

An Intelligent Coin Based Mobile Charging System

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ABSTRACT: Now a days mobile phones are play's important role in the present communication world as well as day to day life. This paper describes the mobile battery charger on coin insertion. The mobile phone business is currently worth billions of dollars and supports of most number of features in every mobile phone with different operating systems. So to operate these mobile phones public charging is needed, and it should be useful to public. This is designed based on micro controller that does the countdown timings for a period of 5 minutes with LCD displays showing the actual time left. During the timing period a relay output is latched and finishing timing in progress. Recommended locations include: Hotels, Conference centers, Exhibition halls, Serviced offices, Exchange halls, Hotels, Health clubs, Training centers, Golf clubs, Retail outlets, Shopping malls, Internet cafes, Universities, Colleges, Hall of residence, Airports, Train terminals, etc., so that the mobile phone users can reactivate a low or dead battery by simply plugging in and charging for one rupee.

KEYWORDS: Mobile Phone, Battery Charger, LCD display, PIC microcontroller.

I. INTRODUCTION

The mobile phone market is a vast industry, and has spread into rural areas as an essential means of communication. While the urban populations use more sophisticated mobiles with good power batteries lasting for several days, the rural populations buy the pre-owned mobile phones that require charging frequently. Many times battery becomes flat in the middle of conversation particularly at inconvenient times when access to a standard charger isn't possible. The coin-based mobile battery chargers are designed to solve this problem. The user has to plug the mobile phone into one of the adapters and insert a coin; the phone will then be given a micro pulse for charging. It does not bring a mobile from 'dead' to fully charged state. The charging capacity of the mobile is designed with the help of pre-defined values. It is of course, possible to continue by inserting more coins. This compact and lightweight product is designed to cater for the growing number of rural mobile users worldwide. A suitable microcontroller is programmed for all the controlling applications. The source for charging is obtained from direct power grid.

II. RESEARCH METHODOLOGY

PROBLEM IDENTIFIED

Now a days students and many other people use the public transportation ,people who are making every long journey in order attend business conventions ,conferences, or for any private purpose don't know their battery level is low and they often forget their charger at home or it in hotel room. Many critics argued that long distance travelling vehicles provides power points. Even through one or two power points are provided at a particular place in the vehicles it is not all sufficient for all passengers, therefore need to provide a public charging service is essential and coin based mobile charging are designed to solve these problem

PROPOSED WORK

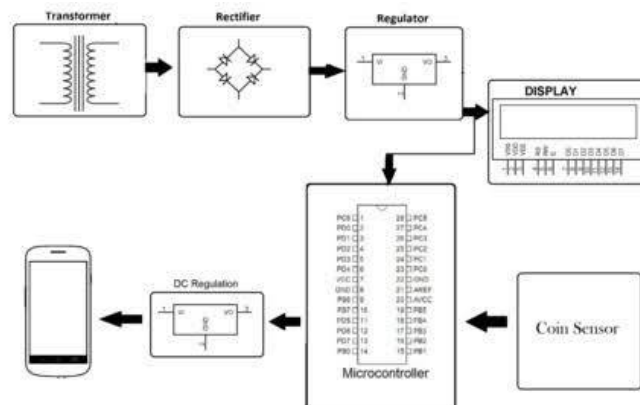
To overcome disadvantages mobile battery charging, we are going to implement Mobile battery charge on coin insertion system. The charging Time period is calculated by using PIC microcontroller and after that microcontroller display the remaining time period. When Time period reaches to zero automatically power supply will cut by using relay circuit.

ALGORITHM

1. Start
2. Coin Detection. If correct coin detected then coin is go to collection box and switch is ON. And if incorrect coin is detected this coin is go to the refund box and stop the process.
3. When switch is on for the charging then charge the Phone.
4. According to the coin battery will charge up to some percentage.
5. One's charge the battery up to the given percentage it will stop charging.

IV. ARCHITECTURE

BLOCK DIAGRAM



HARDWARE IMPLEMENTATION

In this system, power supply is used to provide the power to the whole circuitry like Microcontroller, relay, transformer, resistors, capacitors are the main components used for designing the system. Power supply is also given to the coin sensor for inserting a coin. In this proposed system, we have used PIC microcontroller.

For Displaying the charging time period the microcontroller is programmed using software interfacing with the help of kill software. This displayed on the 16*2 LCD display.

SOFTWARE IMPLEMENTATION

For Software Implementation we have used the software "mikroC". In Software Implementation, The main part is programming of the "PIC 16f877a" microcontroller and interfacing of each device like LCD Display, Relay and Transformer with microcontroller. Once the power supply is given hardware circuit is get initialized.

COMPONENTS OF HARDWARE IN SYSTEM

The components of hardware implementation are as follows:

RELAY

The relay is used as a switch for the system.

POWER SUPPLY

Power supply is main component of the circuit. Power supply is provided to microcontroller and other device from direct ac lines or from AC to DC adapter.

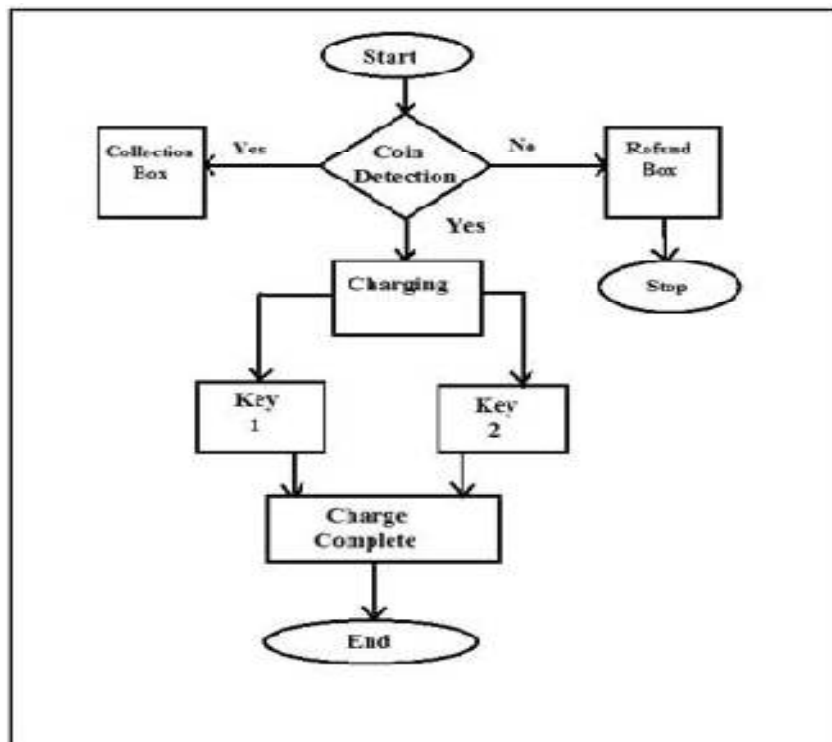
MICROCONTROLLER

In this system, PIC 16f877a microcontroller is used.

LCD DISPLAY

In this system, 16x2 LCD display is used to display the time of charging.

FLOW CHART



V. CONCLUSIONS

A method of charging mobile batteries of different manufactures has been designed and developed whenever required. This project is very useful in today's life. Because now days the necessity of communication is very

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important, so every person having cell phone but every time we cannot carry charger with us. When we are going for long travel we may forget to carry cell phone charger. This project is used to help the people by coin based charger. Also now days because use of internet and smart phones, this kind of project is very useful. Conventional grid power is used for mobile charging hence project is low cost.

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