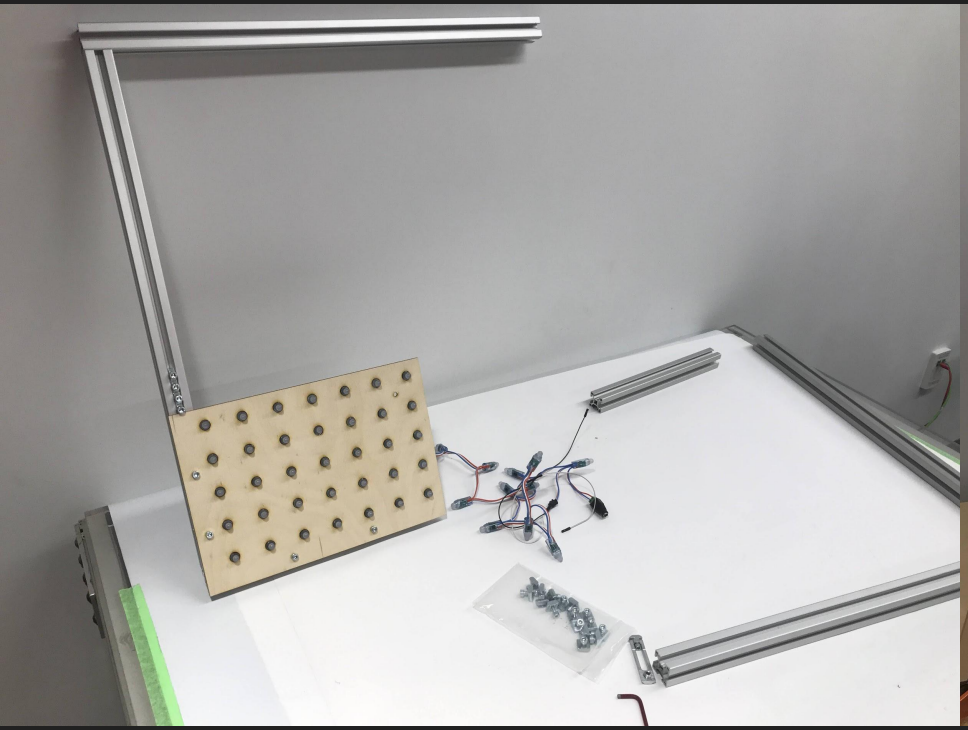
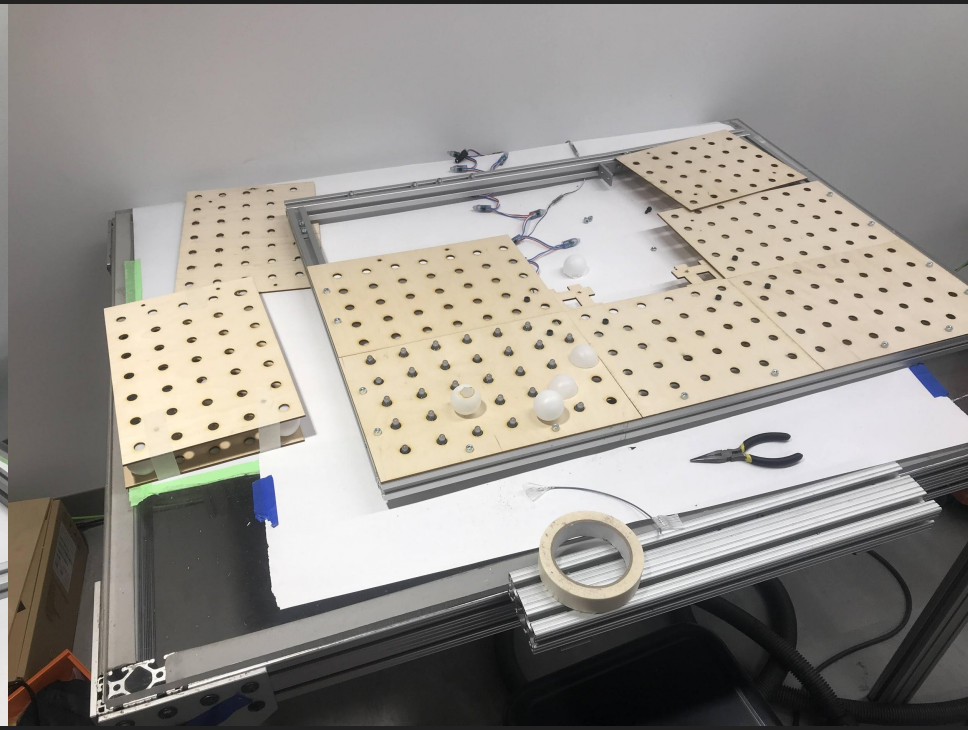
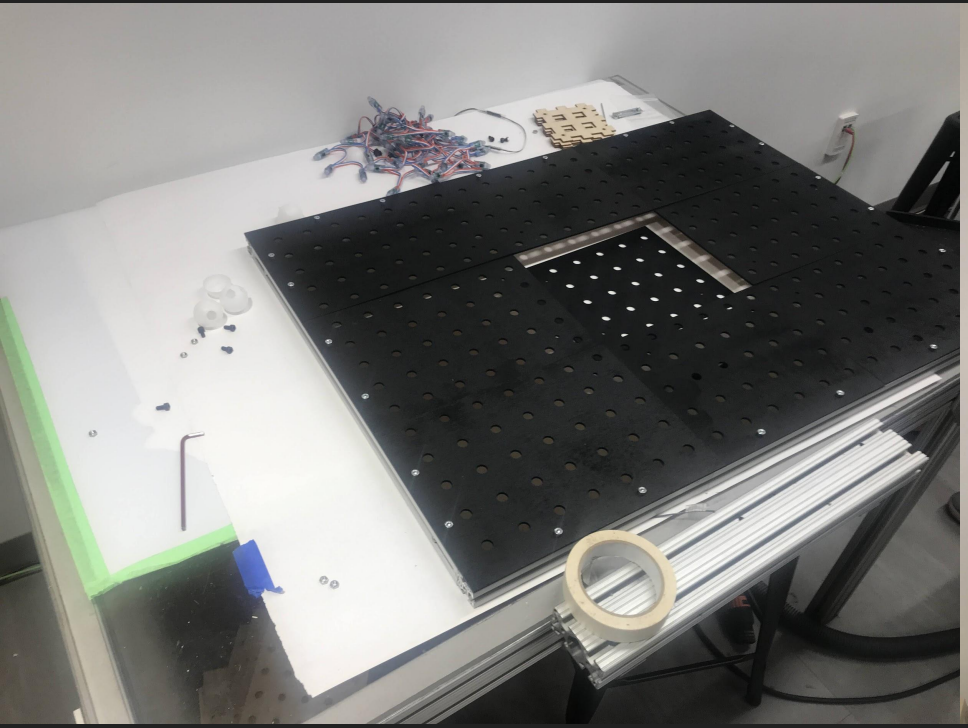
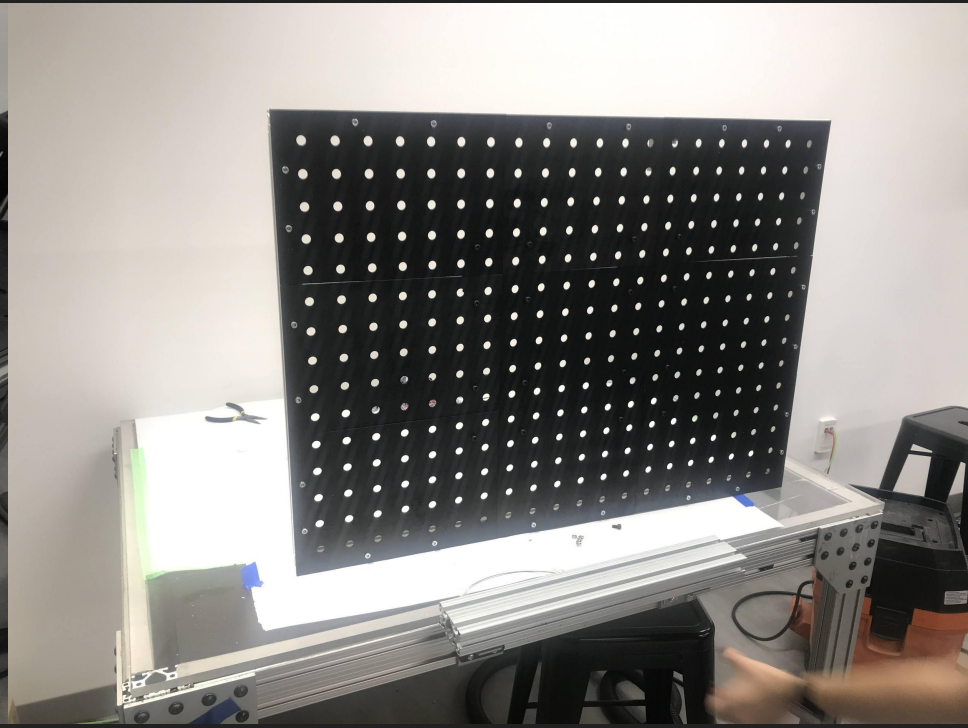
