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MINI PROJECT REPORT

OF

SMART PARKING SYSTEM

Submitted by

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Under the Guidance

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CERTIFICATE

Certified that the mini project work entitled "LINE FOLLOWER ROBOT" is a bonafide work carried out by

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in partial fulfilment for the award of **BACHELOR OF ENGINEERING** in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2022-2023 It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

A red ink signature of Mr. Pradeep Nayak, written in a cursive style.

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Project Guide

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ABSTRACT

This abstract presents a comprehensive overview of a state-of-the-art Smart Parking System (SPS) that leverages advanced technologies to optimize parking management in urban areas. The system integrates key components, including sensors, communication infrastructure, a mobile application, and data analysis, to provide real-time parking information, reservation and payment services, navigation and guidance, and robust security measures.

Sensors: The smart parking system utilizes a network of advanced sensors strategically installed in parking lots and spaces. These sensors detect the presence and absence of vehicles, collecting real-time data about parking availability and occupancy.

Communication Infrastructure: A robust communication infrastructure serves as the backbone of the system, facilitating seamless data exchange between sensors, the central server, and the mobile application. It incorporates cutting-edge technologies such as Internet of Things (IoT) and cloud computing to ensure efficient and reliable communication.

Mobile Application: The heart of the smart parking system is a user-friendly mobile application. This app provides drivers with access to real-time parking information, including the availability of parking spots nearby. Users can easily view parking rates, reserve spots in advance, and make secure payments through the application.

Data Analysis: The system employs sophisticated data analysis algorithms to process and analyze the vast amount of parking data collected by the sensors. This enables the identification of parking patterns, trends, and peak hours, leading to better parking management strategies.

Functionality and Features:

Real-Time Parking Information: The smart parking system offers drivers accurate real-time parking availability information, reducing time spent searching for parking spaces and minimizing traffic congestion.

Reservation and Payment: Users can conveniently reserve parking spots in advance through the mobile app. The app also allows for secure online payments, making the parking process seamless and hassle-free.

Navigation and Guidance: The application offers turn-by-turn navigation to guide drivers to their reserved parking spots or available spaces, optimizing their parking experience and reducing traffic circulation.

Security: The smart parking system incorporates robust security measures to safeguard users' personal and payment information. Additionally, surveillance cameras and AI-based monitoring enhance parking lot security, ensuring the safety of vehicles and users.

In conclusion, the proposed smart parking system represents an innovative and efficient solution to address the challenges of urban parking management.