



People Counter

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Overall Status

- › LCD component is finished
- › DAC communication is finished
- › μ SD is in progress
- › Wifi is in progress
- › IR sensor in progress
- › PCB sent out for manufacture
- › Debating materials for enclosure

Components

- › Microcontroller : *MSP430FR6989*
- › LCD Display : *ST7735*
- › MicroSD Reader : *ST7735 Breakout*
- › DAC : *MCP4725*
- › WiFi : *ESP8266*
- › PIR Motion Sensor : *HC-SR501*

LCD: TFT Display ST7735

- › Software
 - › Interfaces through SPI
- › Progress
 - › Functioning and tested individually

DAC : MCP4725

- > I2C
- > Software
 - > MSP430 Driver Library : EUSCI_B_I2C Module Driver
 - > Functions to perform specific operations for MCP4725
- > Progress
 - > Finished software development, tested and working

MicroSD Reader : ST7735 Breakout

- > SPI
- > Software
 - > MSP430 Driver Library : EUSCI_B_SPI Module Driver
 - > Functions to perform specific operations for ST7735
- > Progress
 - > Majority of software in place, in process of debugging

Wi-Fi : ESP8266

Simply acts as a web server by providing data transmission from MSP-430FR6989 to a client on the network using TCP,IP,HTTP,and FTP protocols. This will be accessed by an HMI interface.

- **Software:** ESP8266 WiFi library, Arduino IDE
- **Progress:** Acquired, able to communicate over Wifi, and Uart. serial communications

Model	RAM	Size	Protocols	Voltage
ESP8266	64KB	5x5mm	IPV4, TCP, HTTP, FTP	3.0V-3.6V

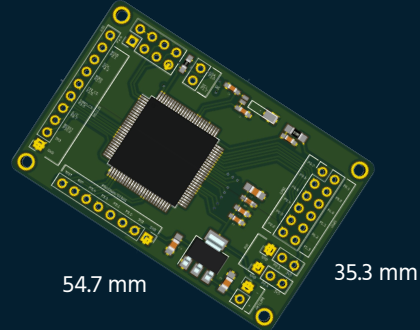
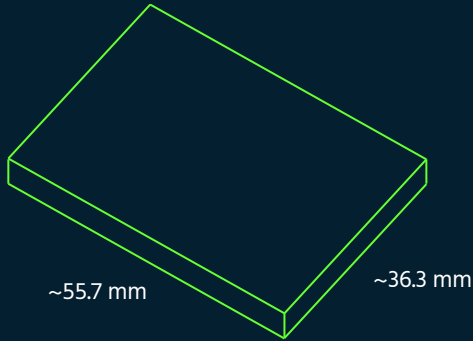
IR Sensor : HC-SR501

- > GPIO
- > Software
 - > MSP430 Driver Library : GPIO Module Driver
- > Progress
 - > Continued software testing.

Model	Range	Delay Time	Size	Interface
HC-SR501	≤ 100°, 7 m	5-200s (Adjustable)	32*24 mm	GPIO

Enclosure

- › Dimensions of PCB : W - 54.7mm, H - 35.3mm
 - › Should there be a lid?
 - › Mounting points?
 - › ABS, Wood?



Task Division



Ayo -

- > LCD

Logan -

- > DAC

Cody -

- > IR Sensor

Aaron -

- > Wifi

Plan B

Potential Issues

- > LCD screen proves too inconsistent for use
- > IR sensor does not properly register multiple individuals
 - > Does not decrement / increase
- > The enclosure proves to be too time consuming

Alternative Solutions

- > Use on-board 7 segment LCD
- > Modify IR shielding or re-adjust location
- > Use an Altoids tin

THANKS!

Any questions?

