

Smart Home
Embedded System Diploma
(M12)

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System Construction:

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.