General Guidelines for Presentation

- Slides should not be too heavy with content. Better to create point wise.
- If you require more than one slide for any point, right click on that point slide then select duplicate slide and modify the duplicated slide.
- Diagrams must be aligned at centre and clearly visible with caption.
- All the mentioned fonts, font size, title content, etc should not change and strictly as per the given format and guidelines.

PARSHWANATH CHARITABLE TRUST'S
A.P. SHAH INSTITUTE OF TECHNOLOGY
Department of Computer Science and Engineering
Data Science

Park Watch: Parking Space monitoring System

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Project Guide

Ms. Dipali Gat

Contents

- Introduction
- Objectives
- Scope
- Features / Functionality
- Project Outcomes
- Technology Stack
- Block Diagram if applicable
- Conclusion

1. Introduction

- **Problem Identified :**
- Accuracy of Detection: The system may mistakenly classify an available parking space as occupied or an occupied space as available.
- Improperly Parked Cars: Improperly parked cars can confuse the system, making it incorrectly detect spaces as available.
- **Solution Proposed :**
- Detection Marks: Showing green and red marks to indicate the availability of parking spaces.
- Use Line Detection: Detect parking space lines to better understand where a car is parked and if it’s improperly parked.

2. Objectives

- Parking Availability: To provide information about available or occupied parking spaces in a parking lot, helping drivers find free spots quickly.
- Reduce Traffic: To reduce the time spent searching for parking, By accurately identifying free spots ultimately reducing traffic inside parking areas
- Enhanced User Experience: To Provide drivers with a seamless and user-friendly experience, using a display board showing live parking space status.
- Efficient Parking Management: To improve parking lot management by tracking and displaying occupancy status and waiting time for drivers.

3. Scope

- Optimizing Parking Efficiency: Parking space detection helps in efficiently utilizing available parking in urban areas, reducing the time spent searching for a spot.
- Better Parking Use: Helps manage parking spaces so people can find spots easily.
- Use Space Efficiently: Parking lots can be managed better, so every space is used well.
- Find Parking Faster: User can check real-time available parking spots, so drivers don’t waste time searching.

4. Feature /Functionality

1. Show Parking Prices: Display parking fees clearly for each location or spot, especially if dynamic pricing is used.
2. Time-Based Fee Calculation: Add a feature to calculate parking fees based on the duration of the vehicle's stay.
3. The system monitors parking areas accurately detecting available and occupied spaces through manual or automated data inputs.

