



## Drift Fie

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**Abstract:** Finding a suitable parking space has become an important issue for people in metropolitan areas. The main reason for this is the lack of parking spaces. Traditional parking methods are not available today due to inefficient use of space. Therefore, finding an alternative parking system is important. Parking space tracking is also essential for the driver, and this can be done with his IoT system integrated with sensors. In this paper, we consider the application of an IoT-based parking system. The paper also explores the use of different types of sensors for parking systems.

**Key Word:** REST APIs, Flutter, NodeJS, MongoDB, Google Map API.

## I. INTRODUCTION

The is the network of physical objects devices, vehicles, buildings and other item embedded with electronics, software, ultrasonic sensors, and network connectivity that enables these objects to collect and interchange the data. The IoT allows objects to be observed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improves efficiency, accuracy and economic benefit; when IoT is augmented with feel and blow up, the technology becomes an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, smart homes, intelligent transportation and smart cities. Each thing is uniquely identifiable through it is embedded computing system but is able to interoperate within the existing Internet infrastructure .Smart parking can be considered as one of the Internet of Things applications, a technology which appeared firstly in 1999 .More specifically ,IoT can be regarded as concept under which a group of things/objects that can be connected v wireless and wire connections, Things can interact with each other for the creation of new services or even applications. With the growth of population and economic development, the number of vehicles on the road is increasing day by day. Parking is becoming one of the major problems for cities, and is becoming very costly. For example, finding a parking space at work can be difficult. It is more frustrating for users to search for parking spaces in parking lots. In order to overcome this problem, many parking guidance systems have been proposed in recent years in an attempt to improve the basic parking system. All systems need a mechanism to detect when a vehicle is in a parking space. You can park your car by registering in the parking lot. Registered users are given a unique ID and given a time limit. The system will calculate the entry and exit times of vehicles placed in parking spaces and the amount will be recorded from that account. The parking system is conventional or automated. Automated multistory parking systems tend to require less building volume and floor space than conventional facilities of the same capacity, resulting in a lower price per parking space.

## II. LITERATURE SURVEY.

As the amounts of vehicles on the highway are rising highly with countless numbers to help lacs, which potential customer's troubles are limited to support are in existence. In 2010 authorized vehicles have been 75000 although find improved count. Goal with 2017 are nonetheless rising hugely . Just about all serious towns, cities are experiencing that parking troubles, not sufficient parking breathing space purpose potential customers jellies, pollution, side effects or anything else, the amount concerning parking improvement is incredibly excessive. E-parking utilizes sophisticated technological know-how to mix with reduced costs of parking booking together with charge solutions. Making use of this process, some taxi driver may well consult regarding the amount, arrange to get a parking breathing space for a offered spot, together with pay for as soon as departing . The machine is usually seen as a result of telephone, PDA, and world-wide-web. The smart parking solution consists of only three parts, but it's important to note that each of these parts has different forms that can be applied to the implementation of these solutions. This report identifies the most popular versions of each component along with usage patterns for the specified analysis period for each component. It offers contrasting perspectives and serves as a very helpful source of information. This knowledge could help the scientific community decide which types of components to use when implementing smart parking solutions. Here we present a number of works to introduce smart parking solutions. To achieve this goal, a semi-cyclical adaptation of action research methodology combined with systematic review to select papers relevant

to the research subject will be used. We reviewed the most relevant papers to identify subcategories for each component. These classifications are presented in a table to indicate the relevance of each work. Usage trends related to sensors, protocols, and software solutions are analyzed and described in each section. In addition to usage trends, this white paper determines a guide to complementary functionality from the types of components to consider when implementing a smart parking solution.

### III.METHODOLOGY

The smart vehicle parking system, which was created by combining cutting-edge technology and academic research from several fields, is mostly used in Europe, the United States, and Japan (Shaheen et al., 2005). It is hoped that these system updates would address the aforementioned issues car park users frequently encounter.

The objective of the current methodology is to automate the vehicle parking system in the mall or building using Radio Frequency Identification (RFID) technology. The system also offers a quick and convenient alternative way to pay for tickets and display them using coin-operated ways. this project is easy and affordable. It can be installed effectively as a stand-alone system or in combination with other systems to eliminate fraud and streamline the cash handling process offered by traditional parking payment systems. This new SPS has the ability to check the availability of the nearest parking lot whenever the user wants to park the car. A key goal of this system is to reduce the time it takes to find a parking space. After all, parking your car while driving in a crowded parking lot takes a lot of time. This therefore translates into reduced fuel consumption. Slot reservation priority is disabled, so slots cannot be reserved for many users at the same time. The RFID principle makes it impossible to reserve slots in advance and reduces congestion. RFID and IoT are two technologies that will be used in this new system. The SPS created in this project using IoT allows users to find the nearest parking space and provide the availability of free parking spaces in the parking lot. A key goal of this system is to reduce the time it takes to find a parking space. Also to avoid traffic in certain areas.

This technique also aims to reduce the number of garage workers. When the counter reaches its maximum value, the garage door automatically closes and cannot be opened until the next car enters. This project can be extended by many tools such as: B. GPS exhaustion. This buys users time and reduces traffic congestion caused by overhangs. Each driver must present her parking card, commonly known as her RFID tag, to her RFID scanner after entering the slot.

Here is a map of the parking lot. The parking card reader is centrally located.

If the user needs to park the vehicle, the RFID card must be presented. Card readers are first placed at the entrance gate.

### IV.CONCLUSION

The issues that could arise when using the smart parking system and their remedies have been discussed, providing a solid foundation for all users. Smartparking system adoption ensures the comfort of living for people who struggle with daily tasks in day-to-day life. The approach we suggest gives real-time information about the number of parking spaces that are available in a parking lot. By using our smartphone application, users can reserve a parking space for themselves. so that users can avoid spending time looking for parking spaces.

The introduction of a parking management system significantly reduces the time spent looking for a parking space, provides valuable data on parking space availability, provides accurate mapping of parking lots and provides guidance on correct parking of the vehicle. and suggestions are provided.

This study introduced various types of intelligent parking systems. It is clear from the various introduction examples of the intelligent parking system introduced this time that it is effective in alleviating traffic problems, such as traffic congestion and lack of parking spaces, which occur especially in urban areas. It does this by guiding visitors and optimizing the use of parking spaces.

A study of all sensor technologies for vehicle detection, one of the most important parts of an intelligent parking system, allows us to analyze the strengths and weaknesses of each sensor technology. Implementing a vision system for vehicle detection has certain drawbacks, but as mentioned, the benefits far outweigh the drawbacks

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