

Android Based Automatic Electric Energy Meter Reading and E-Billing

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Abstract

Smart Electricity Board Android Application proposes a portable based framework to gather, process and inform shoppers about utilization. This framework will be solid, productive and precise to suit the necessities of the suppliers. Meter perusing, despite the fact that looks straightforward, is a long way from basic and includes forms which are not convenient. Count mistakes and deferrals in framework refreshing are the serious issues included. Here we expect to dispense with the manual forms engaged with the power meter understanding framework and takes out the need of a meter per user. It measures and screens the power devoured by buyers in an area and advances the expended capacity to the board which thus informs the power utilization with the assistance of RF transmitter collector, Wi-Fi module, Peripheral Interface Controllers (PIC) and Android. Our framework decreases the expense of work included, expands the exactness of meter perusing and spares a lot of time.

Keywords: Android application, electricity, framework, smart

INTRODUCTION

Smart Electricity Board Android Application fundamentally a product for the power board which proposes a portable based framework to gather, process and advise shoppers about their utilization. Power is one of the crucial prerequisites for the sustainment of solaces of everyday life. In our nation, there are territories where we have surplus stockpile of power while numerous regions don't approach it. The present procedures for meter perusing in India are not completely mechanized. The meter readings acquired from the vitality meter are utilized to compute power bill. The vitality suppliers procure individuals who visit each house and record the meter readings physically. These meter readings are contribution to the framework at the workplace by the back passage official. The purchasers are not satisfied with the administrations of their suppliers. They have grumblings with

respect to the measurable mistakes in their month to month readings. Smart Electricity Board Android Application means to get month to month vitality utilizations from remote areas to the board [1]. It means to limit the specialized mistakes and diminish human reliance simultaneously. Our framework lessens the remaining task at hand of the meter per users. Our undertaking includes the utilization of a microcontroller which consistently screens and records the vitality meter readings. The framework additionally utilizes a RF transmitter collector, Wi-Fi module for remote checking and control of vitality meter. Regardless of the climate conditions, the mechanized meter perusing framework sends the information to thing talk cloud utilizing PIC16F883 microcontroller esp 8266 Wi-Fi module to send the meter readings to the server. Android application is utilized as a way to inform the

customers about their month to month utilizations and perform month to month computations at the power board. Along these lines the framework is a successful path for assortment of information. This decreases the requirement for a meter per user. It additionally gives more noteworthy precision, improved charging, and lessens cost and so forth. It offers better client administrations, by sending alarm of intensity cuts and utilization refreshes. It is valuable for remote regions or little towns which are not associated using any and all means of transport [2].

METHODOLOGY AND DESIGN CONSTRAINTS

The vitality meter which creates the beats just as tally the vitality devoured is utilized. The advanced meter having LED which flicker for a particular number of times to demonstrate the vitality devoured (1 unit = 1600 pulses). These beats are prevailing fashion to ARM based processor which is modified to tally these heartbeats.

BLOCK DIAGRAM

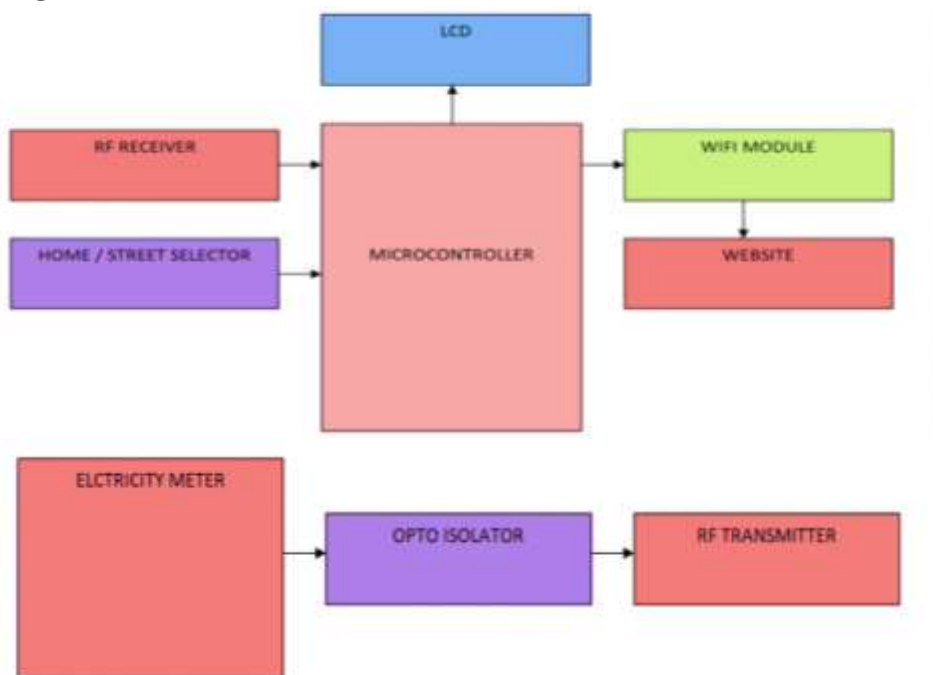


Figure 1: Transmitter and receiver module.

This counted pulses transmit to the MSEB office sector using the zigbee module which provide frequency in between 10 to 100 meter [3].

The electronics communication system provides of large high speed transmission communication. E-billing includes GSM system, Digital Image Processing, Coding Techniques and also Android [4].

With the user interface direct manipulation and it can access his own information through the server.

PROBLEM DEFINITION

The goal of this project is to design, simulate, develop the prototype for E-billing.

Project Objective

The main work in this paper spread a light on 4 things as follows:

- Reduces Manpower
- Provides Accuracy in Meter reading
- The whole process is Paperless.
- Keep records of every bill.

RESULTS AND DISCUSSION

A completely mechanized vitality meter perusing framework is creating to gather process and advise the utilization. The undertaking deals with the comfort everything being equal and segments of purchasers and simultaneously exhibits a proficient administration framework to the power board (Fig. 1). Features like electricity bill prediction, extension for multiple meter configurations, operation on various platforms like SMS, Android application and website and many other potential extension properties like integration with home automation system make this project unique.

CONCLUSION

Power and media transmission gadgets are unavoidable specialists for a helpful living. A powerful technique for metering, charging and installment framework invigorates reasonable power or cell phone utilization and urges customers to take care of their tabs on schedule. Introduced vitality meters by power organizations do not have viable security or alter apparent reconciliations. Smart Electricity Board Android Application is required to help power organizations in their strategies, and furthermore triggers future examinations. The framework wipes out a large portion of the blunder inclined manual estimations and manual information entering. The item would be an invite answer for Electricity Board. They can without much of a stretch utilize the framework for a quicker, simple and mistake free condition to suit the solace of clients. As a component of future work, the framework model can be actualized in other working system

extraordinarily IOS and to incorporate the administrator application and the server side into a solitary framework.

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