

# Android Based Smart Parking System

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**Abstract:** In recent times the concept of smart cities has gained grate popularity thanks to the evolution of Android System the idea of smart city now seems to be achievable. Problems such as, traffic congestion, limited car parking facilities and road safety are being addressed by Android. In this paper, we present an Android based smart parking system. The purpose of smart parking system consists of an on-site deployment of an android module that is used to monitor and Signalize the state of availability of each single parking space.

**Keywords:** Parking Space Detection, Android Application, Android Studio.

## 1. Introduction

Variety of occasions turn up when we are visit various public places like shopping malls and 5-star hotels, multiplex cinema halls etc. The difficulty we encounter at these places the availability of parking space. Most of the times we also need to travel to find a free space for parking. The problem becomes more tedious if parking is full and it becomes time consuming. This situation calls for the need for automated parking system that not only regulates parking in given area but also keeps the manual intervention to minimum.

Our project introduces a scaled down model of an automated car parking system that provides the parking lot at any time to user. Also the system proposes parking fee collection based on Online Booking recognition. On using Android application on user's device he can make reservation for parking space by providing the information like name, date and time. For retrieval purpose the user has to pay bill and extra charges if any then only barrier will get opened. The system is based on modules Android Application. this system proves to be useful for the purpose of the car parking and there by helps to reduce driver time as the user can book his parking spot beforehand.

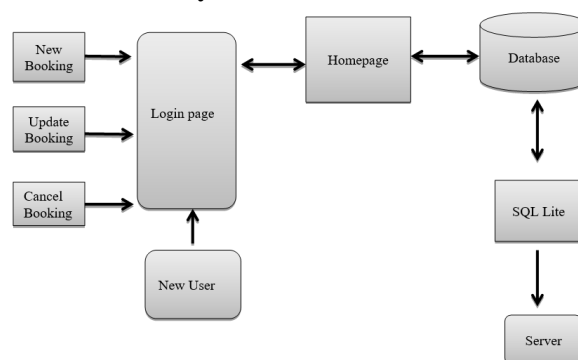
## 2. Literature survey

The aim of this project is to automate the car and car parking as well. A miniature model of an automated car parking system that can regulate and manage number of cars that can be parked in given space at any given time based on the availability of parking area. Automated parking is a method of parking and existing cars using plot System. The entering and leaving to the Plot is commanded by an android application.

This paper aims to present an Android Based system for

parking space detection based on online booking System process the brown rounded image drawn at parking lot and produce the information of the empty car parking spaces. It will be display at the display unit that consists of seven segments in real time. This proposed system has been developed in software platform.

## 3. System Architecture



Modules:

- Registration
- Login
- New Booking
- Update Booking
- Cancel Booking
- Date
- Time selection

## 4. Conclusion

In this paper, the development of reservation for parking slots commanded by android application, online Booking System recognition, parking slot status and Online billing system is implemented. The proposed system reduces the driver's effort and time to search parking space. the payment transaction is handled online which makes system less human dependent.

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### **References**

- [1] D.J. Bonde, "Automated car parking system commanded by Android application."
- [2] Yangeng Geng, Christos G. Cassandras, "A new 'smart parking' Infrastructure and implementation."
- [3] Norazwinawati Basharuddin, R. Yusnita, Fariza Norbaya, "Intelligent parking space detection based on image processing", International Journal of Innovation, Management and Technology.
- [4] Adamu Murtela Zungeru, Ufaruna Victoria Edu, Ambafi Garba, "Design and implementation of Short Message Service based Remote Controller," Computer Engineering and Intelligent systems.