



Motion Activated Security Stream

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Problem to be Solved

- Home Security
 - Live detection
 - Live visuals



Proposed Solution

- Personal Security Camera
 - Small
 - Mobile
 - Discrete

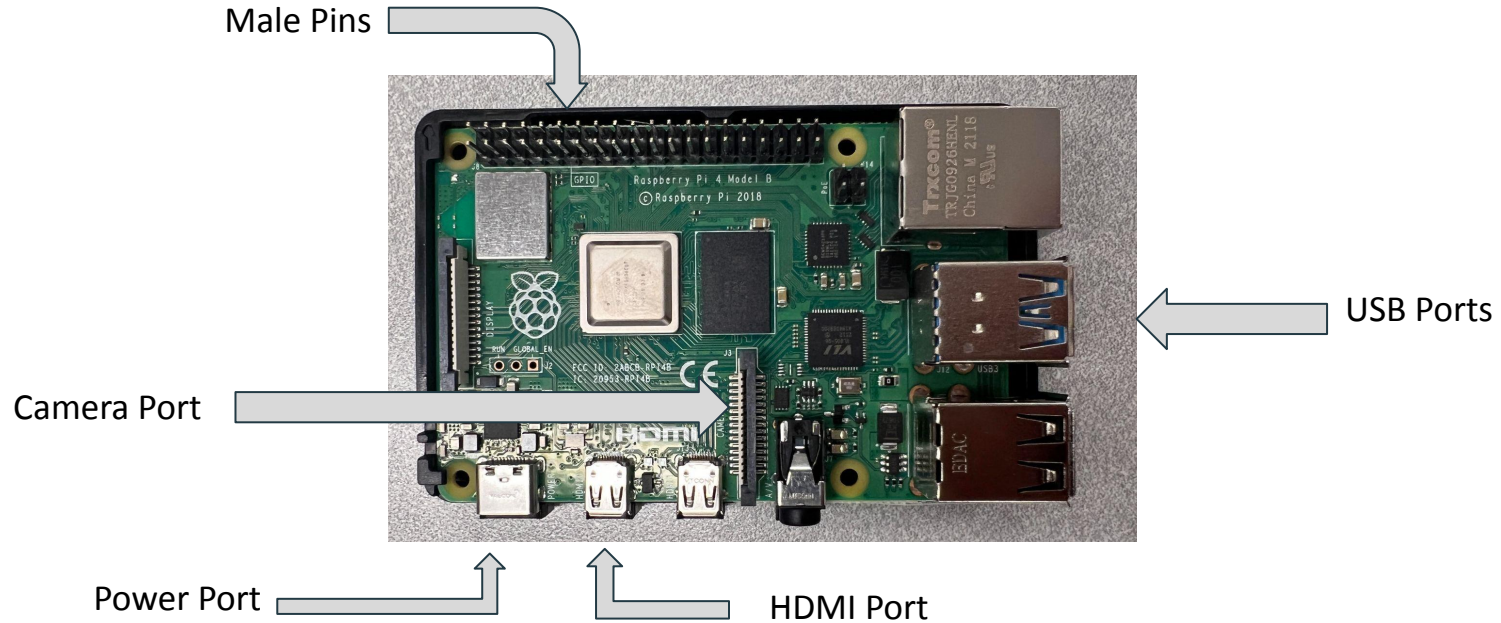


Components

- Raspberry Pi 4B
- Pi Camera v2
- PIR Sensor
- Circular Frame Buffer
- Website Server



