

“A Review Based On Pic Microcontroller For Fastest Finger First”

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ABSTRACT- In our day today life quiz competition is rapidly increasing. So to get the appropriate results Fastest finger first (FFF) is used to know the players respond time. It is rapidly used in institute level as well as commercial level. In early days it is very tedious work to know who has buzzer the alarm first in fastest finger first. So the solution for this problem is to use PIC microcontroller 16F877A. This project is designed as a product based. Also it has a vast impact on industrial level for security purpose.

I. INTRODUCTION

This research is to design & develop “Fastest Finger First using PIC16F877A”. As this project is based on PIC & PIC has high performance RISC CPU. It has in-built timer facility.

Fully static designed, has program memory & data memory. Whereas, program memory is used to store the program & data memory is used to store the data. It operates on 5V supply.

In our project there are two modes on which our project will operate. First mode is the fastest finger first mode & second mode is rapid fire mode. In the first mode when the questions are being asked to the players, any player (P1-P5 / S1-S5) knows the exact answer so he/ she will

press the switch. The player who presses the switch (P1-P5 / S1-S5) his/ her identity – P1-P5 / S1-S5 will be

displayed on the seven segment display & LCD simultaneously. Whereas the seven segment display is present at output panel & LCD is present at control panel. The player whose has buzzer first will get the opportunity to answer the question. The first mode is being explained earlier & now in our project as there are two we are switching towards the second mode which is the rapid fire mode. In this mode every player is allotted with a particular timer. This time slot will be of 60 seconds. By comparing other controller like microprocessor, microcontroller, PLC’s, PIC microcontrollers are widely used ice they have more features & user friendly.

II. SURVEY

As the survey is based on different aspects for design and implementation of the project we have focused on different survey of the components.

1)MICROCONTROLLER:-Microcontroller is a processor having memory & programmable input output peripherals. It is just like small computer on a

single integrated circuit. In our project we are using PIC microcontroller 16F877A.

FEATURES:-

- High performance RISC processor.
- Upto 8K x 14 words of flash program memory upto 368 x 8 bytes of data memory (RAM), upto 256 x 6 bytes of EEPROM data memory.
- Power on reset
- Power- up timer & oscillator start-up timer.

2) LCD 16 X 2:- LCD is a passive type display which do not emits any light. In LCD fluorescent backlight display is used. When the light behind the screen falls on LCD screen an image is displayed or hence it is being created with combination of colors.

FEATURES:-

- In-built controller.
- 5V power supply.
- 1/16 duty cycle.
- LCD having 15 or 16 pins.

3)7 SEGMENT DISPLAY:-

A seven segment display is a electronics display device which is used to display numerical as well as alphabets. It is a dot matrix display.

FEATURE:-

- Can be viewed from long distance
- High light output
- High peak current.
- Sunlight viewable AlGaAs.

4) SWITCHES:-

switch is a device which is used to ON & OFF any kind of circuit. It works as a current ON & OFF in any circuit. There are many types of switches which are available in market. Mainly they are as follows.

- PUSH-TO-ON/OFF.
- Toggle switch.
- Selector switch
- Joystick switch
- Proximity switch

From above switches we have selected to push to on/off switch.

FEATURES:-

- Switch type:- push button, ON-OFF
- Type: - round head.
- Actuator colors:- red black, green, gray, yellow, blue
- Voltage ratings:- 3A, 250V AC

5) CONNECTORS:-

-In market there are various connectors available for connection for PC board mounting and for soldering.

-As per the application we can choose a combination of plug & jack.

-The size of connectors is usually small for high density mounting. the connectors are small with a contact and terminal pitch of 2.54mm between pins and rows.

-The cost of these connectors is less.

6)BUZZER:-

Buzzer is a electronic device which is used for audio indication purpose. The word buzzers come from rasping noise that electromechanical buzzers made.

Types of buzzers:-

- Mechanical buzzer.
- Piezoelectric buzzer

FEATURES:-

- Type:- Tecs0803fe.
- Rated voltage:- 3.6V.
- Frequencies:-2730Hz.
- Weight :-0.5gm.

III. METHODOLOGY.

As per the survey we will implement our project. In our project, there are two modes of operation. First is the fastest finger first mode (FFF) & second is he timer mode.

-Fastest finger first:- In this mode all the players had given their own switches and a LED. This is wired

connection. Also this circuit contain controlling panel. This controlling panel consist of microcontroller, buzzer, LED, reset, LCD. The operation is the person who presses the switch first out of the five players (P1-P5 / S1-S5) there indication will be shown in the seven segment display and LCD.

-Timer mode:- in this mode of operation a timer will be displayed on the front panel(output panel). This mode can be utilized in the rapid fire rounds, where the examiner starts to ask the questions to each player the timer will start. The time slot allotted will be of 60 seconds to each player. While as the time limit ends up the examiner will stop asking questions. Buzzer gets on as the time ends. On the basis of which player had answered the maximum right questions judgment will be done.

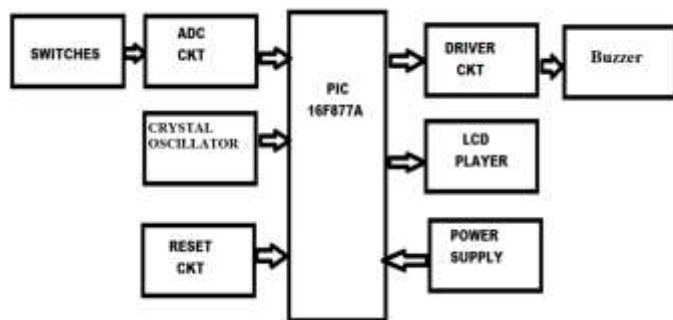


Figure: - Block Diagram

IV. CONCLUSION

As per the whole survey we conclude that design and implementation is done. The fastest finger first has maximum application in institutional and commercial level so we have designed this project as product based with the help of PIC 16F877A. This project reduces the complexity of the circuit. This project helps to the judges for the proper judgment of the players.

V. REFERENCES

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