SMART INDIA HACKATHON 2024

INTERNAL HACKATHON

Team: *TopCoders*

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TEAM MEMBERS

- Amaan Aijaz: 2023UCS1582
- Ajisth Shukla: 2023UCD2156
- Mohammad Asif: 2023UCS1610
- Ujjawal Kumar: 2023UCS1502
- Khushi Monga: 2023UEC2584
- Mohammad Bilal: 2023UCS1638

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PROBLEM STATEMENT

Statement:
Develop a Cloud-Integrated IoT Alarm Clock with Dashboard Integration.

Objective:
Design and develop an IoT-enabled alarm clock that leverages cloud services like AWS for IoT management, uses design artifacts from the Paint-Alarm project, and integrates with the dashboard.

Background:
As IoT technology evolves, there's an opportunity to create a smart alarm clock that not only offers basic functionalities but also integrates with cloud services and a dashboard for advanced data management. This project will utilize AWS IoT for cloud integration, draw design inspiration from the Paint-Alarm project, and incorporate the GovtInvoice dashboard for real-time data monitoring and user insights.

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NEED FOR SOLUTION?

In today's era of social media and pervasive doom scrolling, both young people and adults frequently struggle with disrupted sleep schedules, which in turn, adversely affects their productivity and overall mental well-being. To address this growing concern, we have developed a Smart Alarm Clock designed to enhance convenience and promote healthy sleep habits.

This advanced Smart Alarm Clock offers a comprehensive suite of features aimed at improving sleep quality and user experience. Users can effortlessly set Named Alarms and Timers from any location via their smartphones, with seamless synchronization to the clock. Additionally, they have the flexibility to customize snooze durations, monitor the time across major global cities, and access a range of other functionalities.

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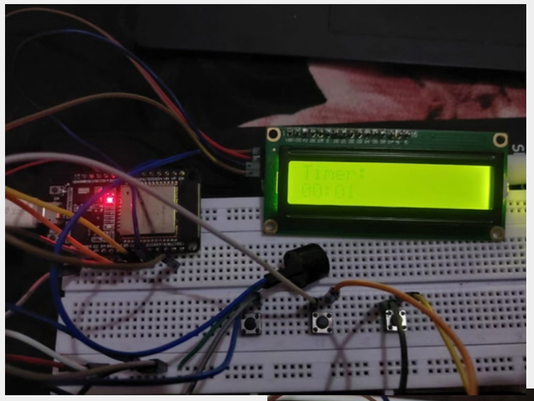
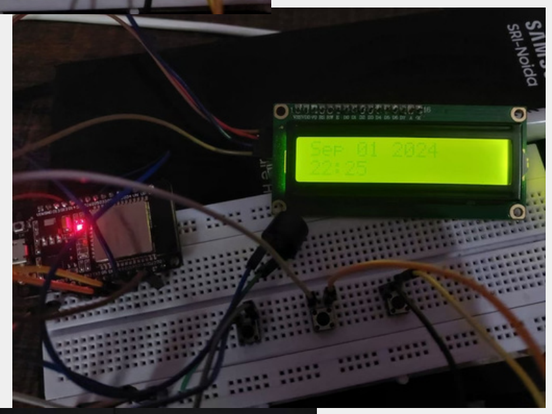
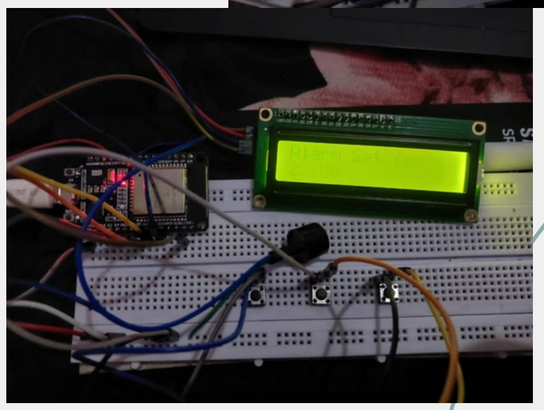
CLOCK FUNCTIONALITY

- Accurate time depiction (12hr/24hr)
- Stop Watch & Timer capabilities
- Multiple alarm setting capabilities
- DD/MM/YYYY displayed
- World Clock feature (major cities)
- Syncs to phone for easy access
- Set custom named Alarm & timers from your phone
- See previously set alarms & timer history