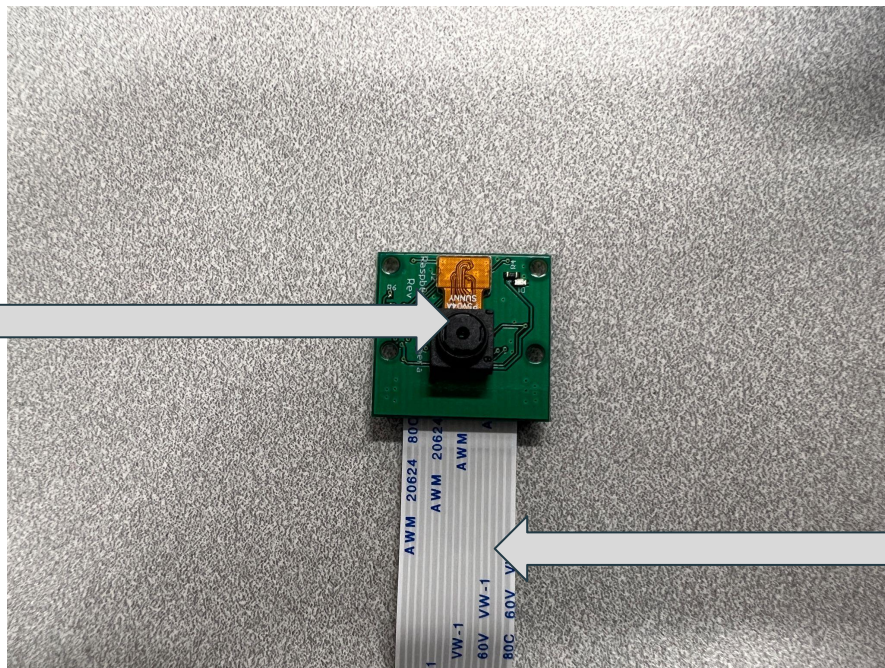
Raspberry Pi 4B





Pi Camera v2

Lens

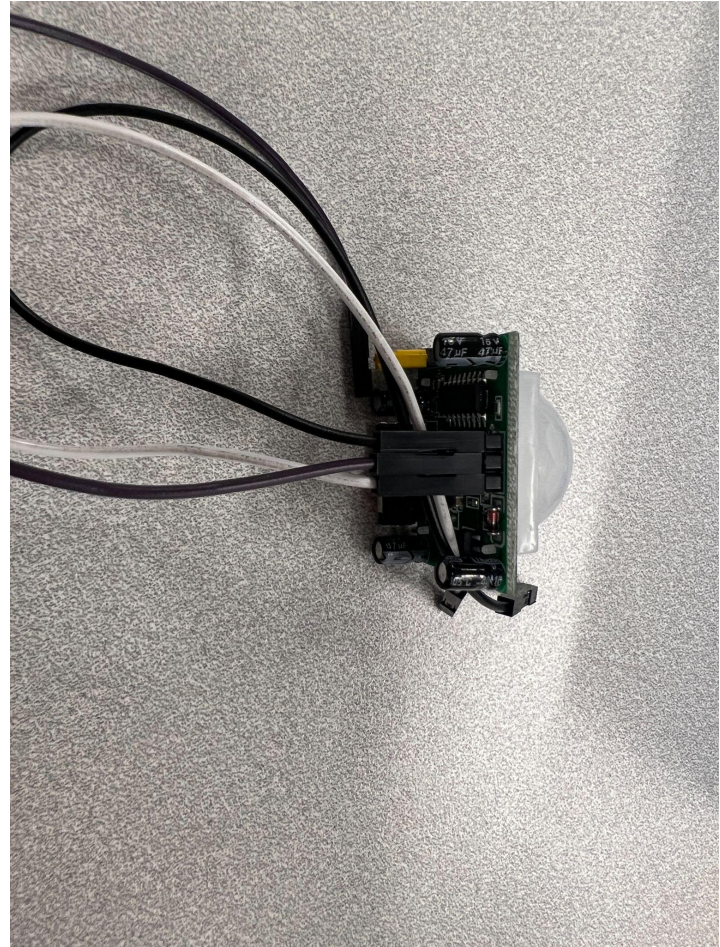


Translation
Bus



PIR Sensor

- White wire connects to 5v
- Black wire connects to ground
- Purple wire connects to Input/Output on Pi

