Smart Home

This project is Smart Home based Bluetooth where we want to control home appliance wirelessly using Mobile App via Bluetooth.
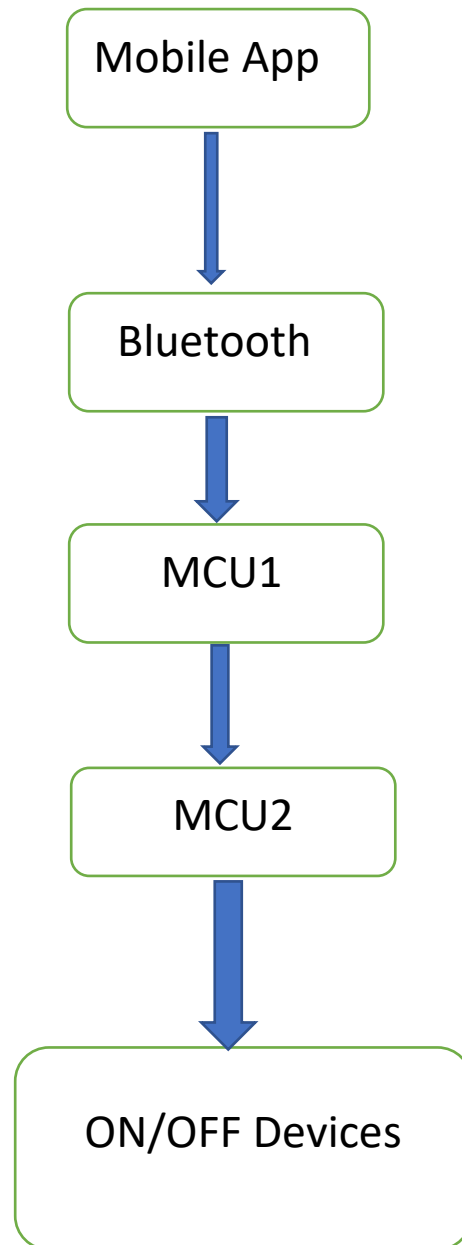
Due to the unavailability of a Bluetooth device, an Analog device called virtual terminal.

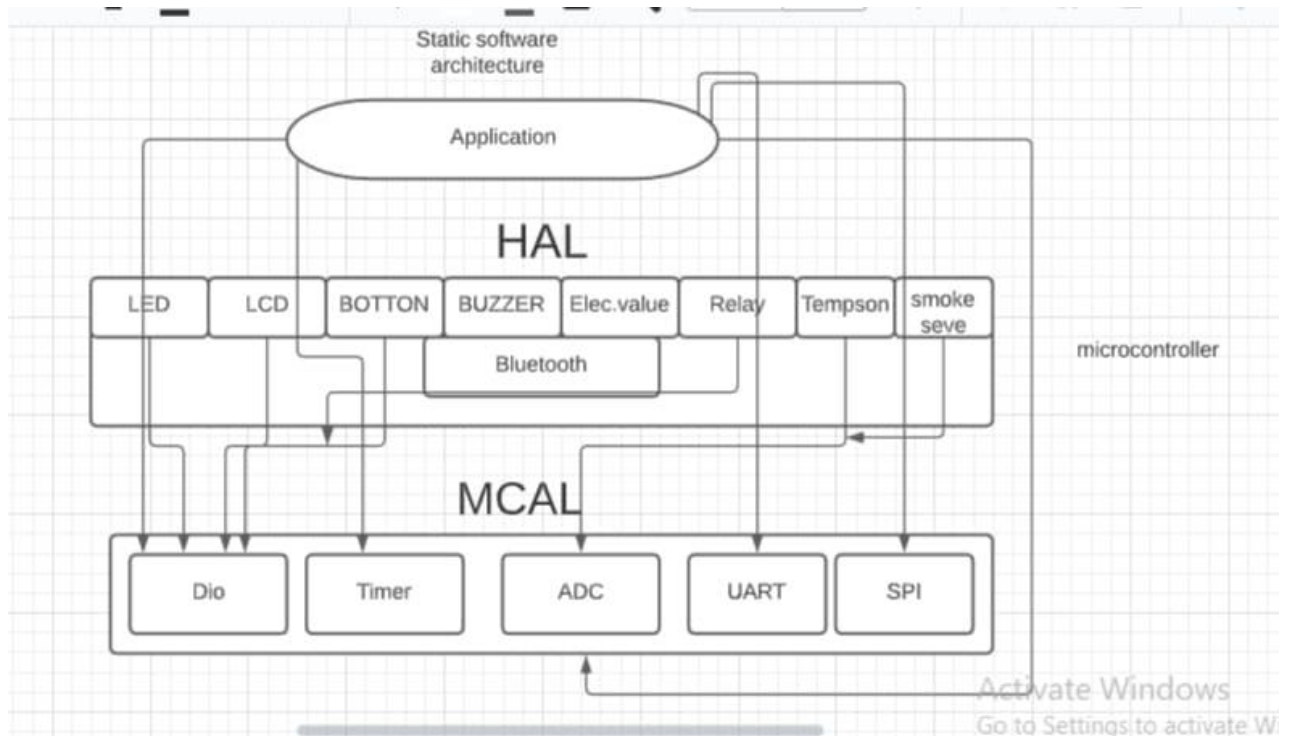Where commands are sent from the mobile device via Bluetooth to the first microcontrollers

Which shows it on the screen

And it sends the data to the second microcontroller, which shows the data that came to it on the screen and then Analyzes it and executes the commands.

The Bluetooth device is connected to the first microcontroller via the UART

```
┌─────────────────┐
│   Mobile App    │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│   Bluetooth     │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│     MCU1        │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│     MCU2        │
└─────────────────┘
         │
         ▼
┌─────────────────┐
│  ON/OFF Devices │
└─────────────────┘
```

Two ECU's Communicate with each other the first is a control ECU which takes the input from Bluetooth and send it to the Sink (Actuator) ECU via SPI to interpret which action should be taken.

Static software architecture

- If you follow data equal to "A" the first LED will light up
- If you follow data equal to "B" the second LED will light up
- If you follow data equal to "B" the third LED will light up
- If you follow data equal to "B" the fourth LED will light up