



# Notice Board Information System

M. Divya Bharathi<sup>1</sup>, K.Gayathri<sup>2</sup>, P.Gowsalya<sup>3</sup>, R.Jesri<sup>4</sup>  
Kowsikavi1994@gmail.com  
Paavai College Of Engineering, Pachal, Namakkal, Tamilnadu.

**Abstract**— the advancing technology nowadays, the electronic notice boards using ARM7 microcontroller IC. The proposed system is a combination of hardware as well as software. The hardware module constitutes of UTLP kit Arm7,cortexA8, computer interface, microcontroller, monitoring system, and LCD and GLCD display. The software module also consists of ECLIPSE and GIM , embedded C. One of such as application is public addressing system (PAS).

**Keywords**— UTLP,ARM7,ARM cotexA8, GLCD, LCD, Ethernet, image magic, embedded C program, GIMP.

## INTRODUCTION

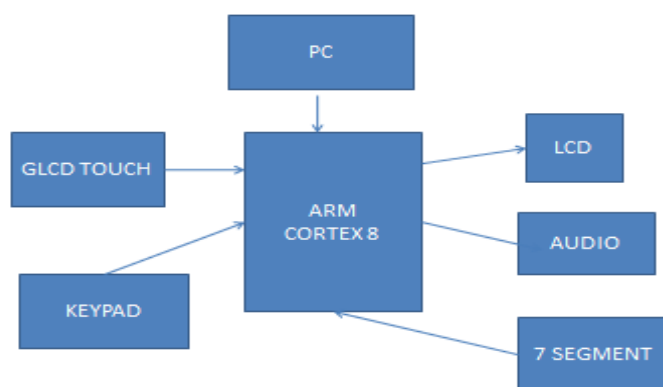
Notice Board is common information sharing medium in any institution or any public place like bus stations, railway stations and amusement parks. But putting on various notices day in and day out is time consuming. In this Electronic notice board is a common device that is used to display information. The information or messages are displayed using LCD's and Graphical LCD's. The system consists of two modules: transmitter and receiver. The transmitter module is used by a user to place a message through an input module PC. The information output utlp kit to the receiver. It then will be decoded and displayed on electronic notice board.

### Objective for this project

The main objectives of our project are mentioned below:

