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Coin Based Universal Mobile Battery Charger Using Solar and Wind Plant (Hybrid Plant)

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ABSTRACT: The coin-based mobile battery charger developed for providing a unique service to the rural public where grid power is not available for partial/full daytime and a source of revenue for site providers. The coin-based mobile battery charger can be quickly and easily installed outside any business premises. The mobile phone market is a vast industry, and has spread into rural areas as a essential means of communication.

KEYWORDS: Wind mill, Solar Panel, Microcontroller, Coin Detector Sensor, Battery.

I.INTRODUCTION

The main objective of this project is inserting the coin using charge for your mobile phone in public places. This project is very useful to people who are all using mobile phone without charging condition in pubic places. In this project, who are all using mobile phones in outside of home are office without charging condition. The coin based mobile phone charger is very useful to that person for using coin to charge for that mobile. The solar power is used for charging the batteries.Mobile phone's become a major source of business/personal communication; the mobile phone business is currently worth billions of dollars, and supports millions of phones. The need to provide a public charging service is essential. The coin-based mobile battery charger develop in this project is providing a unique service to the rural public where grid power is not available for partial/full daytime and a source of revenue for site providers. The coin-based mobile battery charger can be quickly and easily installed outside any business premises. The mobile phone market is a vast industry, and has spread into rural areas as an essential means of communication.Usually ordinary solar panel is always faces only in one direction because of this reason the solar panel may not get sufficient sun rays to work. In this synopsis, solar panel controller and power optimization is proposed in order to overcome this defect.This work mainly designed to control the Solar panel automatically, maintains face of the solar panel towards the sun. This is done by controlling the mechanical movement of the solar panel. Usually sun rises at east and sets at west . In ordinary system, if it faces towards east then it cannot change the direction towards sun during sunset. Because of this reasons solar panel may not get sufficient sun rays to work. The growth of mobile phone market is phenomenal in recent years and the need for charging the mobile battery is required anytime and anywhere.In many developing countries the grid power is not available for few hours to several hours on daily basis especially in semi urban and rural areas where the mobile phones are the essential communication device. While the urban population use more sophisticated mobiles with good power batteries lasting for few days, the rural population buy the pre-owned mobile phones that require charging frequently even two or three times a day.

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II. BLOCK DIAGRAM

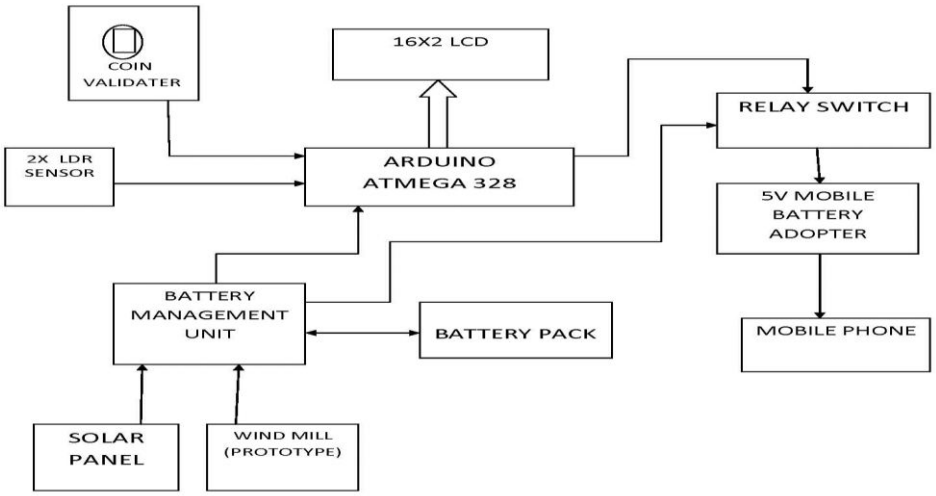

Figure 1: Block diagram

III. METHODOLOGY

Input stage

First the LCD will display the type and size of the coin for the user so as to make sure that user enters the correct coin insertion. If any other coin, is inserted in the coin insertion slot will be returned to refund box. The coin is inserted in a vending machine and the output of the vending machine will give high pulse to microcontroller.

Controller

This section acts according to the input signal from the vending machine. Coin accepted or rejected is based on the diameter, shape and weight of the coin. This invokes to microcontroller along with LCD interface displays theselection of mobile option if particular mobile is selected for charging the corresponding routine is activated and charge the mobile for a particular duration of time .When the routine completes, it indicates charge complete message through LCD display. User want to continue the charging for same duration user has to again enter the coin of same type. If user get a call on that time than he can safely remove the mobile from the charger and continue attending a call. Charging time which is fixed is not over than user can again connect the mobile to the respective charger. Similarly the same procedure is followed for charging more than four different mobiles.