Beep Boop Boop Bop

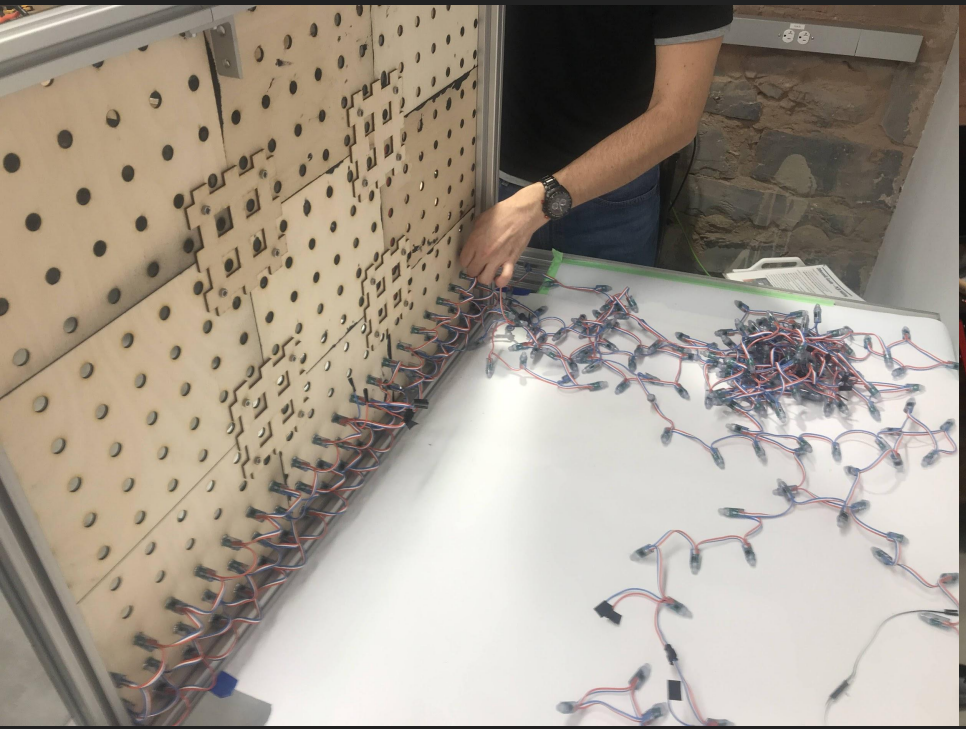
Jared Jaramillo & Jeremy Kanovsky

