

INTELLIGENT AUTO RECEPTIONIST USING ARM

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Abstract

One of the leading problem in educational institutions, banks, industries is new visitors don't find the guidance to reach their destination. Human behaviors are unpredictable and they can go wrong in guiding a visitor with their work. Our project is called Smart visitor guidance system which is automated reception system that takes the role of a receptionist and hence more effective, punctual, careful and pleasant than human. The system will be displayed with set of names (principal, chairman, etc...), whom the visitor want to meet after the user assigns his choice And also sends the visitor name and purpose to the official. They can call or hold by using push buttons. This system can also address the visitor with multiple languages on user's selection.

Index Terms: ARM PROCESSOR, TOUCH SCREEN, GRAPHIC LCD, KEIL SOFTWARE, EMBEDDED C.

1. INTRODUCTION

The main objective of this Smart Visitor Guidance System is to guide the visitors to the person who they want to meet by instructing and navigating them to the destination without human interface and also protects the employee entrance with high secure signature verification system. On the other side the officials could get a feedback regarding the list of visitors and their purpose of their visit which leads with a notification at the desk with a selection buttons to allow or reject the person depending upon the leisure time of the officials. Now a days in this industrial and educational world these electronic systems play a vital role leading the situations the robotics and automation is overviewed for the sake of human assistance and supports.

2. EXISTING SYSTEM

The present system in all institutions and industries exists with a smart card for employees and in case of visit or guidance we all have nothing but a receptionist at a welcome

desk. Hence the visitors waiting time increases without proper information and the employee's security lacks with the smart cards

3. PROPOSED SYSTEM

This particular system introduced is highly efficient in handling both the cases parallel by guiding the visitors and forwarding employees through high security system. It advances as follows:

Navigation and guidance with voice instructions Combined system for both employees, visitors Synchronization made easy between visitors and officials, Quick responses result in less waiting time and Clear details and backup of visitors Quick responses result in less waiting time and Clear details

and backup of visitors. Here ARM processor is used because of its wide range of scope and advantages over any other processor. Its robustness and flexibility and very important one is power consumption. These are all the features puts ARM processors over any other Processors in mainly robotic applications. With ARM design in its suite this project achieved its simplicity also.

4. BLOCK DIAGRAM

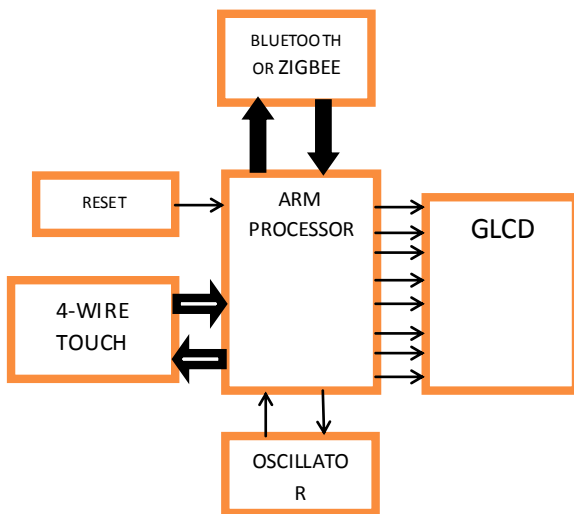


Figure1:-Main Block Diagram

The main function of block diagram is to transfer the data from visitor to destination and get the information from destination to visitor. The function of RESET is to clear the previous data entered by the visitor. Crystal oscillator generates the continues clock pulses to the processor to work without any interrupt during execution. 4-Wire touch screen is to enter the details of the visitor and the purpose of their visit. To share the data between transmitter and receiver using a wireless device i.e. BLUETOOTH. ARM (Advanced RISC Machine) is used to interface all the hardware devices and process the data/ information between transmitter and receiver

5. ARM ARCHITECTURE

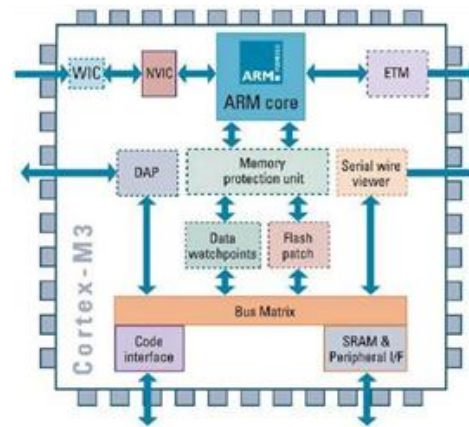


Figure2:-ARMCORTEXM3 Architecture

It is much better performance at same or lower clock speeds. You can see that additional performance in a variety of ways such as simple coding, avoid careful hand optimizations, more features lower clock speed. It leads in much better energy efficiency. Also helps us squeeze more functionality out of precious battery life and enables the user to meet the increasing demands for lower energy products. It advances in smallest code size of any microcontroller. The reducing code size is key to squeezing your application code into the minimum amount of flash.

6. UART

A universal asynchronous receiver/transmitter is a type of "asynchronous receiver/transmitter", a piece of computer hardware that translates data between parallel and serial forms. UARTs are commonly used in conjunction with other communication standards such as EIA RS-232. UART is usually an individual (or part of an) integrated circuit used for serial communications over a computer or peripheral device serial port.

7. WIRE TOUCH SCREEN

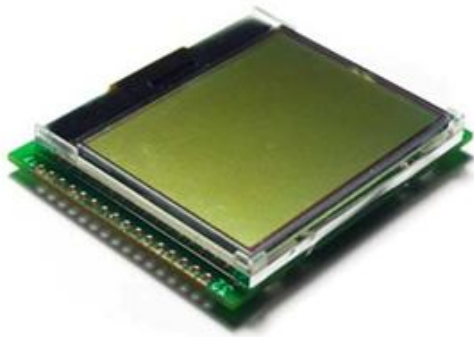


Figure3:-Touch screen LCD

It first undertakes the input from the visitor by the touch screen interfaced on the top of the LCD. The information is exchanged to the arm cortex by GPIO (General Purpose Input Output).

8. CONCLUSION

The interfacing between the ARM and the SD card is completed by the generation of required hex file. Hence after the transfer of hex file to the PCB. The operation is done such that the file present in the SD card. In the first phase of the project, the 4-WIRE TOUCH & serial data card adaptor are interfaced to microcontroller, which is part of the master board, done by developing an embedded C program built successfully using KEIL MICRO VISION 3, such that the values and condition of the peripherals connected to it are displayed.

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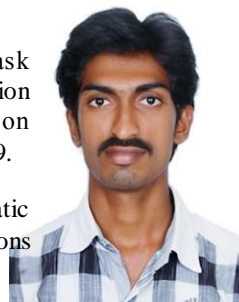
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