Output & Display

The LCD displays all the information to the user as when required. When the mobile battery is connected, it displays" Insert Coin". While charging it displays "Charging" and at the end of charging cycle it displays "Charge completed". For charging continuously the coin has to be inserted when the display shows "Charge Completed".

Power Supply

In this project two power system is used solar power system and ac supply system but main power is solar power through which 12v battery is charged .For switching the two power system switch is used. In AC supply system AC power converted into dc power by using rectifier and it is controlled by regulator the op of regulator is connected to battery.

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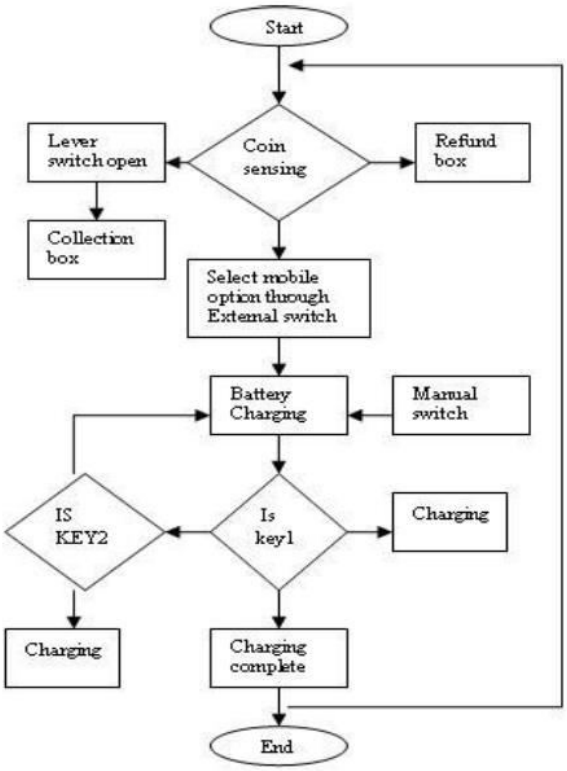

Fig. 2.Flow chart of mobile charging.

IV. RESULTS

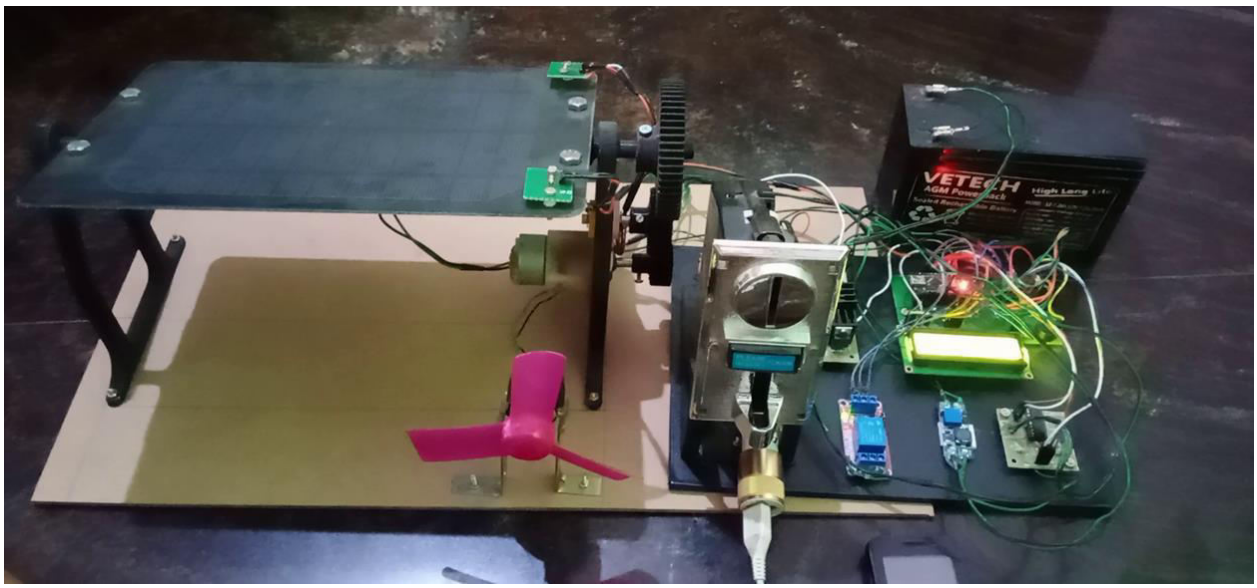

Fig 3: Hardware setup for Coin based mobile charger using solar paneland wind plant (hybrid plant)