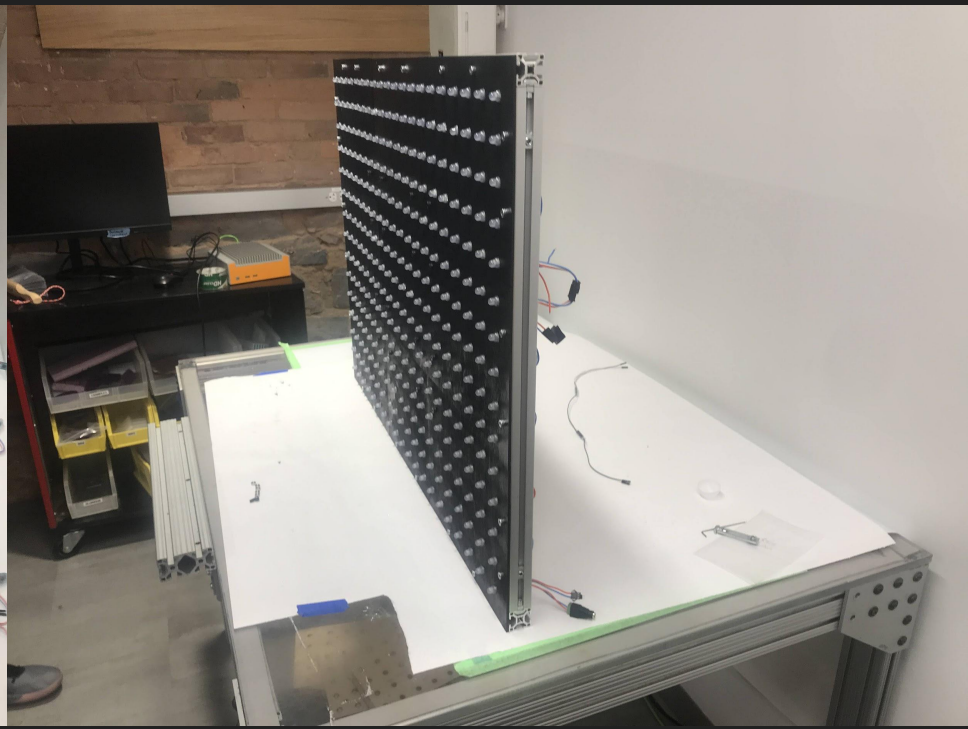


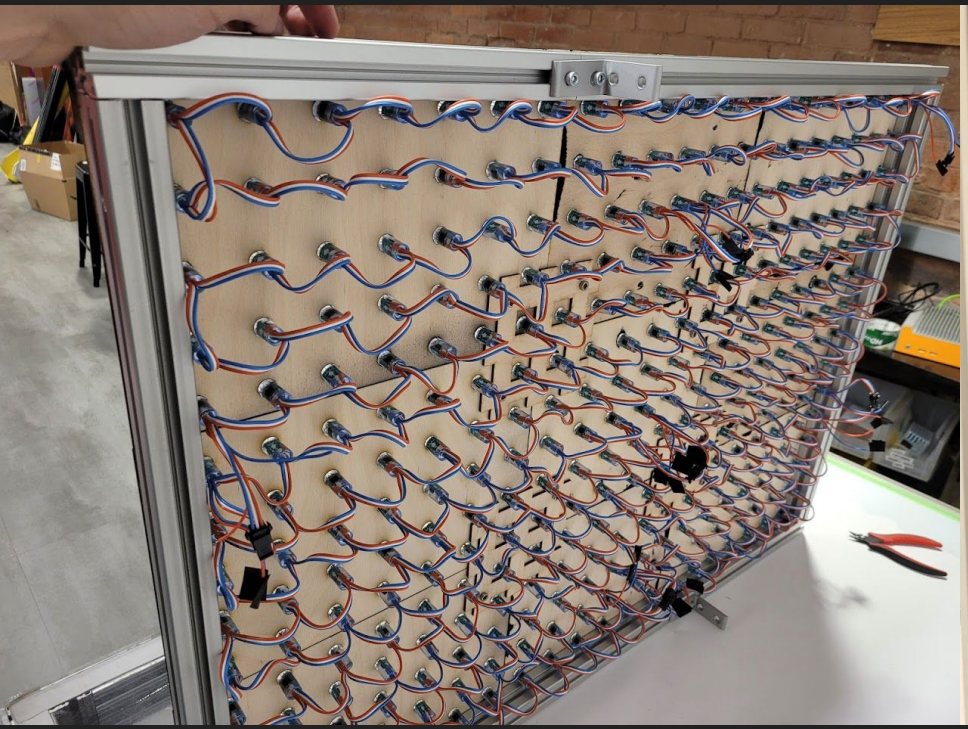