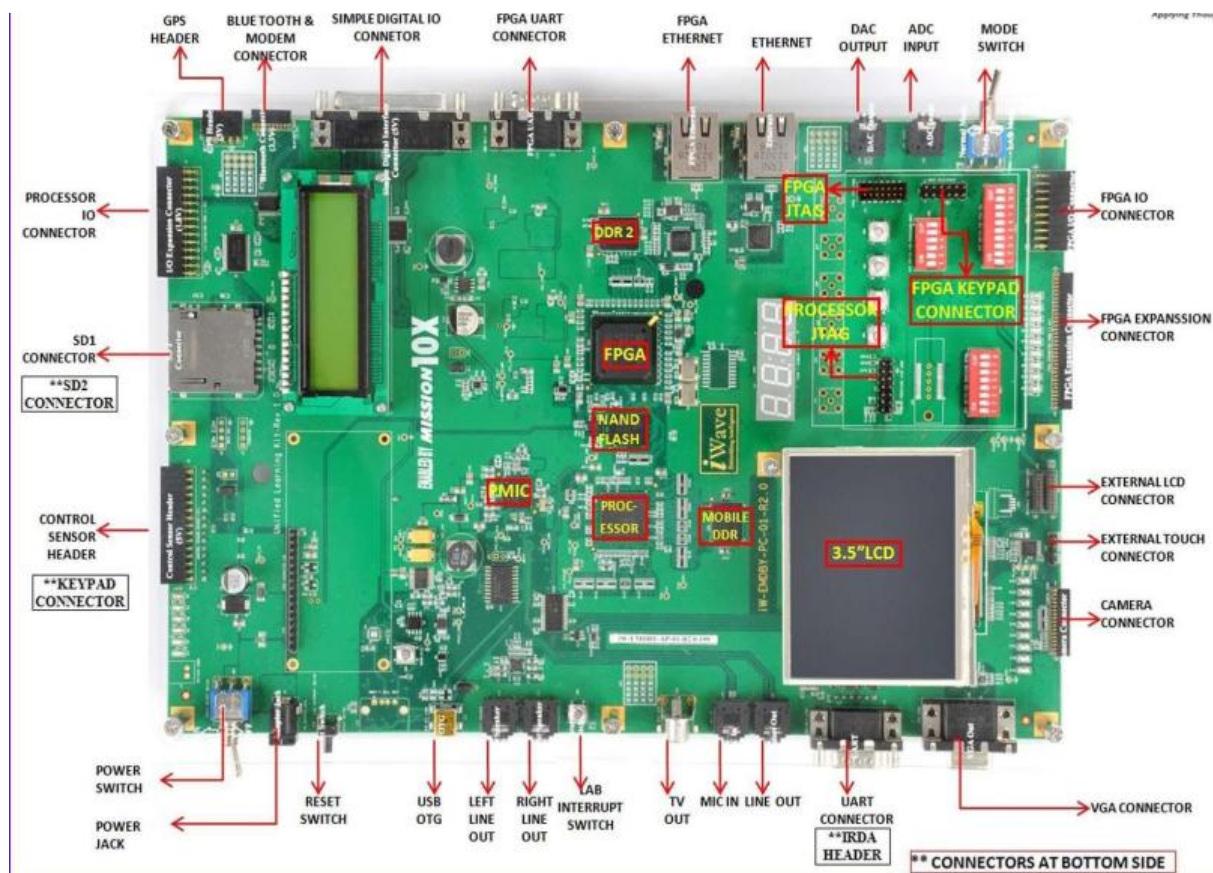
- 1) The main objective of this project is to develop a wireless notice board that will be used by the faculty in order to display latest information at its respected institutions.
- 2) The people can gather all details about the institution within a second establishing a new idea for noticeboard.
- 3) To increase speed of communication.

## PROPOSAL BLOCK DIAGRAM:



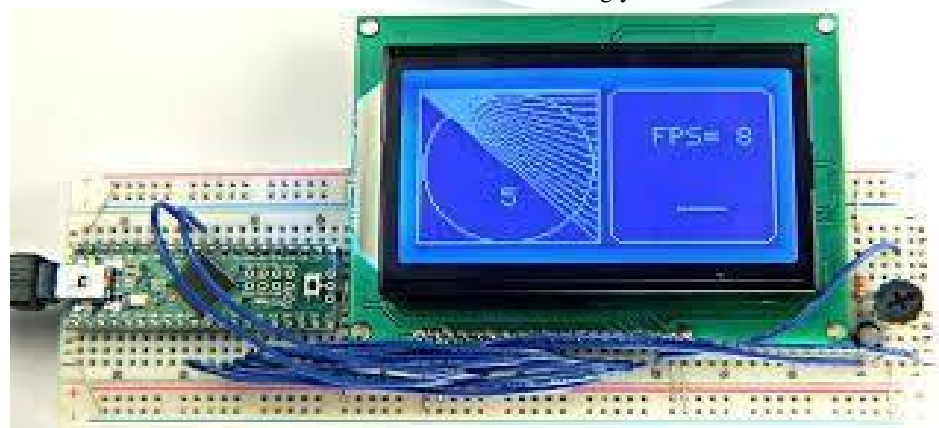
## UTLP KIT

In this UTLP kit we have important parts are GLCD(Graphical Liquid Crystal Display)for display the images what we required to getting information, normal LCD for displaying the name of the image, main part of the UTLP kit is ARM7 cortexA8. Here using 7segment for date and time, audio can stored the information about that image and deliver to the unknown person who attended in the program.



