

Smart Home

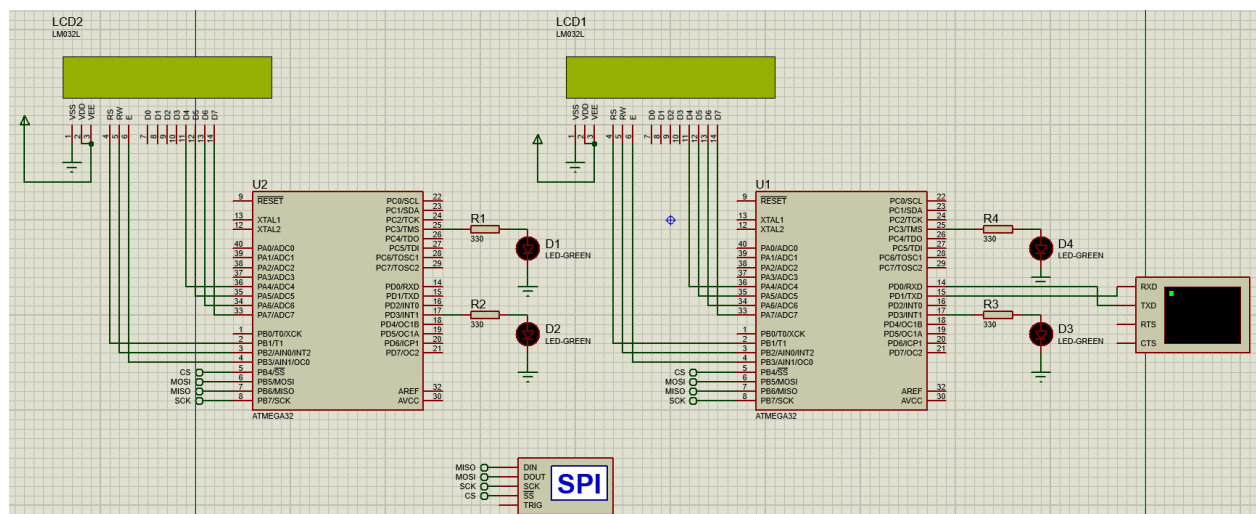
The system consists of:

- 1) 2x Microcontrollers (ATmega32)
- 2) 2x LCDs (LM032L)
- 3) 4x LEDs
- 4) 1x Bluetooth module (simulated by a virtual terminal)

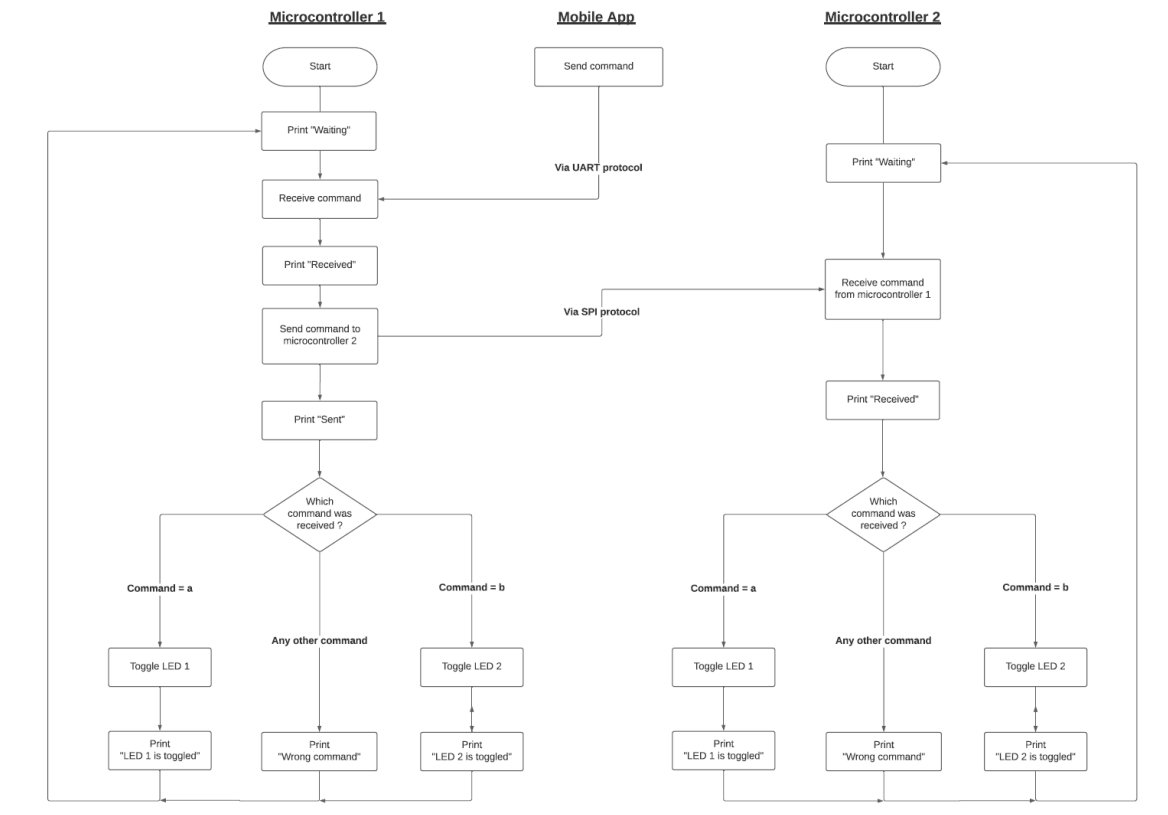
Steps of operation:

- In the beginning, the 2 microcontrollers are in the Ideal state in which they wait a message to be received.
- Using a mobile application, the user sends a command to turn on/off a specific load.
- The first microcontroller receives this command using a Bluetooth module using UASRT communication protocol.
- After receiving the command, the first microcontroller, which is the master, send the command to the second microcontroller which is the slave via SPI communication protocol.
- After sending the command, both microcontrollers interpret the command received and toggle the desired LED which represent a load, then the system return to his idle state.
- There is an LCD connected to each microcontroller to show the state of each one
- In case of receiving a wrong command from the mobile application, both LCDs print "Wrong command"

Schematic:



Flow Chart:



Layered Architecture:

