Statement of need**

It is an Ios application which is helpful to Book Cars for rent based on their Location, Time, Price, and Car Model.

## Team name: Code Crafters

**Team members**

1. Pravallika Mummadi
2. Nagesh Aluri
3. Bharath Kumar Reddy Mopuru
4. Sahithi Kasarapu
5. Akhil Kumar Manchu Konda
6. Tejaswini Kotha
7. Aparna Dondapati

**Clients:** Dr. Chetti and Dr. Case

**Team Meeting**

Our team convenes regularly on the Microsoft Teams online platform for project updates and discussions. We hold these meetings every other day, specifically from 2:00 PM to 3:30 PM. During these online sessions, we review the progress made on the project and address any challenges or obstacles encountered along the way.

**Contacting**

The team will maintain communication via emails and Microsoft Teams for business-related matters. In case of emergencies, we will reach out to team members using their personal mobile numbers.

**Knowledge Areas and their artifacts**

1. Project Integration Management
   * Project Charter: A document that defines the scope, objectives, and stakeholders of the project, as well as the authority of the project manager.
   * Project Management Plan: A formal document that outlines how the project will be executed, monitored, and controlled.
2. Project Scope Management
   * Requirement Management Plan
   * Requirement’s specifications Document
   * Scope Management Plan
   * Scope Statement
   * Work Breakdown Structure
3. Project Time Management
   * Schedule management plan
     + Calendar-Based View
4. Project Cost Management
   * Budget Determination
     + Cost estimation and determining budget.
5. Project Quality Management
   * Quality management plan
     + Quality Objectives:
     + Quality Assurance Activities
     + Continuous Improvement
6. Project Human Resources Management
   * Human resources management plan
     + Roles and Responsibilities
     + Staffing Plan
     + Training and Development
     + Team Communication and Collaboration
7. Project Communications Management
   * Communication management plan
     + Communication Channels and Tools
     + Stakeholder Engagement Strategy
     + Feedback and Issue Resolution
8. Project Risk Management
   * Risk management plan
     + Risk Identification Techniques
     + Risk Assessment and Prioritization
     + Risk Response Planning
     + Risk Monitoring and Control
9. Project Procurement Management
   * Procurement management plan
     + Supplier Evaluation and Selection
     + Contract Negotiation and Management
     + Supplier Relationship Management
10. Project Stakeholder Management
    * Stakeholder management plan
      + Stakeholder Engagement Plan
      + Stakeholder Identification and Mapping
      + Stakeholder Impact Analysis
    * Final Presentation

