ABSTRACT

TIMETABLE BELL

The ringing of a school bell is a signal that tells a school's students when it is time to go to class in the morning or afternoon and when it is time to change classes during the day as well as when students are dismissed from school, it may be used for other purposes such as getting students' attention for special announcements. Conventionally, the school bell is rang by a peon or multi-tasking assistant. What if there would be a microcontroller based automatic school bell which rings itself according to a fed timetable. This project is the implementation of same functionality.

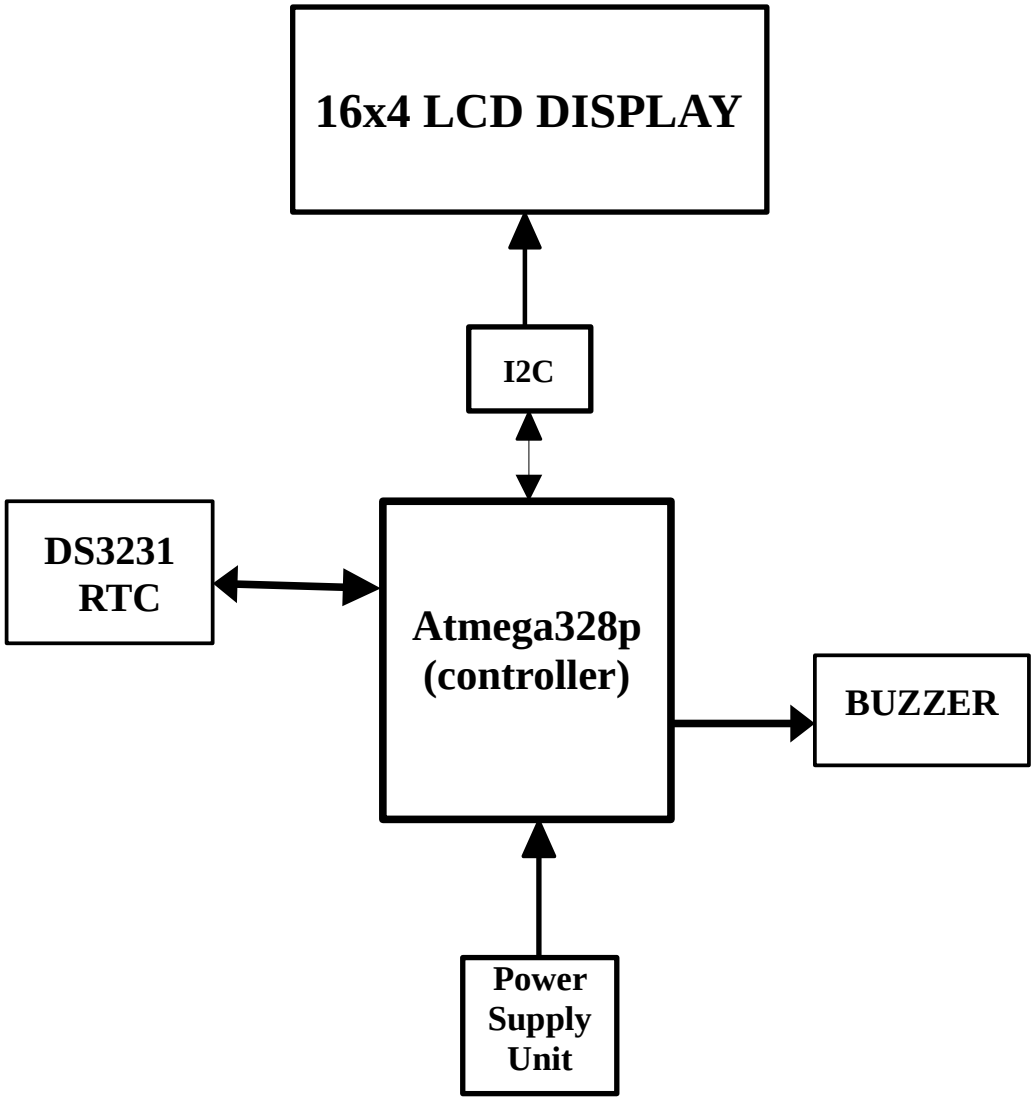
The system is built around an Arduino UNO board, which is a microcontroller-based platform that is widely used for prototyping and developing electronic projects. The Arduino board is connected to an RTC module, which is a real-time clock device that provides accurate timekeeping functionality. The RTC module communicates with the Arduino board using I2C communication protocol, which allows for fast and reliable data transfer.

The LCD display is used to show the school timetable, which is pre-programmed into the system. The timetable is displayed in a clear and readable format, which allows students and teachers to easily see when the next bell is scheduled to ring. The buzzer is used to sound an alarm when it's time for the bell to ring. The buzzer is connected to one of the digital output pins on the Arduino board, which allows it to be easily controlled by the software.

The software for the system is written in Arduino programming language, which is a simplified version of C++. The software reads the current time from the RTC module and compares it to the times in the timetable. When it's time for the bell to ring, the software activates the buzzer and displays a message on the LCD screen. The software also includes error checking and recovery features to ensure that the system continues to run smoothly even if there are communication errors or other issues.

Overall, the automatic school bell system using Arduino UNO RTC module, LCD display, and buzzer provides a reliable and efficient solution for managing the timing of bell ringing in a school. The system is easy to install and operate, and it can be customized to meet the specific needs of each school. By automating the process of bell ringing, the system helps to create a more efficient and effective learning environment for students and teachers alike.

SIMPLE BLOCK DIAGRAM OF PROPOSED SYSTEM.



Further modifications can be added accordingly.