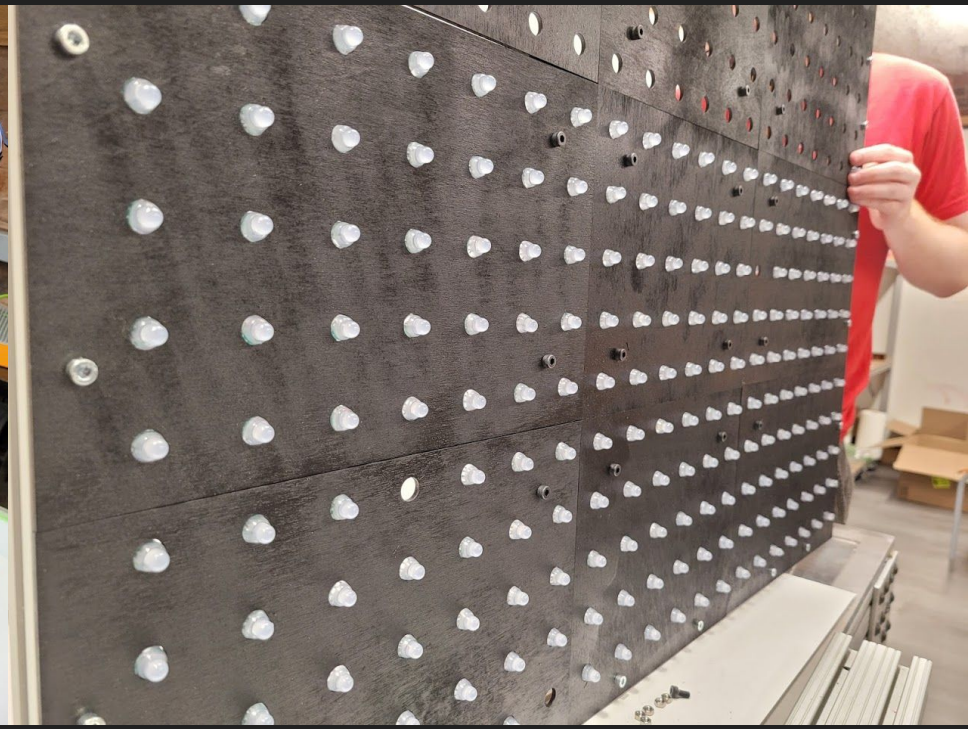












...but what does it do?

