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CHARGING YOUR PHONE WITH A COIN INSERT

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ABSTRACT

A rising number of experts say that today's communication environment and everyday living are more dependent on mobile phones. This paper describes a coin-operated automated mobile battery charger. Now, the mobile phone industry is worth billions of dollars and offers the most features in every phone that operates on a variety of operating systems. There will be a need to charge these mobile phones in public places, which should be beneficial to everyone. An LCD display shows how much time is left on a countdown timer, which is designed for use in a school context. During this moment, a relay output is latching and the finishing time is being completed, indicating that timing is taking place. Recharging mobile phones at hotels, conference centres and exhibition halls; serviced offices; exchange halls; health and training centres; golf clubs; retail outlets; shopping malls; Internet cafes; universities; colleges; dormitories; airports; and train terminals is a simple one rupee charge, among other things.KEYWORDS: Mobile Phone, Battery Charger, LCD display, PIC microcontroller.

1. INTRODUCTION

Similarly to the current environment, mobile phones have evolved into a necessary item for the majority of people. Smartphones, which are becoming more technologically advanced, are not only capable of receiving and delivering calls, but they can also store data, take images and perform a wide range of other duties. Mobile phones enable us to stay in contact with friends and family while simultaneously delivering an extremely high degree of protection to the user. Because of the increased length of time spent using the application, the quantity of power required to run the programme increases as well. We can simply charge our phones as long as our daily

routine stays the same, which is the case. But when our routine changes, or if we are on a long journey, in

an emergency, or in other unpredictable situations where we require emergency mobile charging, coin-insertion mobile charging systems play an important role, allowing people to easily charge their phones at low cost in public places at no additional cost, coin-insertion mobile charging systems play an important role. There are two pieces to this system: the coin sensor module, which recognises valid coins and tells the microcontroller, which then takes the required action; and the microcontroller, which controls the whole system. If a legitimate coin is identified, a signal is sent to the microcontroller, which controls the machine.

The charging process is then started by the microcontroller, which delivers a 5V supply to the battery via the power supply. In addition, the system now maintains note of the amount of charging that has to be done in the future. The microcontroller initiates the reverse countdown timer on its own in order to display the charging time remaining for that particular mobile phone. Any more coins entered by the user during that time period are added to the current remaining charging time by the microcontroller, which then starts the reverse countdown. When charging a mobile phone, the system makes use of renewable resources such as

solar energy, which is achieved via the conversion of solar energy into electrical energy. During the rainy season, this system is equipped with a backup power supply that may be used as an alternating current input. Additionally, the system is equipped with a solar tracking subsystem, which ensures that the maximum quantity of solar energy is captured. It is thus possible to use this technology for intelligent mobile charging in public places.

2. Methodology

BLOCK DIAGRAM:

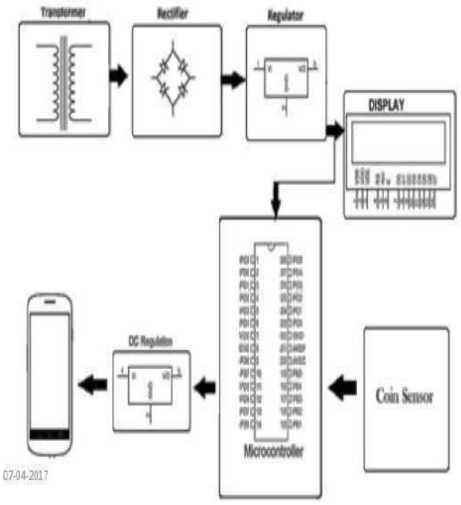

FIG 1.3 BLOCK DIAGRAM

2.1 PROPOSED SYSTEM:

The implementation of mobile battery charging based on a coin insertion mechanism will assist us in overcoming the disadvantages of mobile battery charging that are already in use. The charging time period is calculated with the aid of an Atmel 89c51 microprocessor, and the remaining time period is shown by a microcontroller connected to the charging time period. Because of the usage of a relay circuit, the power supply is automatically turned off when the time period reaches zero minutes.

