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Online Car Parking Booking System

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Abstract -. The proposed project is a smart parking booking system that provides city user an easy way of reserving a parking space online using web portal. It overcomes the problem of finding a parking space in universities/institute areas that unnecessary consumes time. Hence, this project offers a web application-based reservation system where user can view various parking spaces and select nearby or specific area of their choice to view whether space is available or not. If the booking space is available, then user can book it for specific time slot. The booked space will be marked and will not be available for anyone else for the specified time. This system provides an additional feature of cancelling the bookings. User can cancel their reserved space anytime. User can also view previous parking booking details using the web portal. We are also creating a feature for user to check the cng pumps available.

Key Words: Smart parking, Smart city, pollution free, IOT, Child Safety, GPS, GSM, Smart Band, Location.

INTRODUCTION

The role of parking spaces in the transportation system is vital. Every vehicle making a trip needs a parking space at its origin and destination regardless of the parameters defining the trip. Various systems of managing and controlling parking have been applied since the beginning of the 19th century worldwide. The hectic schedule of the parking and their space is really irritable at all the time especially in commercial areas. The one of the main problem is that, there are plenty of increment in the motor field but not in parking space as it should be. It is highly needed to maintain and upgrade those all things, which are widely, use in our personal and professional life. The Parking system is very much annoying at this time but the smart is defined as the eco-friendly as well as perfectly digital city in all the aspects.The report is all about the smart city and smart parking system with the time saving facilities and better safe and secure environment using certified data by Intelligent Transport System and latest inventions. This is really necessary to open each and everything about the new smart city which will be our next life. So, this report has each and every thing in very clear way. The system of smart parking and smart city is reliable up to at what point is showing in this report with the App-work and infrastructure work together. So, the smart Parking system is really just like the revolution in the world of parking, which is able to save time and make each and everything reliable. The one of the best thing is that, it is the most convincible way in this high population. The main thing is that, we can use our all kinds of gadgets to protect our vehicle, make our life

reliable and safe as well as to make the schedule time saving. The one of the best thing is that, it is really amazing to have each and everything quick and fast without making any trouble. The term smart city is widely using now a days as it is becoming the basic needs for the entire world. The life at this time is truly fast and furious at all the time. In this fast and furious era, we need each and everything reliable with the time saving and better result. The reliable transportation without any problem is the basic needs which can't be fulfill without making the smart cities. It is very important to make each and everything according to eco-friendly system and sustainable programs of the earth.

The energies, what we are using at this time not reliable perfectly for the environment as it is polluting. The land and water is polluted due to various things like garbage management, pilgrims and deforestations etc. The smart city is the Revolutionary version of these cities to maintain the management and each and everything rapidly. Smart city is used to discuss the use of modern technology in everyday urban life. This includes not only information and communication technologies but also, and especially, modern transport technologies. Logistics as well as new transport systems as "smart" systems that improve the urban traffic and the inhabitants' mobility [1]. Moreover various other aspects referring to life in a city are mentioned in connection to the term smart city like security/safe, green, efficient & sustainable, Energy etc. Mobility or transportation is one of the important needs of the Smart city.

It necessary to have a efficient and smart parking systems for smart and sustainable infrastructure. In this paper, a proposed web-App system, "Park ON" is based on the use of smart phones, sensors monitoring techniques with a sensor's camera to take photos to show the occupancy of cars parks. By the image, particular vacant space can be known and used to guide a driver to a car park. By implementing this system, the utilization of parking spaces will increase. It allocates available parking space to a given driver to park their vehicle, renew the availability of the parking space when the car leaves and compute the charges due. It is also help in search of the best possible path from the current position to the parking facility and then to the destination. So, the smart parking is one of the best way to remove the rush in the city rods and ways. This is easy and reliable along with the economical

LITURATURE SURVEY

Azhar Somani et.al.[l] This paper proposed Real Time working and implementation is what the citizen's and the government is aiming for. It is said the most commutators spend more time in finding spaces for parking than driving around with the odd probability of actually getting the parking spaces for themselves. The idea here is to implement Smart Parking Solution. Smart Parking devices will be introduced to various parking spots that will be connected to the cloud and provide Real-time updated from the UHF installed sensors for available parking spaces for the user. The aim of the device is to bring ease and eliminate basic problems like traffic congestion with more practical and purposeful solutions. However certain parameters are to comply like minimum display width and processing power. The Proposed system is an "Originality" because the idea making smart city solutions have not yet been implemented in the crowded areas or area where getting parking spaces is difficult. A User-friendly app is introduced for the operations for User from finding a parking space to booking space confirmed. The circuitry used in the whole operation is easily built and cost-effective for the organizations to implement it.

