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E Notice Board by Using Raspberry-Pi And Sensors

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Abstract:

In this world everyone needs a comfort living life. Man has researched different technology for his sake of life. In today's world of connectedness, people are becoming accustomed to easy access to information.The project deals with an electronic notice board using Raspberry Pi 3 microcontroller and GSM SIM900 module. An idea behind that notice board is widely used for displaying notices, at public places for people awareness and various advertises; now we are using same technology for displaying message as notice using GSM and Raspberry Pi. This project is a remote device with GSM modules connected to Raspberry Pi controller, so when the user wants to display a notice, user will send the notice as message on mobile and send it as notice. That message will update the display on the LCD.

Keywords **— Raspberry Pi 3 microcontroller, GSM SIM900, LCD display, High Definition Multimedia Interface, Python GUI programming, TKinter.**

1. Introduction

Now days the e-notice boards are observed at several locations such as shopping malls, educational institutes, traffic control, banks, stoke exchanges etc.

In this project, a Raspberry Pi used as controller which controls LCD display using GSM.

This has been implemented on Liquid Crystal Displays (LCD) and Light Emitting Diode (LED)[1] displays.

A remote device project with GSM modules, so if the user wants to display some notice, user will send the notice as messages just by typing through mobile and send it [2].And then this message will update on notice boarding this project we use Raspberry pi controller. The programming is done through by using python language means by using TKinter. And also we use the GSM and SIM card for the sending text message. This is use for mobile communication to digital notice board.

The main aim of this project is to increase wireless and electronic notice board by using mobile SIM card. Today all are familiar with wireless and mobiles. Most of the the places use electronic notice board i.e. shopping mall, Railway, Busstations, schools and colleges. But we design this notice board for colleges to view the notice on digital notice board. Anyone (unauthorized) can see multiple notices on notice board and also only authorized person send multiple notice on digital notice board byusing SIM and GSM. It alsoreduce usage paper and electronically make easy and fast communication by sending direct text message.

2. LITERATURE SURVEY

Notice Board is used in various places to display notices and these boards are managed manually. It is a time consuming process to add and remove notices on the notice board. This wastes a lot of resources like paper, printer ink, man power and also time consuming process. In this paper we have proposed a system which will enable end users to easily access notices on notice board using LED screen. It require Low cost and save the resources like paper, paper ink as well as man power. Main purpose of this paper is only authenticated person update this notice board.

3. Hardware Requirement

Hardware Specification

3.1 LED SCREEN:

It is used for the display notice on LED screen. Anyone can see notice on LED screen and only authenticated person change or update this notice through mobile SIM.

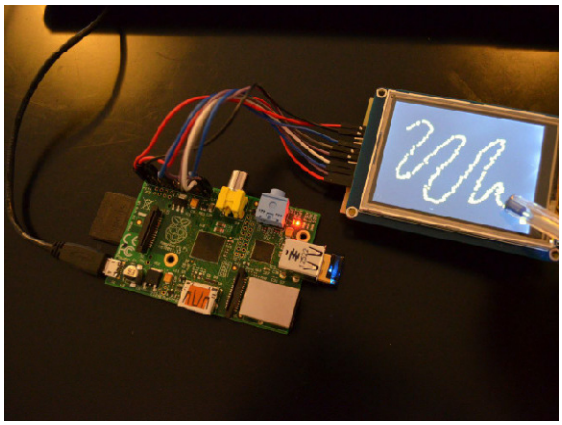

Fig. LCD Monitor

In the Fig. LCD Monitor[3] there is connection between raspberry pi and notice board.

3.2Raspberry-Pi:

Raspberry pi is small and powerfully computer. It is like credit card sized computer.

Fig: Raspberry pi [4]

3.3GSM SIM900 Module:

GSM SIM900 module has been interfaced with Raspberry Pi based on quad -core 64 bit ARM Cortex A53.It is connected to Raspberry Pi with wires [2].it is used for sending message through GSM SIM to digital notice board. Authenticated person can send message remotely by using SIM card.