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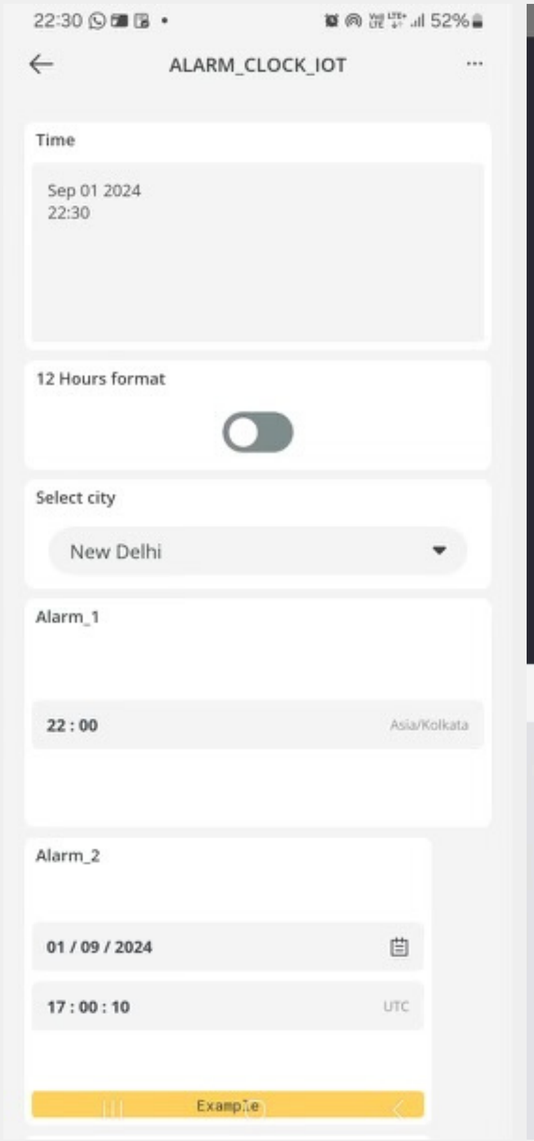
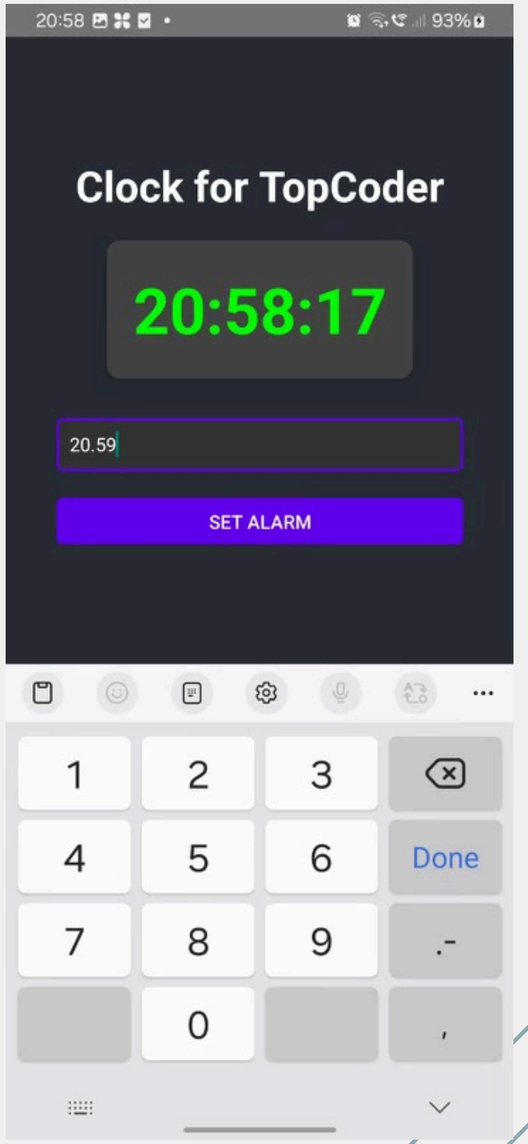
APPLICATION INTEGRATION

Efficient use of application integration has been used to sync the Smart Alarm Clock to your phone in real time.

The individual has control over a multitude of uniquely custom features such as setting named alarms, checking history of previous activities, starting custom timers among many others.

The application UI is simple and easy to use such that even individuals who are not very fluent in the usage of tech can easily use its functions.





