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# IOT BASE ELECTRIC VAHICLE CHARGING STATION

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**ABSTRACT**

This concept suggests a brandnew capacitive coupling wireless power transfer technique for charging electric automobiles.Capacitive coupling wireless power transfer can take the place of traditional induct ive coupling wireless power transfer due to its minimal losses.The plugin approach is now employed to charge electric automobiles.An alternate way of recharging an electric vehicle is wireless power trans fer.The issue with plugin charging techniques, which often take longer and require frequent stops for charging, will be resolved when wireless power transfer reaches its maximal efficiency.This kind of tec hnology will eventually need to be added to all prospective.

## I. INTRODUCTION

When trying to get into the electric vehicle (EV) market, one of the biggest obstacles is the charging pr ocess, where the main issues stem from residential (apartment) buildings' lack of suitable infrastructure as a result of their lack of readiness for this new reality.The flat has a shared electrical issue that does n ot satisfy EV owners' needs.Systems have the ability to provide novel solutions to these issues based on recent developments in the Internet of Things (IoT) and related sensors and communication platforms. Rentable a general reluctance to install EV charging stations, which will only be used by a few owners. In addition, there is also an issue related to the safety of the electrical systems, as they are not actively built to support EV charging stations, and the adjustment of the electrical infrastructure of the apartment will not only requires consensus among a majority of owners, which can be difficult, but can also be difficult to obtain, from government building safety authorities. Considering the fact that most residential buildings have common spaces with shared electrical installations and are not prepared for the installation of new EV charging systems, this is a barrier to adoption. A study identified four key problem areas in the context of sharing electric vehicle charging solutions in buildings: charging infra structure unavailable, building boundaries , regulatory issues, and availability of the parking lot.

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## II. PROPOSED SYSTEM METHODOLOGY

### a. *Proposed System Methodology*

In this paper, a 328p microcontroller is provided for the development of our project's controlling in that five different types of relays are used to switch the charging management according to the controller's s ignal if an EV1 customer pays for a onehour charging session in accordance with the unit, then we supp ly the EV1 with power for a one-hour period.

We disconnect the charging unit 1 from supply after one hour.Through the online payment option, we a ccept payments in advance.The IOT wifi module used to connect to the controller controls the charging station as well

### b. *Block Diagram*

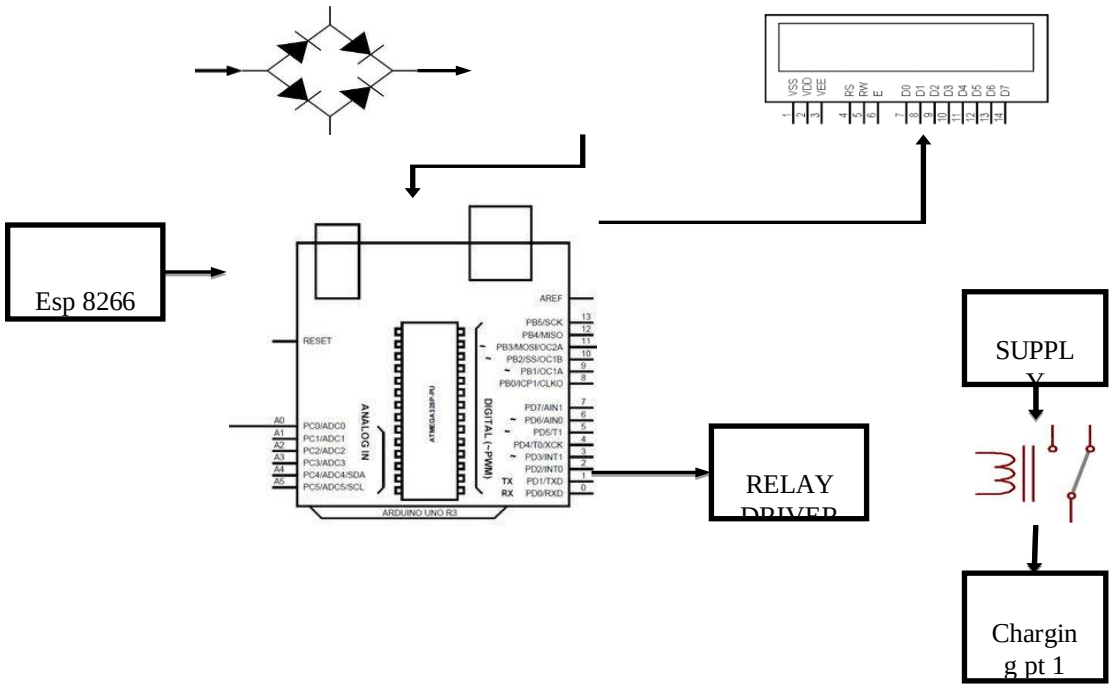


Fig.1- Bolck Diagram

### 2) List of Components with their Specifications:-

- Microcontroller ATmega328
- Operating Voltage 5V
- Input Voltage (recommended) 7-12V
- Input Voltage (limits) 6-20V
- Digital I/O Pins 14 (of which 6 provide PWM output)
- Analog Input Pins 6 DC Current per I/O Pin 40 mA

- DC Current for 3.3V Pin 50 mA
- Flash Memory 32 KB (ATmega328) of which 0.5 KB used by bootloader
- SRAM 2 KB (ATmega328) EEPROM 1 KB (ATmega328)
- Clock Speed 16 MHz

**3) Advantages/Disadvantages/Applications: -**

***a) Advantages***

- Workers not require
- No need to monitor the system
- Power theft chances is low

***b)*** *Disadvantages*

- System may be fail in case of network failure

***c)*** *Applications*

- In industrial parking
- Mall parking
- Residential and commercial areas

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