

IOT-BASED EV SMART PARKING AND GREEN CHARGING SYSTEM



GUIDE NAME :

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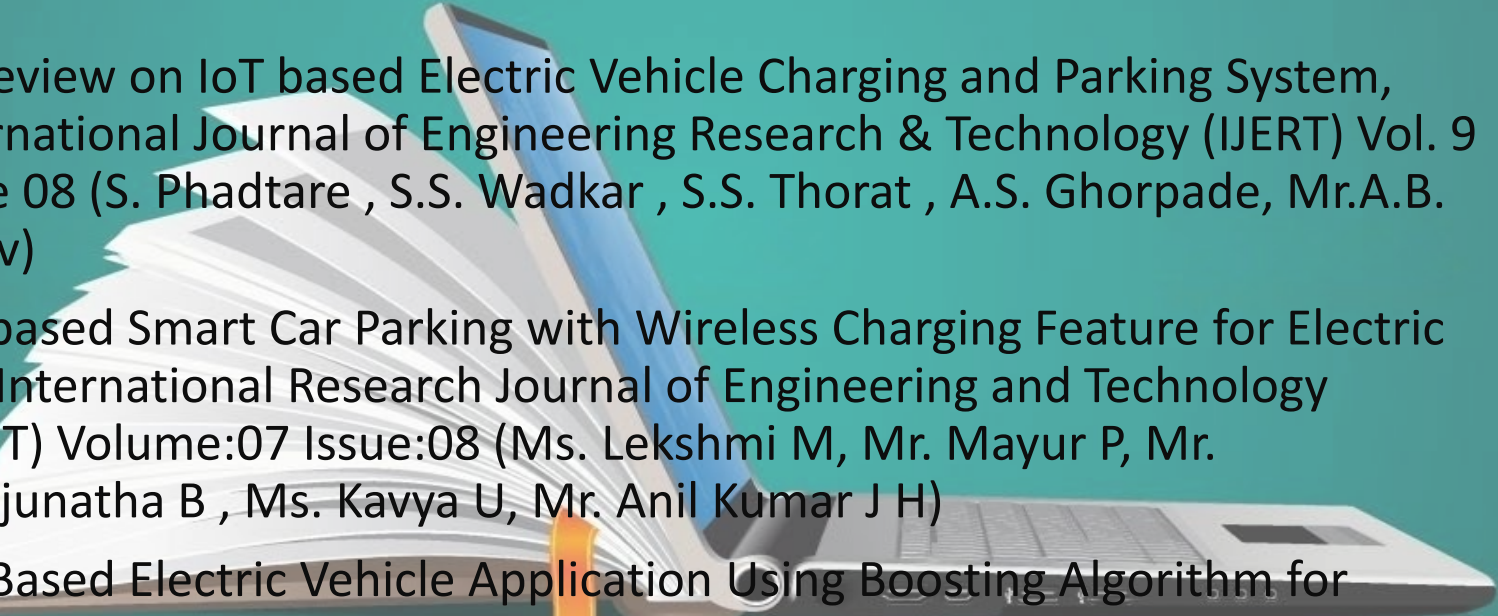
PROJECT MEMBERS:

