"A Review Based On Quiz Buzzer Module by Using 8051 Microcontroller for 4 Players"

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Abstract: Here we propose a design of Quiz Buzzer Module by using 8051 microcontroller for 4 players. Earlier when the question is thrown upon the players two or more players hit the buzzer at the same time and it is so difficult to identify which team has pressed the buzzer first .This increases manual work and require lots of time. So to overcome such problems we have proposed a design of quiz buzzer module using 8051 microcontroller which will display the name of the team who has pressed the buzzer first and it will also display the time [1].

1. INTRODUCTION

This work is to design quiz buzzer module using 8051 microcontroller .the circuit is simple embedded system with set of 4 push buttons being input devices and microcontroller as the controller and output devices being a buzzer and a display. It is a simple circuit with minimum number of components. The microcontroller takes into account the time delay between two buttons and the accurate number is displayed [2]. Even though system is only for 4 teams, more teams can be added by using another set of push buttons.

In our project there are two modes on which the project will operate. The first mode is fastest finger first mode. In this mode when question is being asked to player, any player who knows the exact answer so he/she will press the switch [3]. The player who presses the switch his/her identity will be displayed on 7 segment display and LCD simultaneously. The second mode is rapid fire mode in which the player is allotted with a particular timer. In this project the output is carried out by microcontroller through program written in C language and dumped inside microcontroller [4]. When one of the buttons is pressed, the buzzer starts ringing and corresponding number is displayed on 7 segment display.

2. LITERATURE SURVEY

As proposed in, "A Review Based on Pic Microcontroller for Fastest Finger First", by Sayali Gilbile in International journal of engineering and computer sciences ISSN: 2319-7242, VOL.5, April 2016. "A Review Based On Pic Microcontroller For Fastest Finger First" By Sayali Gilbile, Niharika Nikam , Vishal Mate, Mayur Ingale. As per the survey they designed Fastest finger first (FFF) by using Pic Microcontroller which 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 to solve this problem they used PIC microcontroller 16F877A.It has inbuilt timer facility. This project is designed as a product based. Also it has a vast impact on industrial level for security purpose [5]. It also reduces the complexity of the circuit and it also helps the judges for proper judgment of the players.

As presented in "A Wireless Quiz System Using Low Power Microcontrollers" by James Conrad, Suraj Swami, Onkar Raut, Ipsita Acharya and James Conrad. Many of these systems used today are wired systems that consume a considerable amount of power. This paper describes an easily installable, expandable robust wireless quiz system using a low battery-powered microcontroller interfaced with a RF wireless transmitter[6].It is an electrical system that fulfills all the requirements of any ordinary quiz system being wireless which provides ease of installation, portability and reduced power consumption. This system eliminates the drawbacks of currently used hard wired quiz systems.

As discussed in "Distributed Quiz" by Pinkal Patel, Clock synchronization is an issue in real-time distributed systems as each number of process tends to keep its own time. This, in turn is implies that most processes is eventually go out of synchronization. The online multiplayer quiz buzzers are usually played on a turn-based basis. The challenge in quiz buzzer usually comes from strict time requirement. In this paper the application of clock synchronization to online multiplayer quiz buzzer in order to produce a real-time online multiplayer quiz [7].The goal of this paper is to produce a fun engaging multiplayer game.

In "A Comparative analysis of low cost solutions for quiz controller and classroom access control systems" by Yokesh Babu Sundaresan, In the buzzer round of quiz contests, The question is thrown open to all the teams. The person who knows the answer hits the buzzer first and then answer the question. Sometimes two or more players hit the buzzer almost simultaneously and it is difficult to detect which of them has pressed first. This project is an electronic quiz buzzer that is affordable by the colleges and even individuals[8].Thus the operation of quiz buzzer system can be used this approaches have been used to operate the quiz buzzer with the same concept of sounding an alarm sound and display of the team number who hits the button first.

As per"A Wireless Quiz System Using Low Power Microcontrollers" by Suraj G. Swami, One of many important parts of any multiparticipant quiz game show is the player selection system. All participating groups are combined with a selection button placed in front of them which can be used by them to give a response. The Player Selection System determines the groups that gives the first response. Many of these system used today are wired system that consume a considerable amount of power [9]. This paper describes an easily installable robust wireless quiz system using a low battery-powered microcontroller interfaced with a RF wireless transmitter.