A number of improvements in the technologies that are being investigated for charging mobile phones, including wireless charging, have occurred in recent years. The vast majority of the time, solar energy is utilised to recharge mobile phones and other electronic devices. Solar energy converts light energy into direct current (DC current), which may then be used to recharge mobile phones and other electrical devices, such as laptop computers.

3. DEVELOPMENT AND IMPLEMENTATION

3.1 EXECUTION STEPS:

A device's adopters are activated when an alternate current source (in this example, 230 volts) is converted to a pulsed direct current source (in this case, 120 volts). The transformer and rectifier function as adopters in the device. Because the whole system is powered by 5v, this is a good example.

When the time is specified in the ARDUINO IDE application, the time is shown on the LCD display of the board.

Instead of a COIN SENSOR, we are using an infrared sensor in this case.

This charge enables the infrared sensor to detect any object without the need for any further information from the user. Smart coin-based mobile charging systems, on the other hand, charge your phone for a predetermined amount of time when you insert one or more coins into the charging system. Small business owners and public places such as train stations will be able to take use of the system to provide mobile charging services. So the system includes a coin recognition module that distinguishes between valid coins and then notifies the microcontroller to carry out the following step as necessary. After being alerted that a real coin has been detected, the microcontroller activates the mobile charging mechanism, which delivers a 5V power supply to the mobile phone via a power supply section. In addition, the system must keep track of the amount of charge that is to be given. After that, the microcontroller starts a reverse countdown timer to show how much

time is left on the battery of that specific mobile phone. Any more coins entered by the user during that time period are added to the current remaining charging time by the microcontroller, which then starts the reverse countdown. Because of this, the technique might be used for intelligent mobile charging in public places.

3.1 WORKING:

When electricity is flowing through a coil, it is common to have a moving contact attached to it. Because of the magnetic field formed by the current, an armature, which is attached to the moving contact, is attracted to it. It is determined if a reference to a hard and fast touch is established or broken by the manner in which the activity is carried out. While the current power to the coil is switched off, the armature is restored to its comfortable function by delivering a force that is about half as strong as the magnetic pressure that is applied to it at the time. The most common kind of starter is a spring, however gravity is also often used in the construction of industrial motor starters. Maximum relays are designed to be very responsive in their functioning. This is done to decrease noise in low voltage software, which is why it is called low voltage.

When dealing with high voltage or high current applications, the objective is to limit the occurrence of arcing. A relay's circuit design is seen in Figure 3. Fig5. The circuit symbol for a relay is seen here. The transfer connections of a relay are generally categorised as follows, according to their function: The letters COM, NC, and NO stand for: A substantial percentage of the data transfer is carried out through the COM port, which is generally attached to this port (COM = common). NC is an acronym for "on a regular basis." When the relay coil is not in use, a COM port is linked to this port, which is closed. In general, NO signifies that the relay is open, while COM indicates that the relay coil has been switched on or turned on/off.

4. PROBLEM STATEMENT:

Students, as well as many other individuals, are increasingly reliant on public transit. Often, people who are travelling long distances for business conventions, conferences, or for any other purpose are unaware that their battery level is low, and they forget to carry their charger with them or leave it in their hotel room, resulting in a completely depleted battery. The claim that long-distance travel vehicles are equipped with electrical outlets has been made by several sceptics. Even if one or two power connections are provided at a specified area in the car, this will not be adequate to charge all of the passengers at the same time, since the vehicle's battery would run out of power. This necessitates the provision of an in-public charging service, and coin-based mobile charging is intended to alleviate this problem. Nowadays, electricity is very important in everyday life, and the world would come to a screeching stop if there were no electrical equipment available to us. The requirement for charging was felt by certain electrical and electronic equipment. These included mobile phones, cameras, Bluetooth headsets and other similar items.

In order for a system to work correctly, whether it is in a person or in an artificial system, energy must be available.

Communication is critical to human survival, and a mobile phone system allows us to communicate with people all over the world in a simple and convenient manner.

We have grown to rely on our mobile phones as a vital part of our everyday life.

For this reason, being without it leaves one feeling empty and uneasy since it is required for the bulk of the activity.