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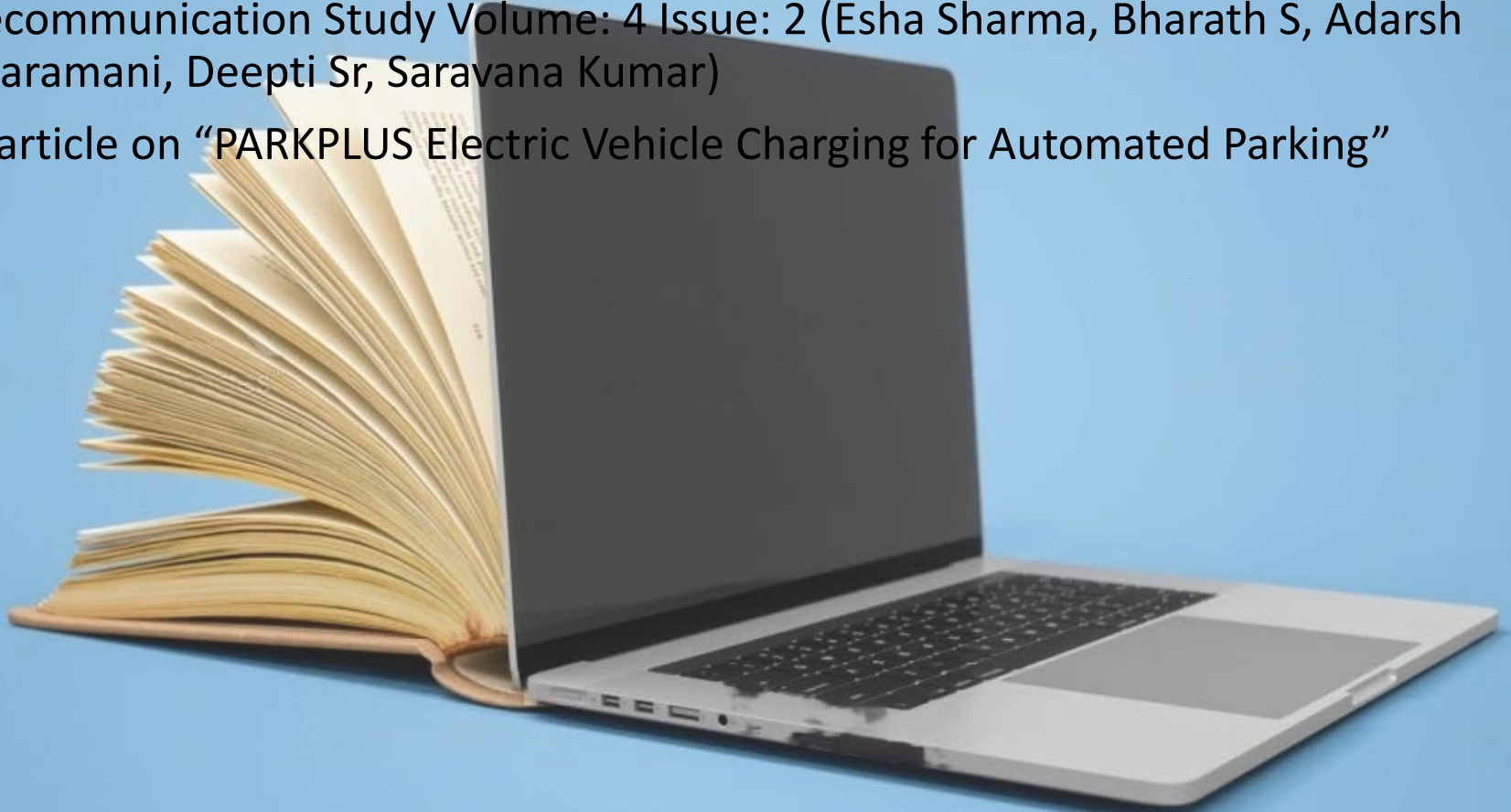
INTRODUCTION :-

- Smart car parking system is an integrated system to organize cars in public areas.
- All vehicles are enter into the parking and without waste of time for searching parking slots.
- With parking and also provide green charging system .
- Make EV's as the mode of transportation.
- Reduce pollution and provide charging station to EVs.

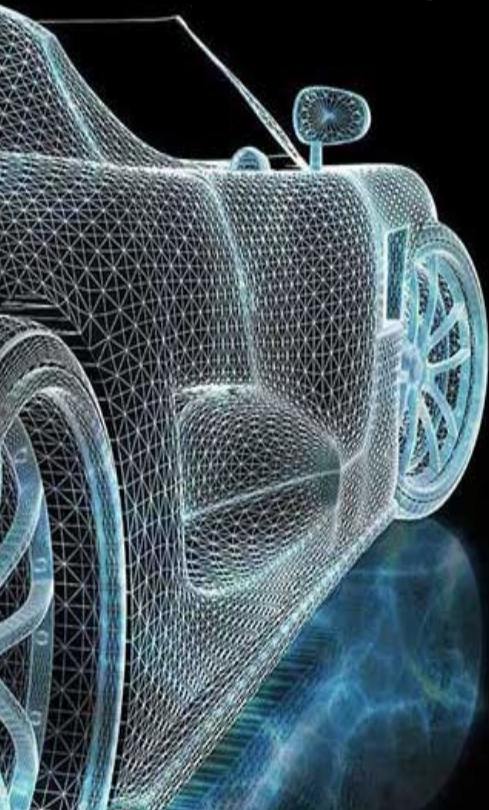
LITERATURE SURVEY :-

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- A Review on IoT based Electric Vehicle Charging and Parking System, International Journal of Engineering Research & Technology (IJERT) Vol. 9 Issue 08 (S. Phadtare , S.S. Wadkar , S.S. Thorat , A.S. Ghorpade, Mr.A.B. Jadav)
 - IoT based Smart Car Parking with Wireless Charging Feature for Electric Car, International Research Journal of Engineering and Technology (IRJET) Volume:07 Issue:08 (Ms. Lekshmi M, Mr. Mayur P, Mr. Manjunatha B , Ms. Kavya U, Mr. Anil Kumar J H)
 - IoT Based Electric Vehicle Application Using Boosting Algorithm for Smart Cities (Shabana Urooj, Fadwa Alrowais, Yuvaraja Teekaraman, Hariprasath Manoharan, Ramya Kuppusamy)

- IoT Enabled Smart Charging Stations for Electrical Vehicles, Journal of Telecommunication Study Volume: 4 Issue: 2 (Esha Sharma, Bharath S, Adarsh Devaramani, Deepti Sr, Saravana Kumar)
- An article on “PARKPLUS Electric Vehicle Charging for Automated Parking”



Problem Statement :



Urban living needs centralized public facilities.

