

Smart Wheel Parking System

Thiagarajan.C¹, Lakshminarayanan.N¹, Surendrababu.K¹

Sunil Kumar², Vikash Yadav², Vijay Nayak²

Department of Mechanical Engineering, Aarupadai Veedu Institute of Technology, Vinayaka Missions University

*Corresponding author: E-Mail: ctr.rajan@gmail.com.

ABSTRACT

Parking is the act of stopping and disengaging a vehicle and leaving it unoccupied. Parking on one or both sides of a road is often permitted, though sometimes with restrictions. Some buildings have parking facilities for use of the buildings' users. Countries and local governments have rules for design and use of parking spaces.

Generally vehicle parking is done by manually and it is not automatic. Due to the manually vehicle parking system there may occur misalignment in parking and it is difficult to park in crowded place.

In existing we uses high cost materials or sensors to park the vehicle in public places. But many of them preferred in manual parking system so we implement new concept for them. This is the automated parking system using the centre wheel attachment in the back wheel. By using this model we can park any vehicle within a second.

KEY WORDS: Parking, smart parking, parking spaces

1. INTRODUCTION

The smart parking system implemented mainly in the Europe, United States and Japan is developed with the incorporation of advanced technologies and researches from various academic disciplines. With its deployment in the car park, it is hoped that it would solve the aforementioned problems faced by the patrons within the car park. Time and cost are two important factors of human life, whether for an individual or a business. As quality of life increases, more and more people are in habiting cities. Shopping complexes are an important point of interest both for a city's inhabitants as well as for visitors. Hence, more shop owners prefer to locate their business in shopping complexes to target more customers and increase revenue.

Providing sufficient parking for visitors is one of the main issues in developing shopping complexes. Offering and paying attention to handicapped drivers are a few of the factors which can increase customer loyalty and attract customers to visit a shopping mall more frequently.

Working Principle: Smart wheel parking system working principle of driving system used in the normal vehicles. In this project we implement of new concept attachment of single wheel in centre of the back wheel. When we start the vehicle one D.C motor is used to move the vehicle in front and back moving. Another D.C motor is used to move the centre wheel in up and down direction with the help of rack and pinion attachment. Another D.C motor is used to rotate the centre wheel in appropriate directions. D.C motors are controlled by the normal two way switch

Layout and Components in Detail:

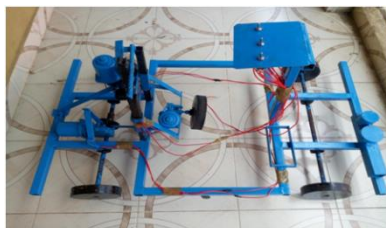


Figure.1. Layout and Components in Detail

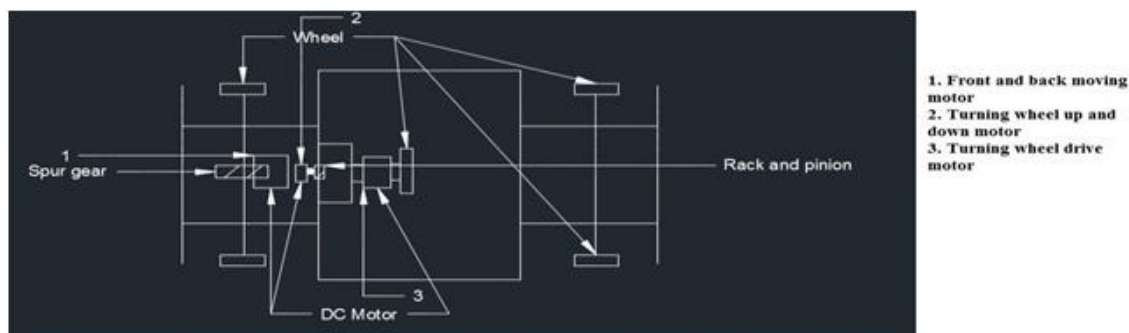


Figure.2. Smart wheel parking system

DC Motor, Spur gear, Rack and pinion, Dc battery, two way switch, Wheel, Frame:

Motor Specification:

Capacity: 12VOLT

Without loading: 120rp



Figure.3. Dc motor

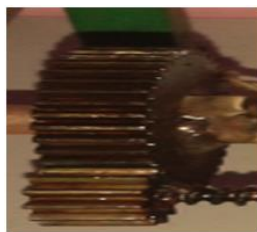


Figure.4. Spure gear



Figure.5. Proper parking



Figure.6. Improper parking

Advantages and application

Advantages

- The main advantage of smart wheel parking is automatic.
- Time saving parking system.
- Easily operated and can parked in any direction.
- It is reliable.
- Low cost compared to other sensor operated parking system.
- No need of high skilled operators.
- Avoid accidents and misalignments occurs in parking.

Applications

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2. CONCLUSION

Thus we implemented and developed our new model “Smart Wheel Parking System” successfully. We also achieve more advantages over existing model in this project. During this project we learnt how to manage time and cost problems.

We gained a lot of practical knowledge regarding, planning, purchasing, assembling and machining while doing this project work. We feel that the project work is a good solution to bridge the gates between institution and industries.

We are proud that we have completed the work with the limited time successfully. The “Smart Wheel Parking System” is working with satisfactory conditions.

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