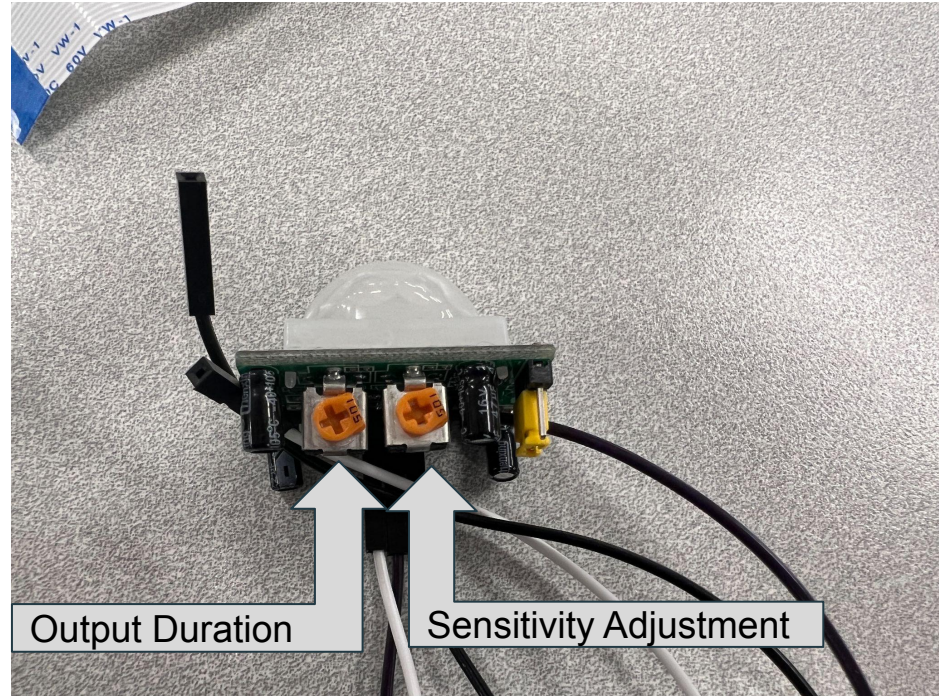




PIR Sensor

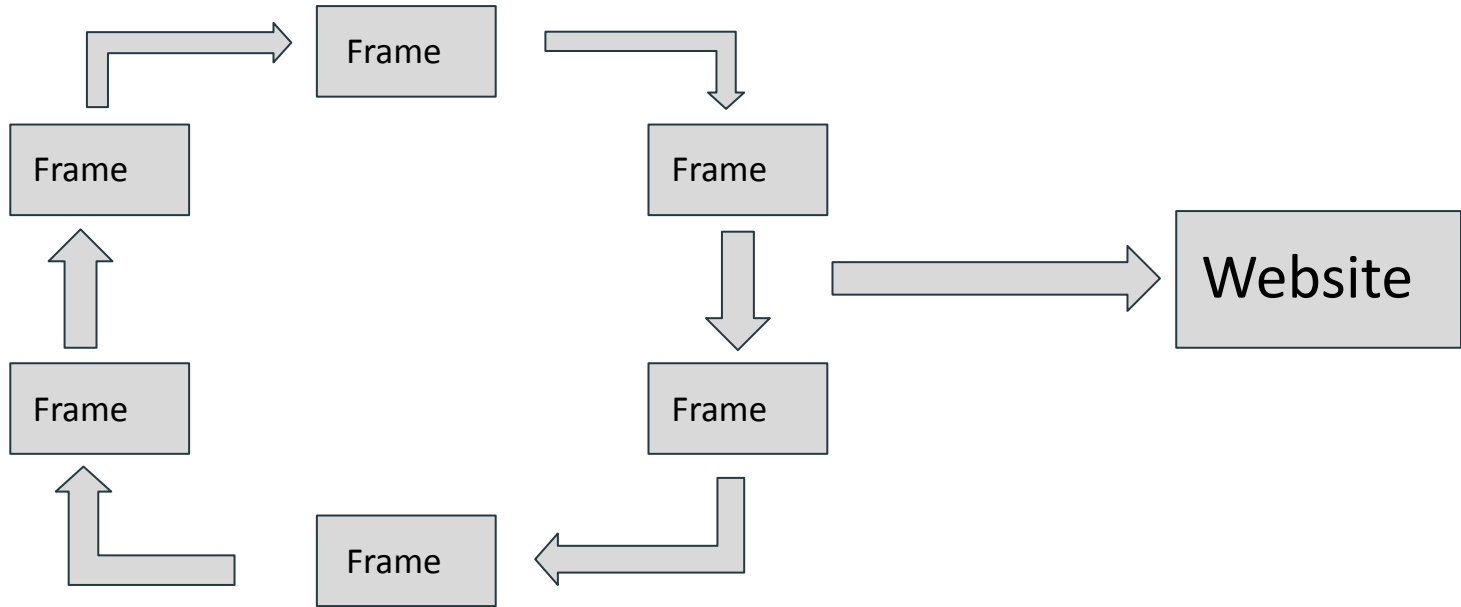
Output Duration: When motion is detected a high signal is sent rotating clockwise increases signal duration

Sensitivity Adjustment: How much motion is required for the PIR to output a signal. Rotating clockwise decreases the sensitivity of the sensor.





Circular Frame Buffer





Limitations

- Frame rate
- Video Delay
- Speakers
- Code limitations
- Future productions



Marketability

- The total cost of our components is \$144.08 while the cost of a similar product, the Ring Video Doorbell, sits at 99.99 +tax.
- When we look at the capabilities of two products we see that the both products can stream videos as well as record videos for future viewing
- The Ring Doorbell also has an app to interact with the device, as well as voice capabilities.
- For the current cost of our components we see that for the price we provide less services as well as lower quality streams unfortunately.
- Taking into account economies of scale, reducing the price of components if we assume a 30% reduction we still fail to provide a product at a lower price point
- For this product to be competitive either Economies of scale must drive price down or, more functionalities must be implemented to properly compete in the market

DEMO/QUESTIONS