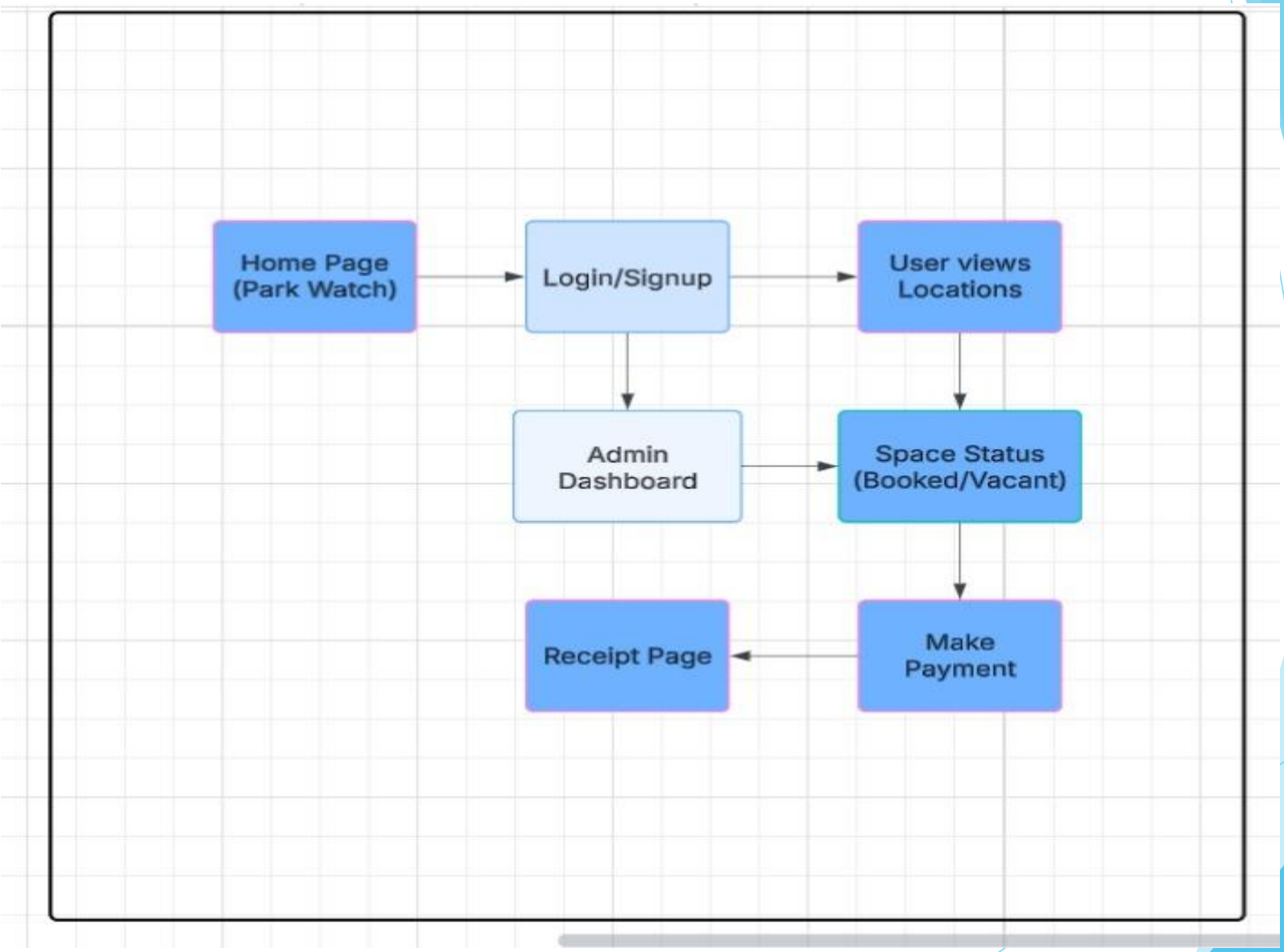
5. Outcome of Project

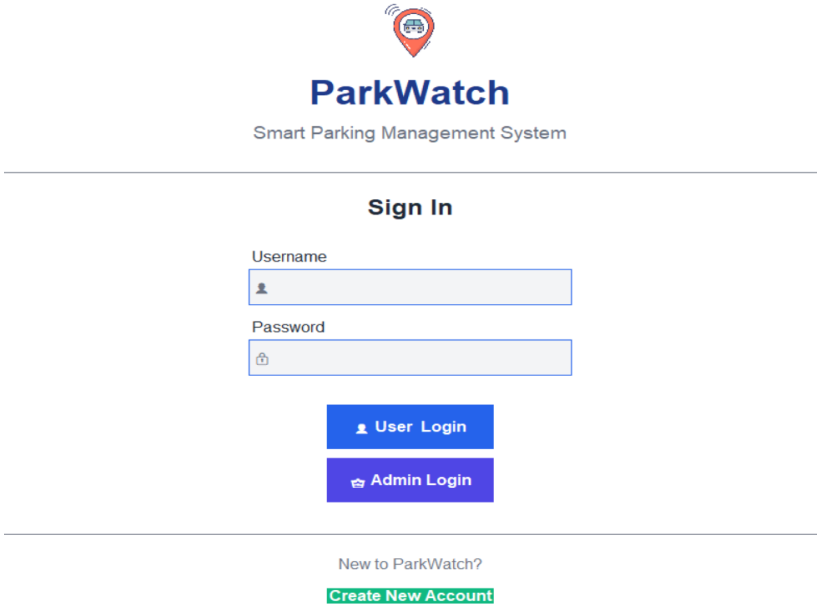
1. Improved Parking Space Utilization.
2. Reduced Traffic Congestion.
3. Enhanced User Experience.
4. Time and Cost Savings.