Almost no car parking facilities in operation today can handle the flood of vehicles. It takes time to look for a vacant parking space.

It causes increased traffic congestion since many vehicles may compete for limited parking spaces.

After that there is also a problem with EV charging points across the city.

EV charging points are yet to upgrade to a renewable source of energy.

Proposed Solution :

- To provide information about slot availability for parking using **IoT App/Browser**.
- To provide **wired charging** of Electric Vehicle .
- To provide green charging using **solar panels**.

Hardware components :

- Node MCU/ Wi-Fi ESP-32
- Arduino UNO
- Power hub
- 6 IR Sensors
- Servomotor
- 16x2 LCD Display
- Solar Panel(15V)
- Programming cables
- LM35 Temperature Sensor
- Diode, LED, Capacitor
- Battery(12V)
- Regulator 7805

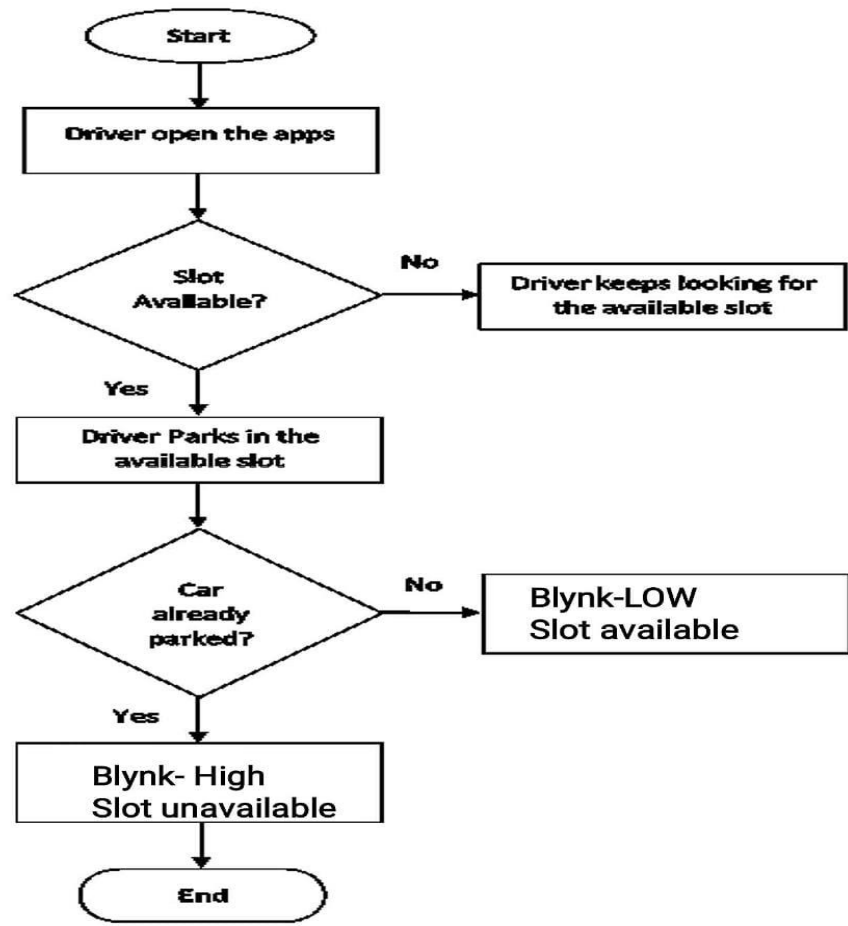


Software Used :

- Arduino IDE 1.8.15
- Internet of Things (IoT) App.



Flow diagram:



Conclusion :

- Optimised Parking
- Reduced Traffic and Reduced Pollution
- Green charging system
- New Revenue Options
- Fast Payments
- Decreased Management Costs
- Real-Time Data and Trend Insight

REFERENCES:-

- Review on IoT based Electric Vehicle Charging and Parking System, International Journal of Engineering
- Research & Technology (IJERT) Vol. 9 Issue 08 (S. Phadtare , S.S. Wadkar , S.S. Thorat , A.S. Ghorpade, Mr.A.B. Jadav)
- IoT based Smart Car Parking with Wireless Charging Feature for Electric Car, International Research Journal of Engineering and Technology (IRJET) Volume:07 Issue:08 (Ms. Lekshmi M, Mr. Mayur P, Mr. Manjunatha B, Ms. Kavya U, Mr. Anil Kumar J H)
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A high-contrast, black and white photograph of the front of a dark-colored car. The car is centered in the frame, with its headlights and fog lights illuminated, creating bright circular glows against the dark background. The text "THANK YOU" is superimposed in the center of the image, over the car's hood.

THANK YOU