

A Review On Automation in Two Wheeler Parking System

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Abstract: The continuous development and evolution of vehicle causes insufficient places to park the vehicles. For current situation large spaces is required for parking large number of vehicles. Due to insufficient amount of spaces, vehicles are parked road side and this creates more traffic. This paper discusses the method to overcome this issue by introducing new parking system for two wheelers that provides us to park many two wheelers in a small area of space. In this system rotary mechanism is used for parking large number of two wheelers. When the vehicle is parked small lock is provided to lock the vehicle in the parking slot. After locking the vehicle, slot will move to the original position. This can also be used for future needs, if there is any lack of space to park the vehicles.

Keywords: Gear, Motor, Parking system, Rotary mechanism, Sensors.

1. Introduction

Recent trends on increasing vehicles and production of the innovative vehicle impart the need spaces to park both existing and new vehicles. Evolving new types of vehicles and existing vehicles needs more spaces to park. Parking is a key component of transportation program. Parking system needs identification of parking problems with educational institutes, entertainment users, religious institutes, commercial activities, special events etc. With the experience of such type of programs underscores the need for the city to foster ongoing coordination and cooperation among businesses, residents, institutions and governmental agencies in order to address parking needs in a collaborative manner. Street parking is creating a huge problem like unexpected traffic jam. Cubature because mechanized and automated multi-storey parks are adjusted to the applied system and are equipped with such elements as slide plates or ramps, transport carriages, mobile floors, lifts, etc., and also the complicated control and automation system. As a result, the cost of one parking lot in these modern objects and in traditional ones is similar, and the only advantage is partially lowered cubature because of the lowered height of particular storeys.

2. Technologies in Parking System

Here it witnesses some of the smart parking system concepts and the various categories in it. The classifications that are explored in the existing systems globally are clearly explained. The parking system manipulates n number of technologies and

the techniques which are categorized in it are also given. The nodes functions in a wireless sensor networks are further classified [1].

3. Semi-Automated Techniques

Semi-automated parking system was crafted to reduce the labour work and to alleviate parking problems. Since its automated the parking system becomes highly safe and quick to access. Semi-automated parking system constricts the space which is wasted in large building parking garage. Bike parking system is processed in a function (i.e.) the vehicle is parked on the slacked and it's been pulled over with the support of hydraulic systems. The driver will be in motion towards the automated machine and an attendant will ask for the vehicle number and relevant details. Once its completed, the attendant will issue a coupon code to the driver and when you want to exit, just enter the coupon code on exit area [2].

4. Locking System

Bicycle parking system has been fundamental, throughout several decades. In order to increase the space, alternative measures have been followed with the help of some mechanisms. The ultimate point is to develop a parking system for bikes with more safety measures and security. The system is automated with enhanced more features. Thus revolutionized automated parking system will be more effective and eco-friendly [3].

5. Parking Difficulties

Most of the inexperienced drivers are being challenged to park the vehicles in a constricted parking area. A design had been crafted to manage these problems. However, the parking system will not only solve the problems, but a reference for upcoming technologies that will be correlated to parking system. Stepping motor mounted ultra-sonic sensor to clear the obstacles and three-point unequal rotating radius algorithm is used to detect parking trajectories. Therefore, automatic parking assistance system can be utilized in small segment cars with little changes in logic [4].

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6. Analysis

Nowadays most of the urban areas are facing vehicle parking problems due to insufficient amount of space and it has been developed as a major issue that is unsorted till now. And across the globe countries have been testing with different adaptabilities of parking systems and few of them are multi-level automated car parking, vertical parking and parallel parking. Among these mechanisms, vertical parking system has impacted most of the countries. This system uses chain and sprocket mechanism to drive the parking platform. A one fourth HP brake motor shall be implemented for energizing the system [5].

7. Vision

In accordance to alleviate the parking system experts had come up with various solutions and surpassed colossal obstacles. This project aims to reduce the space occupancy of the design and compact parking system with rotary mechanism. The project is further useful for various branches of engineering in order to develop different types of automations like microcontroller, PLC and computerization. By trying out and analyzing the working model, we can get the view to develop parking lots at urban areas and cost efficiently [6].

8. Mechanism

Different kinds of methods had been adopted to combat traffic problems. Though we adopted different methodologies, Traffic problem still exists. Vast number of vehicles had not only been an issue, but parking system too. A good traffic system requires good parking system. One of the most effective method is rotary parking system, which indulges chain and sprocket mechanisms. This method reduces excess occupancy of land and giving more space to effectively consume it for various kinds of works [7].

9. Environment

Most of the vehicle owners or drivers park their vehicle at required space due to emergency purpose, that leads to parking related problems. So an automated space management parking system should be instigated using IoT. And a machine should be developed for collection of parking charges. It should not only collect the charges, but address the E-parking management rules to provide smart parking management throughout the city. Combating the parking system is the only way to alleviate traffic problems and avert mismanagement of available space [8].

10. Needs of New Parking System

The traffic flow was interrupted because of the number of vehicles increasing in the cities day by day. The importance of the restoration spaces for the people's communication and the crosswalk traffic has been established by EU. Most of the vehicle parking system's process in few places in the cities consume more time, that causes problems in the environment. This article provides us with various kinds of useful ideas that

has positive impact in rotary parking system. This project was found in the Cracow University of Technology by a mechanical department professor [9].

11. Developed Feature

Automated parking system plays a vital role in almost many fields. Parking system has been automated to reduce the time taken for a vehicle to find a parking IoT. Automated system sense the entry and exit of a vehicle and copies that information in a specific software. An LCD displayer is fixed by using IR sensors to show the available parking space for vehicle. This system uses microcontroller(89c52) to detect and store the data of the vehicle [10].

12. Conclusion

This paper gives a clear view of the system that provides advanced two wheeler parking system. This type of system helps to tackle the parking problems that is caused due to the inefficient parking systems. The usage of rotary mechanism in two wheeler parking system provides an easier way of parking these vehicles. Also a lock is provided in it so that the vehicle will remain safe. And also the user knows the exact location of their vehicle. The user can operate this system just by pushing the buttons. This system has a very big impact in upcoming modern two wheeler parking systems.

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