V. CONCLUSION

In this project we have the controller reads the program. At the same time the supply isgiven to the charger for a particular time period. The time period depends on the coding written in the controller. A multi pin charger is

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connected through the controller. By using the multi pin charger we may also use more than one mobile for charging. This compact and lightweight product is designed to cater for the growing number of rural mobile users worldwide. A suitable micro controller is programmed for all the controlling applications. The source for charging is obtained from direct power grid and solar energy in case of non-availability of grid power.•In this work a method of charging mobile batteries of different manufacturer using solarpower has been designed for rural and remote areas where the current supply is not at all available all the time. This charger is useful in today's life. Because now days the necessity of communication is very 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.

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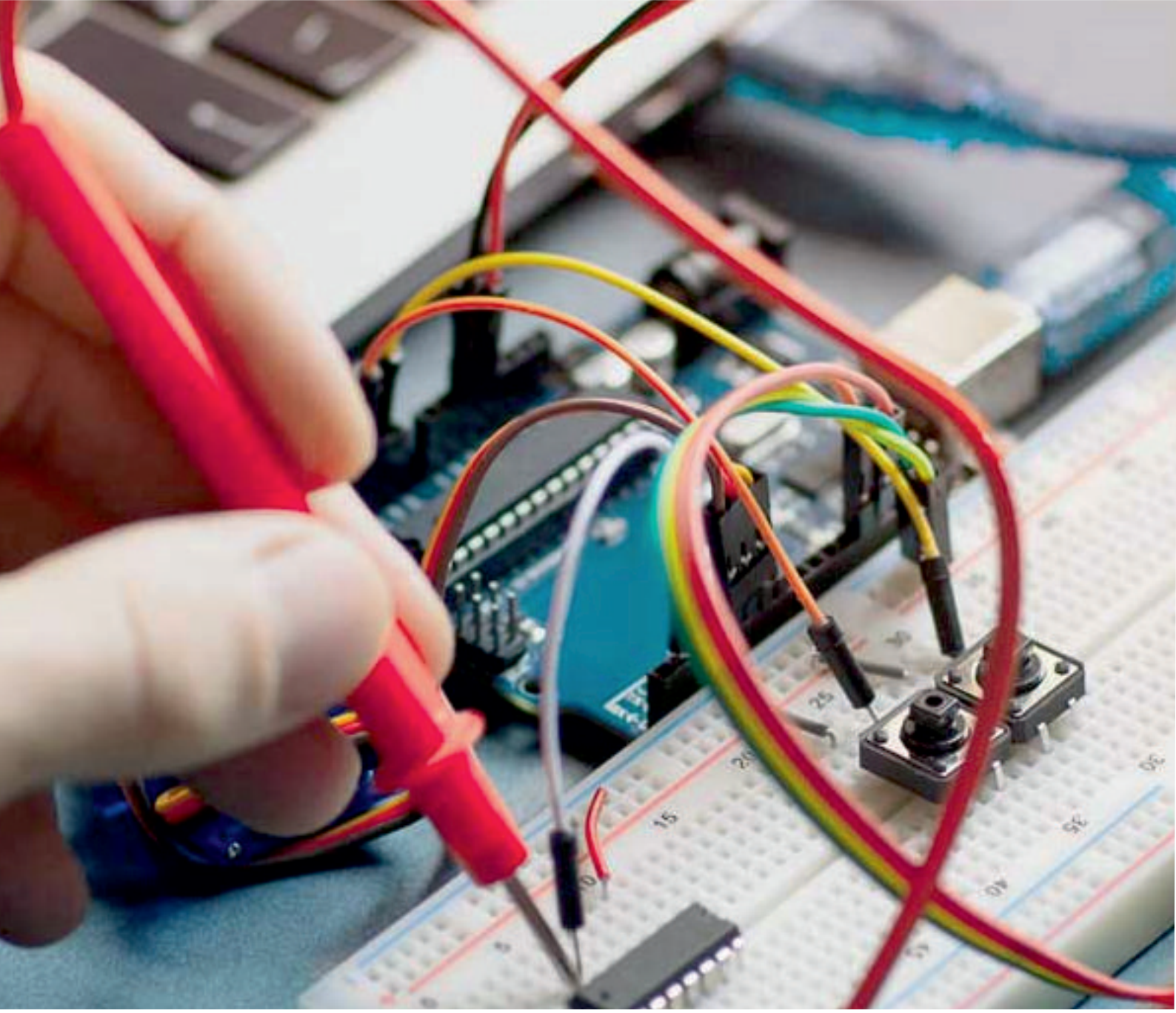

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