VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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Innovation and Design Thinking(1BIDTL158)

Project Report on

"SMART PARKING SYSTEM"

Submitted in partial fulfillment of the requirements for the
First Semester of the Bachelor of Engineering Degree, towards the completion of the **Mini Project** under the **Innovation & Design Thinking Laboratory**,
Department of Basic Sciences.

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CERTIFICATE

This is to certify that the File Structures innovation and design thinking project entitled "Smart Parking System" has been successfully carried out by LAKKI N 1CR25IS082 MANIKANTA ASKANI 1CR25IS093 Manjunath RATHOD 1CR25IS094 PRATIK MEDIKINAL 1CR25IS117, KOUSHIK P 1CR25IS080, bonafide students of **CMR Institute of Technology.**

The project is submitted in partial fulfillment of the requirements for the First Semester of the Bachelor of Engineering Degree, towards the completion of the Mini Project under the **Innovation & Design Thinking Laboratory, Department of Basic Sciences.**

It is further certified that all corrections and suggestions indicated during the Internal Assessment have been duly incorporated in the project report submitted to the departmental library. This File Structures Innovation and design thinking report has been reviewed and approved as it satisfies the academic requirements prescribed for the said degree.

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ABSTRACT

The Smart Parking System project aims to address the growing problem of inefficient parking management in urban areas by leveraging modern sensing and communication technologies. The primary objective of the project is to reduce traffic congestion, parking search time, and fuel consumption by providing real-time information about parking space availability.

The system is designed using sensors installed in parking slots to detect vehicle presence, a microcontroller for data processing, and a centralized server or cloud platform to manage and store parking data. The collected information is transmitted to a user interface, such as a mobile application or web portal, allowing users to view available parking spaces in real time and make informed decisions. The system also supports automated entry and exit monitoring, which improves security and optimizes space utilization.

Experimental implementation and testing demonstrate that the proposed system significantly improves parking efficiency, reduces manual intervention, and enhances user convenience. Overall, the Smart Parking System provides a cost-effective, scalable, and reliable solution for intelligent parking management in smart cities.

Keywords:

- Smart parking
- IoT
- parking management system
- sensors
- smart city
- real-time monitoring