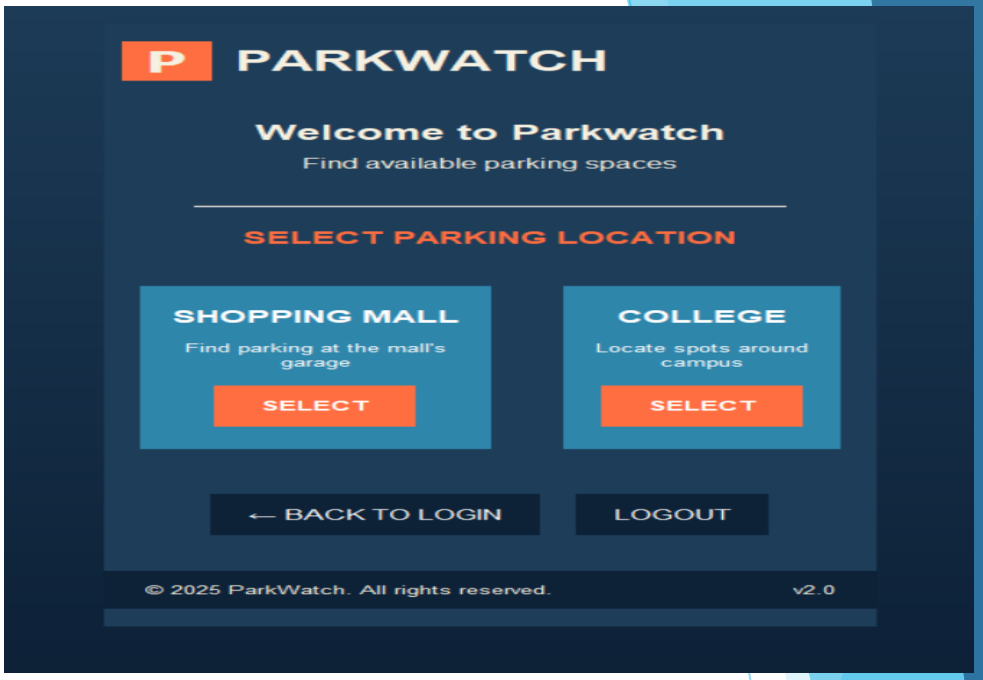
6. Technology Stack

- **Details of Data base to be used**
- Frontend (GUI): 1.Tkinter: For building the desktop application interface and creating interactive user experiences.
- MySQL: It is an open-source Relational Database Management System that uses Structured Query Language (SQL) to manage and store data in a structured, tabular format. It is widely used in web applications due to its speed, reliability, and ease of use.

7. Block Diagram




ParkWatch
Smart Parking Management System
Sign In
Username
Password
User Login
Admin Login
New to ParkWatch?
Create New Account


