

<https://sites.google.com/view/5ret8sze2aa2m3kuv3l>

Eric Buckland Project Proposal

Overview

I want to create a Bluetooth controlled game, possibly snake or mastermind, which is displayed in the 8x8 LED grid. The majority of the work will come from manually implementing the custom serial protocol which is used by the LEDs in the grid. I will be using DMA and a timer for this, among other tools. I may include the temperature sensor in the final project.

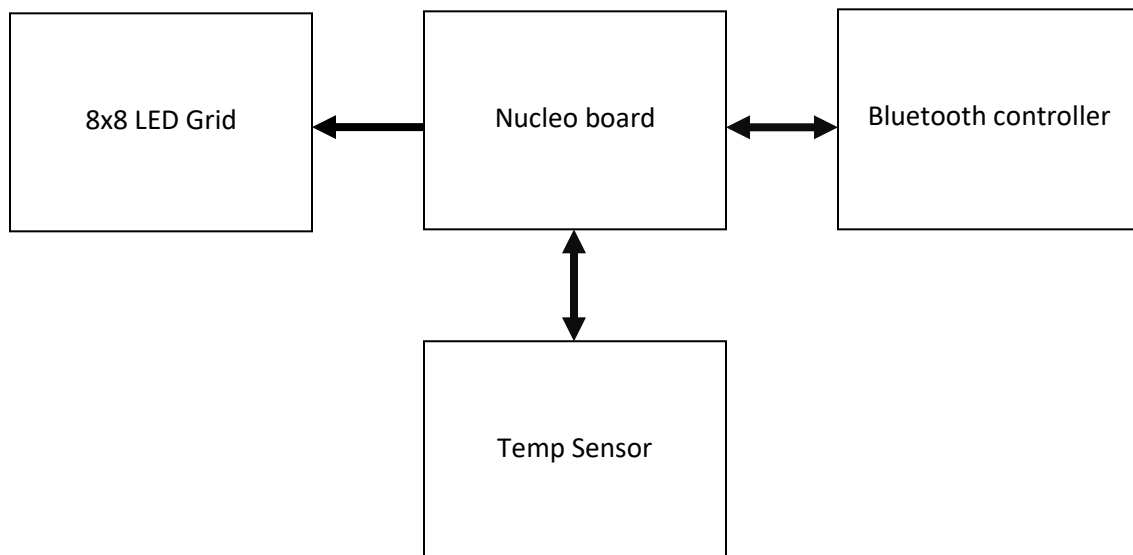
Peripherals

- Bluetooth (Send and receive)
- 8x8 LED grid (Send)
- Tentative temp sensor (Send and receive)

Serial Interfaces

- Bluetooth - UART
- 8x8 LED grid – Custom serial protocol (SISO)
- Tentative temp sensor – I2C

Block Diagram



Responsibility list

Eric Buckland – Do everything

Software Structure

- Use DMA to load timer for input on LED serial interface
- Timer uses interrupts
- Combine Bluetooth code

Combine Temp sensor code