#### GLCD:

ULK by default comes with 3.5 inch Graphical LCD with touch interface. The image in memory card is interfaced to the OMAP3530 processor and the static image is saved to the processor. Image saved in the processor is displayed on the GLCD. Graphic LCD is interfaced to the OMAP3530. The image acts as an input data and a menu is created to change the parameters using keyboard. Any parameter is changed by pressing the keys on keyboard and changing its value to a desired one. A code is generated in which a preset value for decoding is specified. User changes the parameters again by pressing keys and tries to match the value specified in the preset code. Only if the preset parameters are known the user is able to decode and match the values. If the value matches with the predefined values, the message gets displayed automatically and then accordingly mechanical switch is opened.





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#### LCD:

It is the Liquid Crystal display which is mainly depend upon the function of the GLCD(Graphical Liquid Crystal Display). If any image is display in GLCD means that image information like name of the image and total details can display in that normal LCD.



#### ARM7 MICROPROCESSOR

The ARM7 family of processors is a range of low-power, 32-bit RISC cores optimized for cost and power-sensitive applications. All the cores in the family feature the 16-bit Thumb instruction set, enabling high code density to be achieved with 32-bit performance levels.

##### REGISTERS:

- 37 registers
  - 31 general 32 bit registers, including PC
  - 6 status registers
  - 15 general registers (R0 to R14), and one status registers and program counter are visible at any time –when you write user-level programs





- R13 (SP)
- R14 (LR)
- R15 (PC)
- The visible registers depend on the processor mode
- The other registers (the banked registers) are switched in to support IRQ, FIQ, Supervisor, Abort and Undefined mod processing.

### Key Features

All ARM7 family processors share a range of common features:

- High performance: up to 120 MIPS on 0.13µm (Dhrystone2.1)
- Low power consumption
- Small die size
- High code density
- Real-time debug facilities
- Coprocessor interface

### Key Benefits

All ARM7 family processors offer significant benefits to developers and integrators:

- Established, high-volume 32-bit RISC architecture
- Fast time-to-market
  - Wide choice of development tools
- Code-compatible upward migration path to ARM9™ and ARM10™ families allowing re-use of application code
- Migration and support across new process.

### ARM-CORTEXA8

Cortex-A8 microprocessor is the first applications microprocessor in ARM's new Cortex family. The ARMv7 architecture and thus the Cortex processors will be divided into three main groups: Applications (A) processors, Real time (R) processors and Microcontrollers (M). Applications processors are intended for use with open OS and feature a memory management unit (MMU) providing for virtual addressing. Realtime processors will focus more deeply embedded applications. They will feature a memory protection unit (MPU) which protects regions of memory but does not provide for virtual addressing. Microcontrollers will generally not have memory protection, and focus on providing very low latency responses to interrupts and including features such as flash memory controllers and interrupt controllers. The group to which a processor belongs is designated by adding a -A, -R or -M to be base Cortex name.

### ECLIPSE

The eclipse base provides a framework only, which includes a text editor, project manager And a few more tools like a debugging interface. If one image is displayed means that image can covert to coding in that we have any error means this eclipse is can debug the error.



## APPLICATIONS

It is mainly used to deliver the information at short period. It is used in various places as,

Railway stations, Organizations, Bus stands etc.,

## ADVANTAGES

A commercial model can be able to display more than one message at a time

### **Restaurants :**

To display the menu and offers etc.

### **Railway stations :**

To display the scheduling time of the train and the platform, the services offered by the railways .

### **Nursing homes :**

To display the staff attendance ,the availability of the doctors, the list of the specialized doctors, no of in patients.

### **Colleges:**

For displaying important messages . eg : placement news, cultural activities news ,etc.[4]

### **Hotels :**

To display the availability of the rooms and the room rents , the type of rooms.

## CONCLUSION

The prototype of the proposed UTLP kit based electronic notice board is successfully designed. It can be easily integrated with all general purpose display board thus proving its mobility. Latency involved in using of papers in displaying of notices is avoided and the information can be updated by the authorized persons. This technology in the field of communication we can make our communication more efficient and faster, with greater efficiency we can display the messages and with less errors and maintenance.

## REFERENCE

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Department of Information Technology Jawaharlal Darda Institute Of Engineering & Technology, Yavatmal, Maharashtra, India Prachee.ketkar23@gmail.com