P
PARKWATCH
Welcome to Parkwatch
Find available parking spaces
SELECT PARKING LOCATION
SHOPPING MALL
Find parking at the mall's garage
SELECT
COLLEGE
Locate spots around campus
SELECT
← BACK TO LOGIN
LOGOUT
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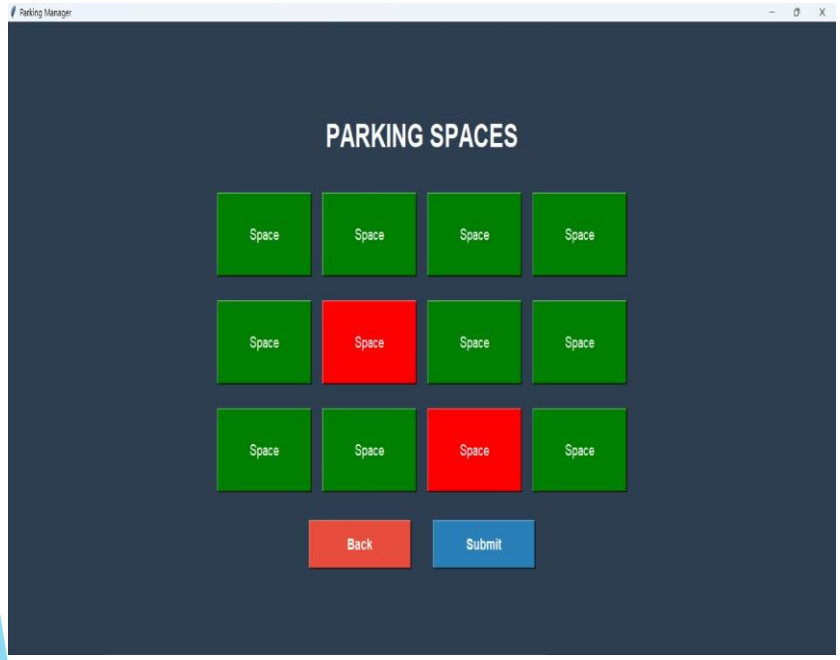
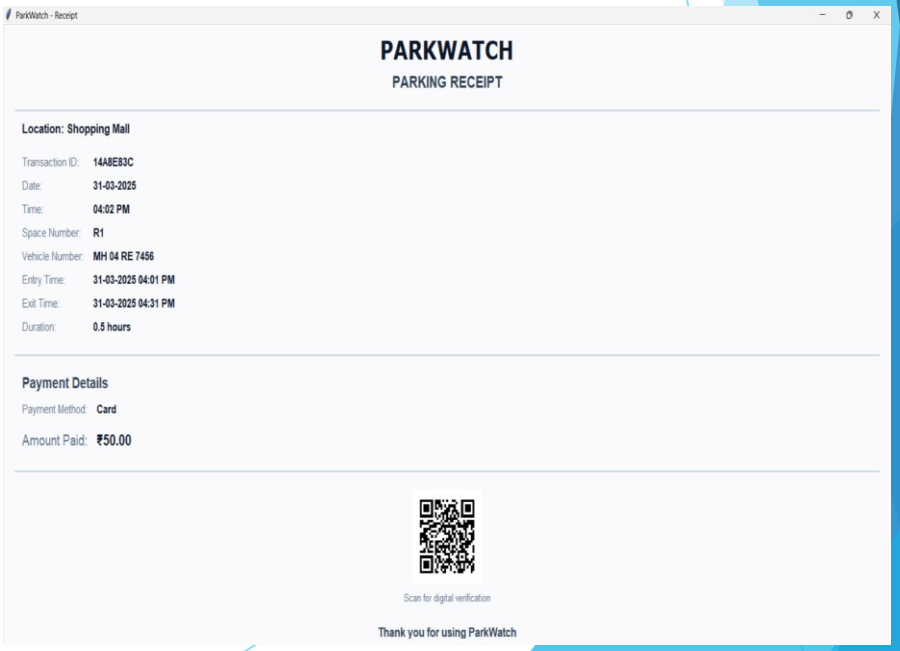
v2.0


Parking Manager
PARKING SPACES
Space
Space
Space
Space
Space
Space
Space
Space
Space
Space
Space
Space
Back
Submit


ParkWatch - Receipt
PARKWATCH
PARKING RECEIPT
Location: Shopping Mall
Transaction ID: 14A8E83C
Date: 31-03-2025
Time: 04:02 PM
Space Number: R1
Vehicle Number: MH 04 RE 7456
Entry Time: 31-03-2025 04:01 PM
Exit Time: 31-03-2025 04:31 PM
Duration: 0.5 hours
Payment Details
Payment Method: Card
Amount Paid: ₹50.00
Scan for digital verification
Thank you for using ParkWatch

Conclusion:

- Efficient Parking Management – ParkWatch enhances urban parking efficiency with structured tracking, automated alerts, and digital integration.

- Optimized Space Utilization – Advanced monitoring reduces congestion and improves overall parking management.

- User-Friendly Experience – Drivers benefit from easy navigation and secure payment options.

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Thank You...!!