Game	Modality	Cue
Pong	Hand Detection	Two hands (each up / down)
Pong	Face Detection	Two faces (each up / down)
Pong	Eye Detection	Two sets of eyes (each up / down)
Snake	Hand Detection	One hand (nine quadrants)
Snake	Face Detection	One face (nine quadrants)
Snake	Eye Detection	One set of eyes (nine quadrants)

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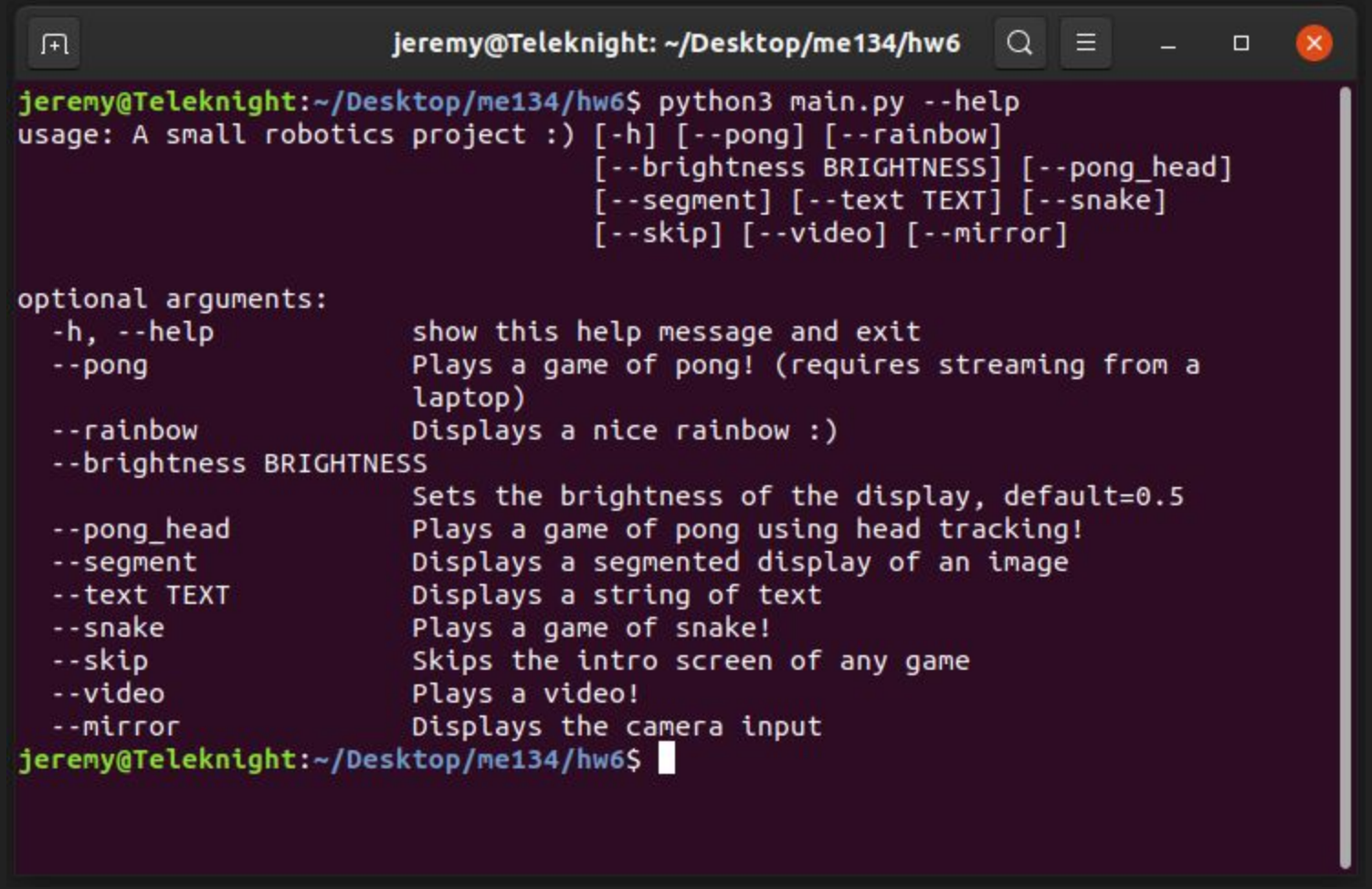
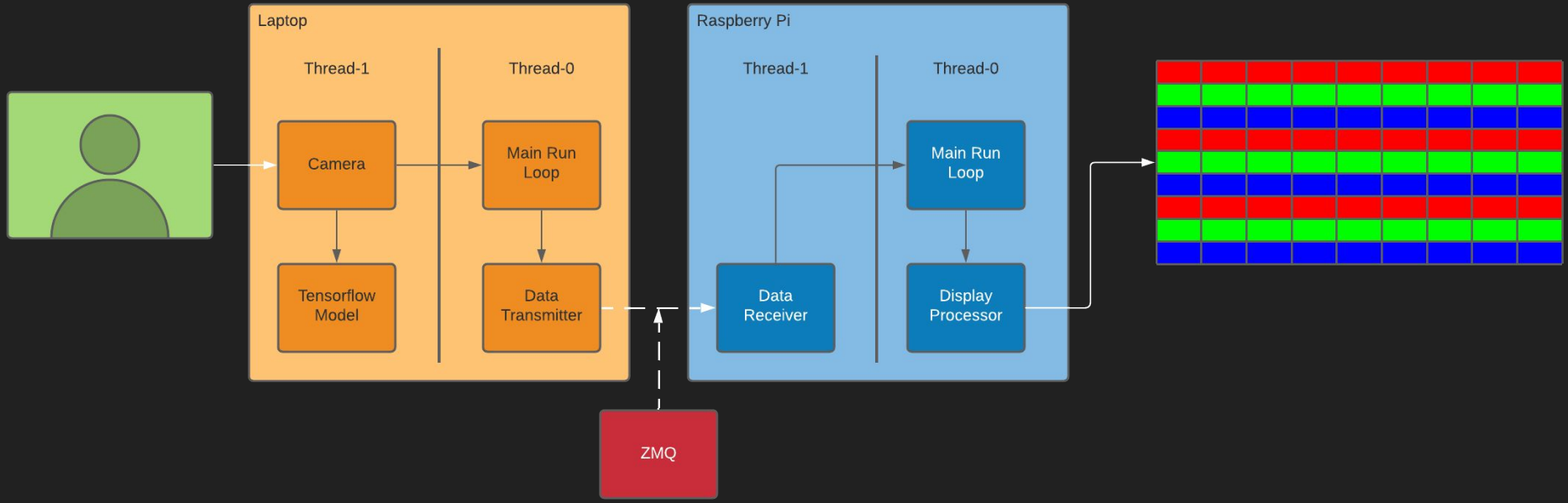
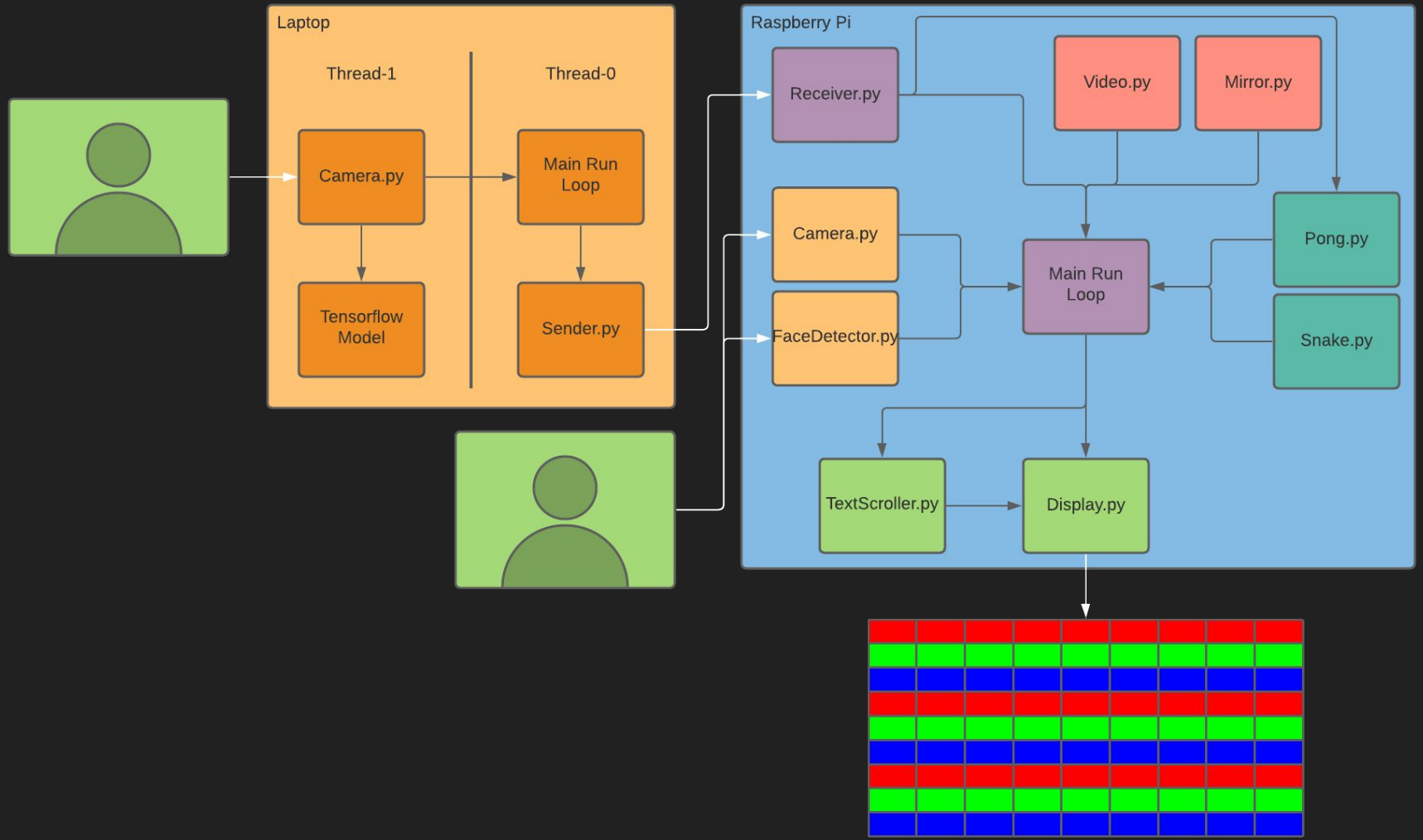
~Quirky~ Extra Features

Feature	Description
Image Segmentation	Loads a semantic image segmentation Tensorflow model and runs inferences from the camera input, down-samples segmented output to 20x15