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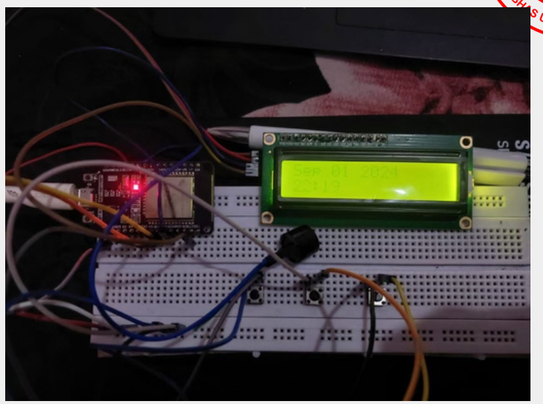
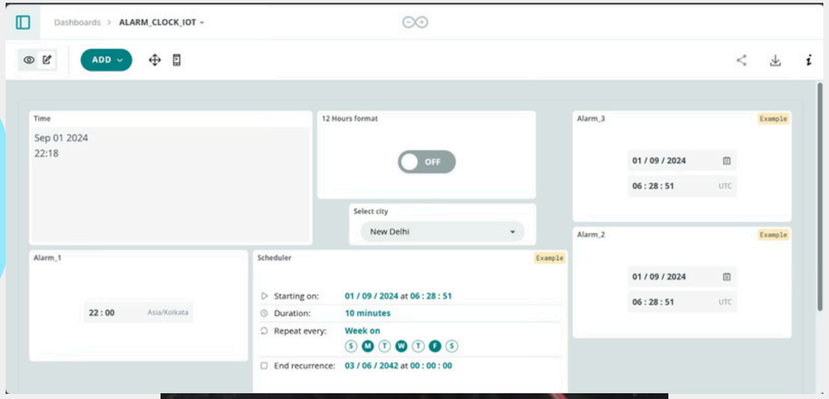
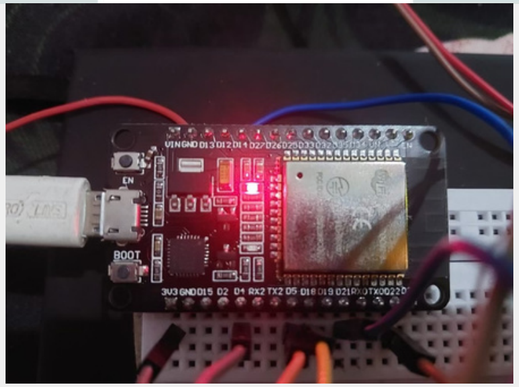
INTEGRATION BETWEEN CLOUD AND ANDRUINO IOT



Seamless Arduino IoT Integration: Connects the alarm clock to the cloud using Arduino IoT, enabling remote control and monitoring.



Real-Time Data Communication: Utilizes Wi-Fi or Bluetooth for instant data exchange between the clock and the cloud, ensuring up-to-date information across devices



Automatic Synchronization: Real-time updates of alarm settings and time across the mobile app, dashboard, and the alarm clock, maintaining consistency.

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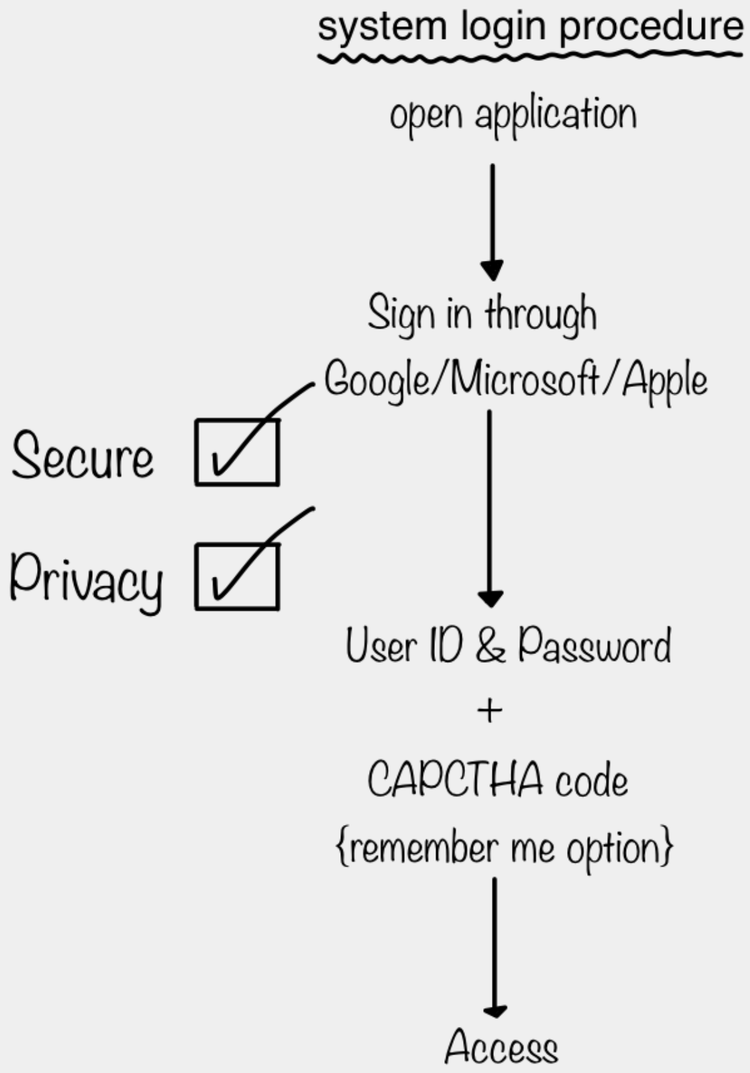
SECURITY AND CONNECTIVITY FEATURES

Enhanced Data Security: Protects data with encryption during transmission, ensuring secure communication between the alarm clock and the cloud.

Device Authentication: Incorporates a device password and key system to ensure that only authorized users and devices can access and manage the alarm clock.

Reliable Connectivity: Maintains stable connections via Wi-Fi or Bluetooth, with automatic sync once the connection is restored after disruptions.



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THANK YOU

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