It support features like data/ fax, voice, SMS and GPRS at both 1800 MHz and 900 MHz [2].

3.4High-Definition Multimedia Interface :

It is used for the high celerity of notice board. The connection between raspberry pi and electronic notice board is done through by using HDMI cable.it is used for transmitting and receiving digital data with high bandwidth.

3.5Python GUI programming:

In this project we use the programming language is python. For the python language we use TKinter application for coding in python. TKinter is standard GUI library for the python.it is simple and easy to use.

4. System Execution:

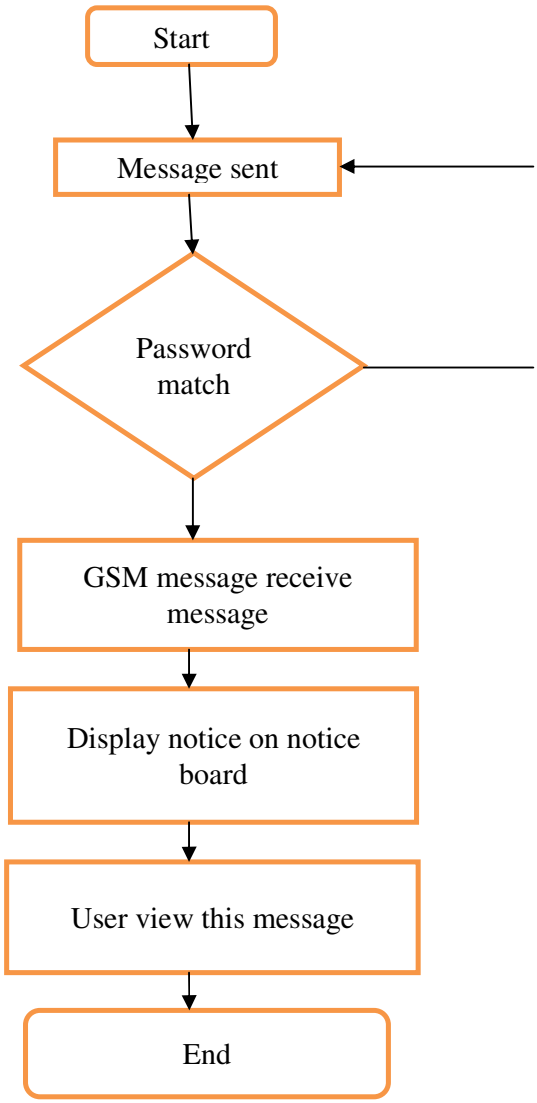

Fig: Flowchart of System Execution

Starting the authorized person can send message through SIM by using mobile. The message is in text format. The person can send message remotely for authenticated person there is password to the authenticated person.

If the password is not match then GSM modem not receive the message else GSM modem receive the message.

Then the message display on notice board. Anyone can see message on notice board.

5. CONCLUSION:

The project is developing by using raspberry pi, GSM SIM and digital display successfully.

it also reduce wastage of paper, ink and man power. it use the GSM SIM to send message from remotally.updation of notice board is quickly and fastly.

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REFERANCES

[1] YashTeckchandani, G. Siva Perumal, RadhikaMujumdar, Sridhar Lokanathan" Large Screen Wireless Notice Display System" 978-1-4799-7849-6/15/ 2015 IEEE International Conference on Computational Intelligence and Computing Research

[2] Jyoti Gaikwad1, Yashshree Kadam2, Mahesh Maindarkar3"
Electronic notice board using GSM and Raspberry PI"
International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056 Volume: 04 Issue: 05 | May p-ISSN: 2395-0072.

[3] 1 JadhavVinod , 2 NagwanshiTejas , 3 PatilYogesh, 4 Patil Deepak "Digital Notice Board Using Raspberry Pi" IJCAT - International Journal of Computing and Technology, Volume 3, Issue 2, February 2016
ISSN: 2348 – 6090

[4] Article titled "Raspberry Pi" retrieved 23 Sept 2017
From
https://en.wikipedia.org/wiki/Raspberry_Pi