Camera Playback	Displays the camera view down-sampled to 20x15
Video Playback	Loads and plays an .mp4 (or .mov) from the filesystem and down-samples to 20x15 and displays it.
Text Display	Displays scrolling text (in rainbow colors!)
Rainbow	Displays a shifting rainbow :)


jeremy@Teleknight: ~/Desktop/me134/hw6
jeremy@Teleknight:~/Desktop/me134/hw6$ python3 main.py --help
usage: A small robotics project :) [-h] [--pong] [--rainbow]
[--brightness BRIGHTNESS] [--pong_head]
[--segment] [--text TEXT] [--snake]
[--skip] [--video] [--mirror]
optional arguments:
-h, --help show this help message and exit
--pong Plays a game of pong! (requires streaming from a
laptop)
--rainbow Displays a nice rainbow :)
--brightness BRIGHTNESS
Sets the brightness of the display, default=0.5
--pong_head Plays a game of pong using head tracking!
--segment Displays a segmented display of an image
--text TEXT Displays a string of text
--snake Plays a game of snake!
--skip Skips the intro screen of any game
--video Plays a video!
--mirror Displays the camera input
jeremy@Teleknight:~/Desktop/me134/hw6$


Laptop
Thread-1
Thread-0
Camera
Main Run Loop
Tensorflow Model
Data Transmitter
Raspberry Pi
Thread-1
Thread-0
Main Run Loop
Data Receiver
Display Processor
ZMQ


Laptop
Thread-1
Thread-0
Camera.py
Main Run Loop
Tensorflow Model
Sender.py
Raspberry Pi
Receiver.py
Video.py
Mirror.py
Camera.py
Pong.py
Main Run Loop
FaceDetector.py
Snake.py
TextScroller.py
Display.py

end slide