3. PROPOSED IDEA

In this system there are 4 players and buzzers are allotted to each players or teams. A 7 segment display is used which will display the name of the team who has pressed the buzzer first and also it will display the time. As soon as the question is thrown upon the players by the quiz master, the one who knows the answer will press the buzzer. Which player has pressed the buzzer first and in how many seconds his name and time will be displayed on the 7 segment display. The judgment will become easy for the quiz master. Manual work will be reduced and time will also be consumed. As the problem arises when two members pressed the button at a negligible interval and it is difficult to guess who has pressed the buzzer first. Here we designed an automatic quiz buzzer system such that when more than one team presses the buzzer, the delay is accurately taken into account and number is displayed. We build the circuit using a microcontroller which scans the input from push buttons and displays the corresponding number on a display device. It is a simple circuit with minimum number of components. The microcontroller takes into account the time delay between two buttons and the accurate number is displayed. Even though this system is only for 4 teams, more teams can be added by using another set of push buttons.

4. BLOCK DIAGRAM

From the below figure it indicate that the three are total four teams. These teams are connected with microcontroller. The seven segment display connected with microcontroller. The power supply section is also be interconnected with the microcontroller. This seven segment display and buzzer device are connected towards Quiz Master. Each teams are interconnected with the separate switch. When the system starts, the seven segment does not displays any output. The microcontroller keeps scanning the input pins. As soon as any one of the input is pressed, the buzzer sounds for a small duration. The seven segment displays the number corresponding to the input pressed. At the second microcontroller each team consist two display. The first display is used for display the marks of that team and second display is used for display the team name. Quiz master consist of switch, whenever team presses the input the quiz master will press the switch which is connected to microcontroller which will display the marks and team name.
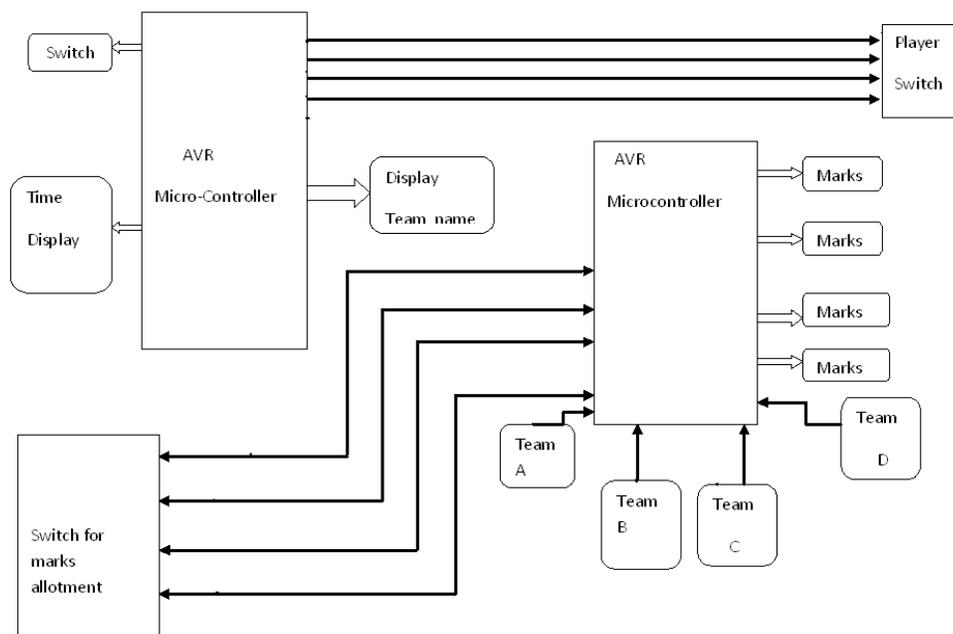

Figure shows block diagram of Quiz Buzzer Module system

4. CONCLUSION

As per the whole survey we have proposed a Quiz Buzzer Module for 4 players using 8051 Microcontroller. It has maximum application in institutional and commercial level so we have designed this project as product based with the help of AT89C51 [10]. This project reduces the complexity of the circuit and it also reduces the manual work and time and it helps the judges for proper judgments of the players.

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