**Project charter**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Title**: Car Rental Management System | | | |
| **Project Start Date: 06/08/2023 Projected Finish Date: 06/28/2023** | | | |
| **Budget Information:** The project will cost around 20,000 dollars for completion. | | | |
| **Project Manager:** Pravallika Mummadi | | | |
| **Project Objectives:**  This application will allow users to easily rent and manage their car rental reservations through a user-friendly mobile interface. The primary goal of this project is to provide a convenient and efficient way for users to access car rental services. | | | |
| **Success Criteria:**   1. The car rental mobile application will have a user-friendly interface that allows users to easily search for available cars, make reservations, and manage their bookings. 2. This application will be developed and delivered within the agreed-upon timeline, ensuring that all functionalities are implemented and tested thoroughly. 3. The project will be completed within the estimated and allocated budget, ensuring efficient usage of the resources, and controlling the cost throughout the development process. 4. The car rental mobile application will be released ahead of schedule, offering a fully functional version that is devoid of any intricate glitches or problems, ensuring a seamless and enjoyable user experience. 5. It will meet all the specified requirements mentioned in the project's scope, encompassing essential features like secure payment methods, GPS integration for accurate location tracking, and effective communication channels between clients and car rental providers. | | | |
| **Approach:**  Our project will be executed using the agile methodology, ensuring regular communication and collaboration with the End-user. Weekly meetings will be held to provide updates on the project's progress and address any concerns or feedback from the client. We will prioritize gathering requirements from the client and promptly taking appropriate actions based on their input.  As a dedicated team, our commitment is unwavering, and we are determined to deliver a successful outcome. Our team members support each other, leveraging their strengths to compensate for individual weaknesses. To maintain close coordination, we will conduct daily virtual meetings via Microsoft-Teams, enabling us to stay informed about the project's status and help whenever someone faces challenges.  To facilitate efficient communication, we will utilize Northwest Email, ensuring swift and convenient online meetings. These platforms will enable us to have timely discussions, resolve queries, and maintain effective collaboration throughout the project lifecycle.  Furthermore, we will remain adaptable and responsive to changes or evolving requirements. We understand that flexibility is key to delivering a high-quality product that meets the client's expectations. Our focus will be on achieving project milestones within the specified timeframe, adhering to the agile principles of continuous improvement and customer satisfaction. | | | |
| **Roles and Responsibilities** | | | |
| **Name** | **Role** | **Position** | **Contact Information** |
| Pravallika Mummadi | Project Manager | Project Manager / IOS Developer | [S555592@nwmissouri.edu](mailto:S555592@nwmissouri.edu) |
| Nagesh Aluri | Project Lead | Team Lead/Scrum Master | [S555680@nwmissouri.edu](mailto:S555680@nwmissouri.edu) |
| Bharath Kumar Reddy Mopuru | Team Member | IOS Developer | [S555694@nwmissouri.edu](mailto:S555694@nwmissouri.edu) |
| Sahithi Kasarapu | Team Member | UI/UX Designer | [S559488@nwmissouri.edu](mailto:S559488@nwmissouri.edu) |
| Akhil Kumar Manchu Konda | Team Member | QA/Test Engineer | [S559468@nwmissouri.edu](mailto:S559468@nwmissouri.edu) |
| Tejaswini Kotha | Team Member | Backend Developer | [S560283@nwmissouri.edu](mailto:S560283@nwmissouri.edu) |
| Aparna Dondapati | Team Member | DevOps Engineer | [S555671@nwmissouri.edu](mailto:S555671@nwmissouri.edu) |
| **Comments:** Project Manager: "Great initiation on the iOS application development. Keep up the good work! Let's ensure we meet the upcoming deadlines." | | | |
| **Team Logo**: | | | |

Stakeholder Register for Car Rental Management System

**Prepared by:** Pravallika Mummadi **Date: 06/08/2023**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Signature** | **Position** | **Internal/External** | **Project Role** | **Contact Information** |
| Pravallika Mummadi | **A close up of a paper  Description automatically generated with low confidence** | Project Manager / IOS Developer | Internal | Project Manager | [S555592@nwmissouri.edu](mailto:S555592@nwmissouri.edu) |
| Nagesh Aluri |  | Team Lead/Scrum Master | Internal | Project Lead | [S555680@nwmissouri.edu](mailto:S555680@nwmissouri.edu) |
| Bharath Kumar Reddy Mopuru | **A picture containing handwriting, calligraphy, text, font  Description automatically generated** | IOS Developer | Internal | Team Member | [S555694@nwmissouri.edu](mailto:S555592@nwmissouri.edu) |
| Sahithi Kasarapu | **A close-up of a signature  Description automatically generated with medium confidence** | UI/UX Designer | Internal | Team Member | [S559488@nwmissouri.edu](mailto:S559488@nwmissouri.edu) |
| Akhil Kumar Manchu Konda | **A picture containing handwriting, calligraphy, text, ink  Description automatically generated** | QA/Test Engineer | Internal | Team Member | [S559468@nwmissouri.edu](mailto:S559468@nwmissouri.edu) |
| Tejaswini Kotha | A close up of a sign  Description automatically generated with low confidence | Backend Developer | Internal | Team Member | [S560283@nwmissouri.edu](mailto:S560283@nwmissouri.edu) |
| Aparna Dondapati | A picture containing handwriting, letter, text, calligraphy  Description automatically generated | DevOps Engineer | Internal | Team Member | [S555671@nwmissouri.edu](mailto:S555671@nwmissouri.edu) |

**Project Name**: Car Rental Management System

**1. Introduction**

The car rental mobile application offers users the ability to explore a variety of rental vehicles, make reservations, and effectively manage their bookings. Users can conveniently search for available cars based on their location, desired pick-up and drop-off times, and specific requirements. The application provides comprehensive information about vehicle availability, pricing, and features to help users make informed decisions. Once a reservation is confirmed, users have full control over managing their booking details, including selecting pick-up and drop-off locations, adjusting timings, choosing specific vehicles, and securely providing payment information.

