

# IoT Based Smart Digital College Bell with Time Table Display

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**Abstract:** *The Smart Digital College Bell with Timetable Display is an embedded system-based solution developed to automate the conventional college bell system and enhance communication within educational institutions. The system uses an ESP32 microcontroller integrated with a real-time clock (RTC) to manage accurate timekeeping and automatic bell operation according to a predefined timetable. The complete daily schedule is stored digitally and can be easily updated using an Android application through Bluetooth communication. A LED display unit continuously shows the current and upcoming period details, providing clear information to students and teachers. When the scheduled time changes, the system automatically activates a buzzer to indicate the end or beginning of a period. This smart system reduces manual effort, minimizes human error, and improves punctuality and efficiency in college operations, making it suitable for modern educational environments*

**Keywords:** Smart College Bell, ESP32 Microcontroller, Timetable Display, Bluetooth Communication, Real-Time Clock (RTC), Educational Automation.

