SOFE 4610U: Internet of Things

Project Proposal

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Project Title: IoT Alarm Clock

Project Description

Alarm clocks have helped us get out of bed, even when we don't want to. They prevent us from waking up late and arriving wherever we need to go. We could listen to whatever song needed to be played or we could listen to really annoying ticking sounds to help us get out of bed. So, for our topic, we decided to make an IoT alarm clock using the NodeMCU. With this, we can set the alarm time on a webpage without even having any internet connectivity. With this, we can create our own alarm and not have to worry about being late again.

Functional requirements

1. The user shall be able to set alarm time through a web portal.
2. The website shall display a confirmation message that the alarm time was set.
3. The LCD screen shall display the current time and the alarm time (that is initially set to 00:00).
4. The LCD screen shall update the alarm time to match the newly set one and display it to the screen.
5. The buzzer shall beep when the current time matches the entered alarm time.
6. The LCD screen shall display a message that indicates the alarm is on.

Non-functional requirements

1. The web portal shall load within 3 seconds.
2. After the user enters the alarm time, the website shall display the confirmation message within 5 seconds.
3. The LCD screen shall remain on all the time as long as the device is connected to the computer.
4. The LCD screen shall update the alarm time within 3 seconds.
5. The buzzer shall beep for one minute after the alarm time is matched.
6. After the alarm is activated, the LCD screen shall display the activation message within 2 seconds.