K9 Project – Sara Mostafa Kamal El Din

Bluetooth Based Smart Home

This project is Smart Home based Bluetooth where we want to control home appliance wirelessly using Mobile App via Bluetooth.

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.

The System is a smart controlled House is consisted of 5 Electronic components:

1. ECU1(master microcontroller):

• Responsible for transferring data from the Bluetooth module to the slave microcontroller.

• Sends data using SPI communication protocol.

2. ECU2(slave microcontroller):

• Responsible for receiving data from the master and control the LEDs.
• If it receives (a) the first led (PORTD3) turns on, if (b) the second led (PORTC2) turns on, if any other letter both are turned off.

• Receives data using SPI protocol.

3. LCDs:

• They display the characters sent by the master and received by the slave, they indicate whether the data sent is right or not.

4. LEDs:

• They are considered as the house-controlled elements.

5. Bluetooth module:

• This module sends the data to the master using the UART Protocol.

• Responsible for sending data wirelessly using mobile app.