

LPC2148 CONTROLLED SMS-UPDATE NOTIFICATION SYSTEM

DONGARI RAJITHA¹, G.DEEPIKA²

¹ Dongari Rajitha, M.Tech Student, Dept. Of ECE, RRS College of engineering and technology, Muthangi, Patancheru, Medak, Telangana, India.

² Guide Details, G. Deepika, M.Tech, Dept. Of ECE, RRS College of engineering and technology, Muthangi, Patancheru, Medak, Telangana, India.

Abstract: This project is designed using ARM-LPC2148 interfaced with Graphical Display. At present, when information has to be updated in a notice board, it has to be done manually. Also in present electronic systems, no matter how many displays are present, only a single notice can be sent to all of the notice boards irrespective of their places. In order to overcome this disadvantage, multiple displays along with a decoder are used to select a particular display and the corresponding information is sent through an ARM controller by using GSM technology. The entries can be documented and a record may be maintained for future use by using visual basic. The controller has internal a real time clock used for synchronization of data. A resistive touch screen is used to access the previous notices and also progress details. The monitoring system consists of an image sensor which captures the images for the specified amount of time and the images can be transferred through an USB port to a PC for storage purposes. These details will be displayed on the web page using GPRS .Using a gas sensor MQ-3 the CO₂ values will be displayed and also LDR values will be displayed on the web page.

I. INTRODUCTION

At present, notification systems are using either being a single board computer can be used here to solve can be displayed on led displays. But to interface a can be used for multiple purposes

according to our computer for this purpose is very expensive. To devices can be interfaced using USB ports. LPC2148 display notices on many monitors at a time. But, using kinds of monitors is simple. With this board, external microprocessors or computers to display the messages. Using LPC2148 multiple this board is having inbuilt HDMI port interfacing with all this is cost effective and very less power consuming.

II. HARDWARE SYSTEM

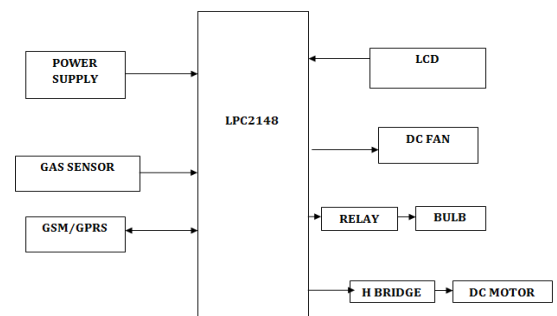


Fig 1: Block Diagram

III. METHODOLOGY

Micro controller: This section forms the control unit of the whole project. This section basically consists of a Microcontroller with its associated circuitry like Crystal with capacitors, Reset circuitry, Pull up resistors (if needed) and so on. The Microcontroller forms the heart of the project because it controls the devices being interfaced and communicates with the devices according to the program being written.

ARM7TDMI: ARM is the abbreviation of Advanced RISC Machines, it is the name of a class of processors, and is the name of a kind technology too. The RISC instruction set, and related decode mechanism are much simpler than those of Complex Instruction Set Computer (CISC) designs.

Liquid-crystal display (LCD) is a flat panel display, electronic visual display that uses the light modulation properties of liquid crystals. Liquid crystals do not emit light directly. LCDs are available to display arbitrary images or fixed images which can be displayed or hidden, such as preset words, digits, and 7-segment displays as in a digital clock.

Gas sensor:

They are used in gas leakage detecting equipments in family and industry, are suitable for detecting of LPG, i-butane, propane, methane, alcohol, Hydrogen, smoke. The surface resistance of the sensor R_s is obtained through effected voltage signal output of the load resistance R_L which series-wound. The relationship between them is described:

$$R_s/R_L = (V_c - V_{RL}) / V_{RL}$$



Fig 2: Gas sensor

GPRS:

GPRS (general packet radio service) is a packet-based data bearer service for wireless communication services that is delivered as a network overlay for

GSM, CDMA and TDMA (ANSI-I36) networks. GPRS applies a packet radio principle to transfer user data packets in an efficient way between GSM mobile stations and external packet data networks. Packet switching is where data is split into packets that are transmitted separately and then reassembled at the receiving end. GPRS supports the world's leading packet-based Internet communication protocols, Internet protocol (IP) and X.25, a protocol that is used mainly in Europe. GPRS enables any existing IP or X.25 application to operate over a GSM cellular connection. Cellular networks with GPRS capabilities are wireless extensions of the Internet and X.25 networks.



Fig 3: GPRS module

DC Motor:

A DC motor relies on the fact that like magnet poles repels and unlike magnetic poles attracts each other. A coil of wire with a current running through it generates an electromagnetic field aligned with the center of the coil. By switching the current on or off in a coil its magnetic field can be switched on or off or by switching the direction of the current in the coil the direction of the generated magnetic field can be switched 180°.



Fig 4: DC Motor



IV. CONCLUSION

This SUN system can be used in wide areas like industries & colleges. A direct application of SUN system i.e., maintenance of local websites is explained in the application section. This SUN system highlights one of the applications by using just a few features of ARM 7 based controller. ARM 7 based controller with its wide features can be used for multi purposes and have much scope for future work. This work can be extended in future for advertising in public places not just limiting to notification systems.

V. REFERENCES

- [1] Sarthak Jain, Anant Vaibhav and Lovely Goyal, "Raspberry Pi based Interactive Home Automation System through E-mail", International Conference on Reliability, Optimization and Information Technology-ICROIT 2014, India, Feb6-8 2014.
- [2] G Vijaya Lakshmi, "SMS-8ased Tracking, Navigation and Broadcasting System", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 8, August 2014.
- [3] Matt Richardson and Shawn Wallace, Getting Started with Raspberry Pi. United States of America: O'Reilly Media, 2013.
- [4] Donald Norris, Raspberry Pi/or the Evil Genius. McGraw-Hili Education, 2014, pp. 1-51.
- [5] Maik Schmidt, Raspberry Pi. A QUick Start Guide. Pragmatic Programmers, LLC, 2012, pp. 1-47.
- [6] Peter Membrey and David Hows, Learn Raspberry Pi with Linux. New York City: Apress, 2012, pp. 1-149.

- [7] SIM900_AT Command Manual_ V1.03, Shanghai SIMCom Wireless Solutions Ltd.2010.