Car Rental System Project

Methodology and Application Development

Project Overview

- The Car Rental System is a web-based application for booking vehicles online. It streamlines traditional car rental processes, allowing users to view available cars, book rentals, and make payments online, while providing admins with control over the system.

Agile Development Methodology

- We used Agile methodology, particularly the Scrum framework. Development was organized into sprints, with each sprint consisting of planning, development, review, and retrospective phases. This allowed for flexibility, continuous improvement, and quick adaptation to changes.

Technology Stack

- Frontend: HTML, CSS, JavaScript

- Backend: mongodb

- Database: SQLite

- Libraries: Flask-SQLAlchemy, Flask-Login, Bootstrap

- Tools: Git, GitHub

Application Architecture

- The system uses a three-tier architecture:
- - Presentation Layer (UI)
- - Business Logic Layer (Flask Backend)
- - Data Layer (Database)

Modules Implemented

- 1. User Registration and Login

- 2. Car Browsing and Booking

- 3. Admin Panel for Management

- 4. Error Handling and Notifications

Testing and Debugging

- We conducted Unit Testing, Integration Testing, and User Testing.

- Issues were tracked using logs, and functionality was verified with a checklist.

Agile Methodology

Plan

Design

Develop

Test
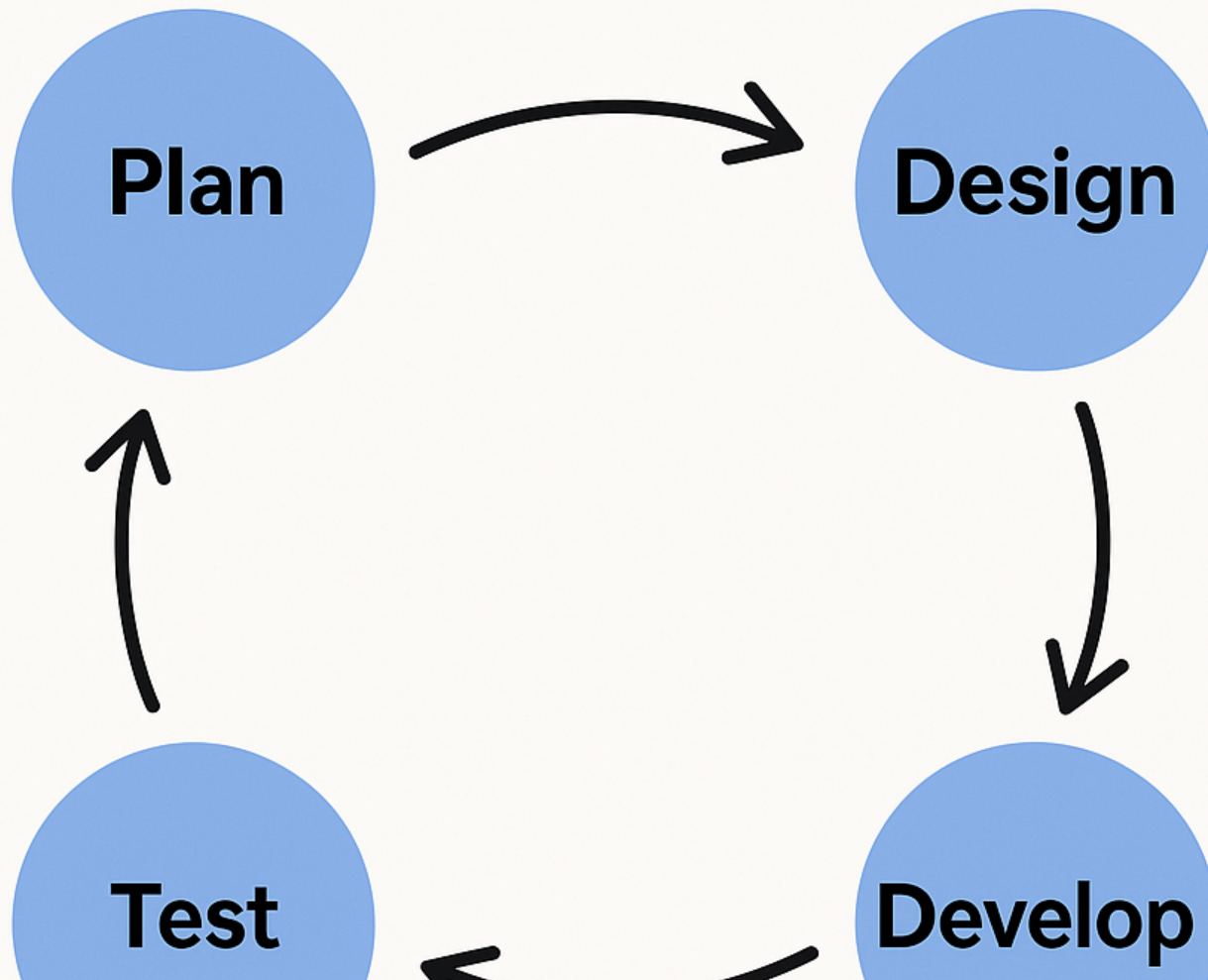
Future Enhancements

- 1. Integration of Online Payments

- 2. Email Notifications for Bookings

- 3. Google Maps API for Location Services

- 4. Mobile App Version