Uneb Gazder et.al.[2] The paper proposed outline a methodology for finding a solution for parking crisis in congested areas with constrains. The methodology was applied to Isa Town campus of University of Bahrain. The campus has experienced increasing parking users with demands equivalent to 8750 vehicle-hours besides limited parking spaces. In addition, the University of Bahrain and Bahrain Polytechnic share same campus and facilities whereas the limited parking area (1356 parks) hardly meets the requirements of one university. Therefore, many students (22.9%) resort to parking outside. The study acquired the required information, by survey, from parking users (students) and parking data from the study area. Several equations of parking studies (demands, supply and others) were applied to the information. The study adopted one of smart car

parking systems (vertical rotary smart car parking). It will be providing the parking area with necessary parks through establishment of number of rotary devices (13 rotors from the most appropriate types) in different appropriate locations. The methodology adopted in this study can be adapted to any environment for solving parking management crisis. Juan Fang et.al.[3] The paper proposed design and implement the smart parking guidance algorithm which is based on the original parking service function, which can provide the user location and navigation in urban parking spaces and develop an optimal path to the parking space. Besides, we design and implement the parking lot recommendation algorithm to suggest the best parking lot in the neighborhood of the specified destination for the user Ilhan Aydin et.al.[4] The paper proposed The development of devices that can connect to the Internet and transmit data has been a source of inspiration for smart city designs. The common problem in our cities is the difficulty of finding free parking slots. The parking problem causes traffic to congest and people who go to work are looking for a place. In this study, a navigation and reservation based parking proposal system was developed for smart cities. The proposed method involves the development of small devices that send data to the internet using the internet of things (IoT) technology. The free parking space closest to the current location is found by genetic algorithm. The proposed method is tested for different scenarios and accurate results are obtained.

LIMITATIONS

- Focus only on the parking lot for cars not in the motorcycle parking.
- Parking is not allocated.
- Low Performance & system breakdown.
- High Costing and not user friendly.
- In places where there is no provision of GSM networks, it is.

AIMS & OBJECTIVES

1. Users can get details about parking areas for particular locations.
2. It saves user time in search of parking space available in such a long parking area.
3. The system provides a view of the parking spaces.
4. It excludes the need of human efforts for managing parking spaces.

PROPOSED SYSTEM

The proposed project is a savvy stopping booking framework that gives city client a simple approach to holding a parking spot internet utilizing online interface. It conquers the issue of finding a parking spot in colleges/organization regions that superfluous consumes time. Consequently, this venture offers a web application-based reservation framework where client can see different parking spots and select close by or explicit region of their decision to see regardless of whether space is accessible. On the off chance that the booking space is accessible, client can book it for explicit schedule opening. The booked space will be checked and won't be accessible for any other person for the predefined time. This framework gives an extra component of dropping the appointments. Client can drop their saved space whenever. client can likewise see past stopping booking subtleties utilizing the online interface

SYSTEM ARCHITECTURE

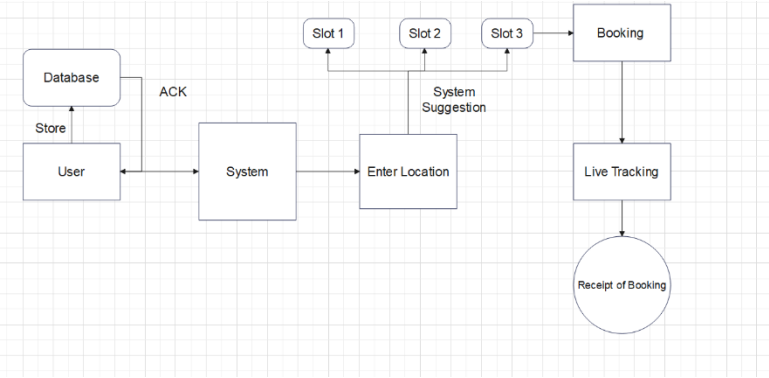

Fig -1: Architecture Diagram of Smart parking system

APPLICATION:

- Malls
- Organization / Companies
- Schools / Collages
- Smart City

FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS

Functional requirements: may involve calculations, technical details, data manipulation and processing and other specific functionality that define what a system is supposed to accomplish. Behavioral requirements describe all the cases where the system uses the functional requirements; these are captured in use cases.

Nonfunctional Requirements: (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

Functional requirements

- Registration
- User Login
- Creation of database: Users Mandatory Information

Design Constraints:

1. Database
2. Operating System
3. Web-Based Non-functional Requirements

Security:

1. User Identification
2. Login ID
3. Modification

Performance Requirement:

1. Response Time
2. Capacity
3. User Interface
4. Maintainability
5. Availability

CONCLUSION

The one of the basic needs to make the smart city is smart parking as the traffic is increasing at all the time with the rate of 25-40% worldwide. The one of the basic thing which is cleared in this paper is that, Park ON app and the management of the smart parking is the key points. This is really amazing to have these facilities without any problem in the environment as the entire research shows that, everything is eco-friendly. The ICT system is rationally follows in the entire research.

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