

# SMART CHARGING USING COIN INSERTION

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## ABSTRACT

Our aim of the project is to manage the ever-increasing charging needs of the people, so we have created a system that manages mobile charging in a systematic way to avoid power failures and everyone has privilege to charge their handset in a specified time. In the development of this system, Adapting QR as a source, this charging system is used to resolve the problem before.

Moving ahead with the system, this system is using C programming, Arduino IDE, and the MQTT mobile application.

research agencies. The controller being used is a cheap and easy-to-get microcontroller that has the projected of various types and mechanisms. The -Fi module which in build in the Node MCU controller is being used are form that makes it variable and efficient and easier that it could be offered over the cloud using a personal build app platform an other already prepared platform that is used among them other already prepared platforms over the cloud, many of the people use the cloud platform are efficiently and robustly as the thin and robust sitting in any part of country.

## 3. AREA OF STUDY

The study has been conducted on the basis of mobile charging for their increasing rate of use and a daily need for most.

## 1. INTRODUCTION

This in, today's world it is mandatory to have a mobile phone, not for better use but been a trend that everyone should yet have one in order to be in that particular race and hence guarantee a place in the sky, meanwhile, the working part comes into power in the sector where it can be used in the moral parts of the schools and companies and emerging into various industries and research centers; where the scientist is doing against to improve on the evolving technologies and work on them in order correct and regulated output without any faults. Today's generation has been gone through mighty weight and caught in the hands of the technology weighing knowledge and get the desired output of the emerging technology and put up the most of bring into the race with others and get an proper place with it and engage in the ride of the easiest and smoother life style and a lifestyle journey ahead, without keeping in mind the consequences of the later date or the utter destructions that might be caused into it by the latest ongoing or the one which is yet to emerge and cause further destructions to other people

## 2. METHODOLOGY

To make the System easier NodeMCU should be used in the particular and emerging files where it could be matched and gathered in order to get the desired output and to place and place stories, marks and

## 4. TOOLS USED

1. Nodemcu 8266 controller
2. Coin acceptor module
3. Power supply
4. 16x2 LCD Display
5. USB charging port
6. Arduino IDE software
7. Reset switch
8. MQTT Client app

## 5. DESCRIPTION OF TOOLS

### NodeMCU: -

NodeMCU is a low-cost open source IoT platform. It initially included firmware which runs on the ESP8266 Wi-Fi SoC from Espressif Systems and hardware which was based on the ESP-12 module. Later, support for the ESP32 32-bit MCU was added.

### Coin acceptor module: -

DG600F Series of coin acceptor is an electronic coin acceptor with high reliability, which is widely used in amusement facilities, vending machines, and so on. Enable to recognize of 6 groups of coins in different denominations. (Can exceed 8 groups if needed). Enable to forbid accepting all coins.

### LCD Display: -

They work by using liquid crystals to produce an image. The liquid crystals are embedded into the display screen, and there's some form of backlight used to illuminate them.

### USB charging port: -

USB was designed to standardize the connection of peripherals to personal computers, both to communicate with and to supply electric power. It has largely replaced interfaces such as serial ports and parallel ports and has become commonplace on a wide range of devices.

### Power Supply: -

This system requires 5V, 1A power supply. The raspberry pi model B+ has a special connection provided. Using that USB connection, the power supply can be provided.

### Arduino IDE software: -

The Arduino IDE supports the languages C and C++ using special rules of code structuring. The Arduino IDE supplies a software library from the Wiring project, which provides many common input and output procedures. User-written code only requires two basic functions, for starting the sketch and the main program loop, it is compiled and linked with a program stub main() into an executable cyclic executive program with that also included with the IDE distribution.

### Reset switch: -

The reset button technique (based on the idea of status quo ante) is a **plot device that interrupts continuity in works of fiction**. Simply put, use of a reset button device returns all characters and situations to the status quo they held before a major change of some sort was introduced.

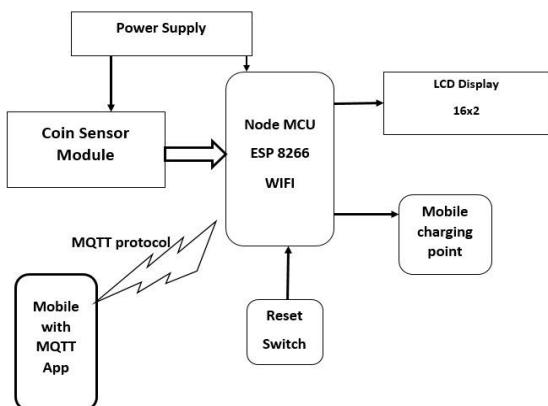
### MQTT Client app: -

The MQTT protocol defines two types of network entities: a message broker and several clients. An MQTT broker is a server that receives all messages from the clients and then routes the messages to the appropriate destination clients. An MQTT client is any device (from microcontroller up to a fully-fledged server) that runs an MQTT library and connects to an MQTT broker over a network

## 6. WORKING

Connection with a cloud: The cloud platform is an IOT device that can make it enable to work over the cloud and makes it more and more efficient to work over the number of times using the WWW (world wide web) Internet. The mobile application is being used concerning to make the hardware work/run on the cloud which then can send outputs to the other applications in the cloud data and could also be computed according to the need of the user and the hardware which is used. Most of the systems may use these which are quite old fashioned yet working with full boon and as the part of the platform system itself and hence the idea behind the complete prototype which is being performed and ran under the circumstances that it would go according to the wish of the user and the manual being published gives the exact idea of the moral which is being used in the formation of the project idea and the requirements being used in the form of the market research and analysis and gaining the idea of the project sitting in any corner of the world

## 7. SYSTEM BLOCK DIAGRAM



## 8. RESULTS



Fig.(a) Charging On state

### DATABASE AT ADMIN SIDE



Fig. (b) Database at Admin panel

### HARDWARE MODULE



Fig. (c) Hardware Description

## 9. CONCLUSION

The Project will maintain consistency in the charging process as and when the next coin is added into it, relaxed experience and saves much more time than any other devices like the power savers/power banker. The purpose of this system is going to provide a track of all the services in charging which can be used to charge both "C-type" & "D-type" and any Power bank.

## 10. ACKNOWLEDGMENTS

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