## Scope Statement

**Project Justification:**

The app enhances customer convenience by providing a user-friendly interface, enabling users to view vehicle details, compare prices, and choose pickup and drop-off locations at their convenience. The system reduces administrative workload by automating tasks such as vehicle availability tracking, booking confirmations, and generating invoices, saving time and effort for rental companies.

**Product Characteristics and Requirements**

1. User-Friendly Interface: The car rental management system iOS app should have a visually appealing and intuitive interface that allows users to navigate and interact with the app easily.
2. Real-Time Data Updates: The app should provide real-time information on vehicle availability, rental rates, and reservation status to ensure accuracy and transparency for both customers and rental companies.
3. User Registration and Authentication: Users should be able to create accounts, log in securely, and manage their profiles, including personal information and preferences.
4. Search and Filtering: Users should be able to search for vehicles based on criteria such as location, dates, vehicle type, and price range, with options to apply filters and sorting.

**User Acceptance Criteria**

The app will have a user-friendly interface that allows users to easily navigate through different screens and perform tasks such as searching for vehicles, making reservations, and managing bookings. Users will be able to view detailed information about each available vehicle, including specifications, images, rental rates, and customer reviews. The app will provide a seamless booking experience, allowing users to select their desired pickup and drop-off locations, choose rental dates and times, and receive instant confirmation of their bookings. Users will have the ability to modify or cancel their bookings within a reasonable timeframe, and the app will provide clear instructions and notifications regarding any associated fees or penalties. The app has secure payment options, allowing users to make online payments using various methods, such as credit cards or digital wallets, while ensuring the safety of their personal and financial information. Users will receive timely notifications and updates regarding their bookings, including reminders for upcoming reservations, alerts for any changes or delays, and notifications for completed transactions and invoices.

**Summary of Project Deliverables**

**Project management-related deliverables**

Project Charter, Project Schedule, Work Breakdown Structure (WBS),Risk Management Plan, Communication Plan, Project Status Reports, Project Quality Plan, Change Management Plan, Project Closure Report, Final Deliverables

**Product-related deliverables**

1. Product Requirements Document
2. User Interface (UI) Design
3. Database Design
4. Software Development
5. Documentation
6. Quality Assurance and Testing
7. Localization and Internationalization
8. .Deployment Package
9. User Acceptance Testing
10. Release Version

## Project Time Management

**Schedule Management Plan**

Screenshot of WBS spreadsheet:

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Screenshot of Gantt chart of our project:

A screenshot of a spreadsheet

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## Project Cost Management

Screenshot of Cost Estimation of our project

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**Level of accuracy**

We rounded the cost estimates to the nearest $2900.

The level of accuracy for activity cost and contingency funds is 85.5 percent.

**Units of measure**

Cost estimation is done in US Dollars.

**Organizational Procedures links:**

We use the WBS as a framework to provide stability with estimates.

**1.Control thresholds**

During the programming phase, it is not uncommon for change requests to arise that could potentially increase the project budget beyond the initially estimated cost. These change requests may involve additional features, modifications, or adjustments to the original scope of work. It is important to note that implementing these change requests may incur costs higher than what was initially estimated.

To accommodate such scenarios, our organization allows for a variance of up to 10.0 percent in the project budget. This variance threshold serves as a predetermined margin to account for potential cost increases resulting from change requests during programming. By setting this threshold, we acknowledge the dynamic nature of projects and the possibility of unforeseen adjustments that may impact the budget.

2.**Reporting formats**

On a monthly basis, a project status report will be prepared to provide a comprehensive overview of the project's expenses. This report will encompass all the necessary corrective actions outlined in the expense management plan. It serves as a crucial document for monitoring and tracking the progress and success of the project.

This section of the report focuses on the configuration and frequency of cost reports required for the project. It outlines the specific plans and timelines for generating cost reports, which play a vital role in assessing the project's financial performance. Cost reports are invaluable tools for tracking the project's progress and evaluating its achievements. Choosing appropriate cost reporting formats is essential to effectively communicate cost-related information.

To ensure the effectiveness of cost reporting, it is recommended to utilize reliable reporting companies that specialize in presenting cost information in a clear and concise manner. By employing these services, the project team can effectively communicate the project's financial status and make informed decisions based on accurate and accessible cost data.

**3.Process Descriptions**

Description of all the processes in cost management is documented.

**Note:** Cost estimation and determining budget are attached to the document.