In recent years, smart phones have surpassed all other items as the most popular item in both cities and small communities.

However, this phone's high battery consumption, which is caused by a variety of operations, is a serious disadvantage.

As a consequence, the vast majority of smart phone users find themselves running out of battery power quite soon.

The following is an example of a situation: A person is waiting for a train while listening to music on their phone or checking the internet for any important information when the battery on their phone unexpectedly runs out of power.

Everybody benefits from the presence of a charging station that is easily available at the time of the emergency.

It will be feasible to remove the usage of cables in the charging process by creating and building a system based on a circuit to send wireless electrical power, making it simpler and easier to charge low-power gadgets. By making sure the equipment is correctly grounded, it will help assure the device's overall safety and reliability.

In this way, the possibility of a short circuit would be reduced to a minimum.

APPLICATIONS:

1.Railway stations

2.Shops

3.Rural areas

4. Public places like intenetcafé,wolf centers .

5.Useful to protect and use for mobiles at any palces.

6.It can be used for emergency purposes.

7.It can be used for different types of mobiles.

8.It can be installed in railway stations,busstands,public places.

9.It can be used in offices for paying facilities.

ADVANTAGES:

1.Simple and efficient

2.Less expensive

3.Reduced man power

4.reduced power consumption

4.Easy to operate

5. Results

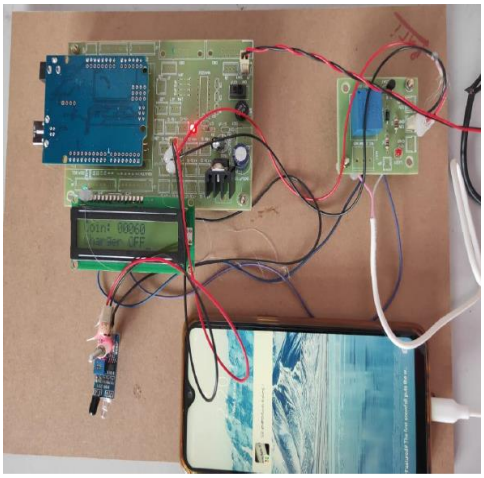

FIG:5.4 WHEN SENSOR IN OFF CONDITION

When the adopter is inserted in between the transformer and the rectifier. As a result, it performs the following functions: it converts alternating current to direct current from 230v to 12v, while the IC7805 controller maintains constant voltages, and it converts 5v since the whole system maintains 5v.

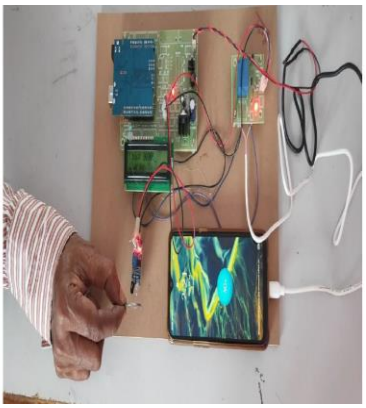

FIG 5.2.1 WHEN COIN PLACED INFRONT OF SENSOR

➢ When coin place infront of sensor it should working on process and it makes mobile charging.and time and ON ondition shows on led.

6. CONCLUSION:

Following an examination of relevant articles, literature, and a few other similar projects, it was determined to employ the current strategy. Among the key objectives are charging the mobile phone using coin insertion for a specified period of time, monitoring the maximum amount of sunlight, and utilising a charge controller to prevent battery damage caused by excessive voltage. The newly developed system is capable of achieving these objectives. In order to maintain information flow between different components, the system must be able to govern that flow. Specifically, we investigate a hybrid framework that takes use of both the advantages of power supply charging and the advantages of solar energy collection technology.

7. FUTURE SCOPE:

Because the system is powered by solar energy, it is very energy efficient. It may be deployed in railway stations, bus stops, and other public locations to provide a pay charging facility. The technique is very beneficial for emergency charging as well as in remote locations where there is no access to electricity 24 hours a day, seven days a week.

➢ In this we can use COIN sensor instead of IR sensor.

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