Progress Report 2

Motion Detection Camera

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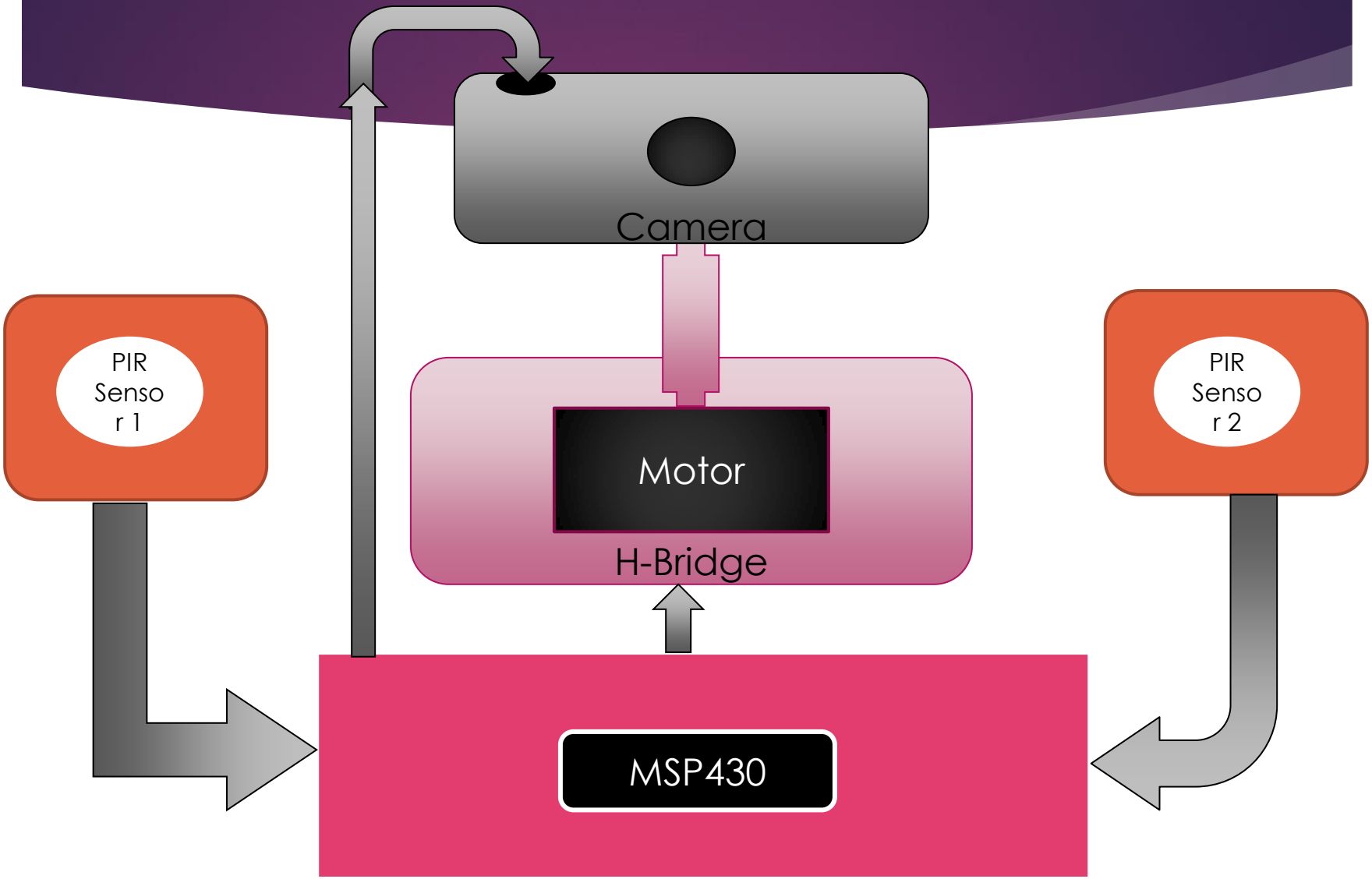
Overview

- We are going to build a camera that senses and captures an image of an object or an animal that is in motion.

Block Diagram



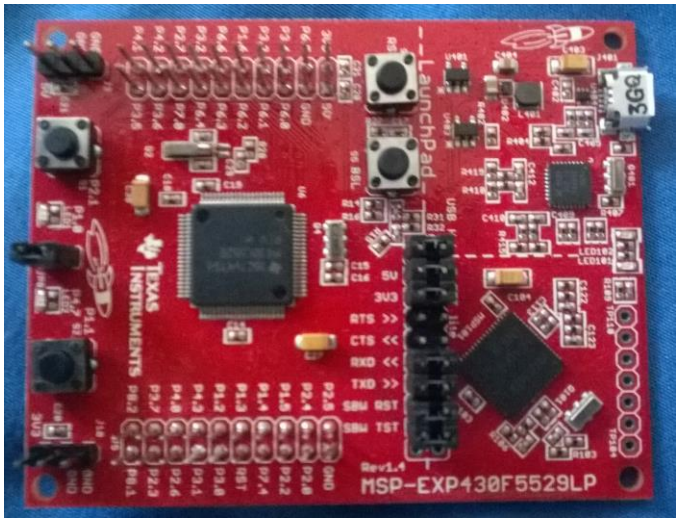
List of Components

- MSP 430
- PIR sensor
- Stepper Motor
- H-Bridge
- Camera

MSP430

Component Type: MSP430 Microcontroller (MSP430F5529LP)

- Two PIR sensors are connected to one pin each.
- One pin is connected to camera.
- Four pins are connected to IC of H-bridge.



We dump a C code using a USB cable to process the input and output signals.

Progress: Acquired and tested

Camera

Component type: Mini digital camera
Interfacing:

- The trigger is controlled by the microcontroller.
- It takes a picture when it receives a signal from the microcontroller.
- We will use a transistor(2n2222) to connect camera with msp430.

Progress: Acquired and testing in progress

Passive Infrared Sensor

- Component Type: Sensor
- A passive infrared sensor (PIR sensor) is an electronic sensor that measures infrared (IR) light radiating from objects in its field of view.
- It has 3 pins, left most pin is GND, middle pin is Vdd and the right most pin is connected to the port of the processor(acts as input to the processor).
- The output pin goes high when any object is detected.

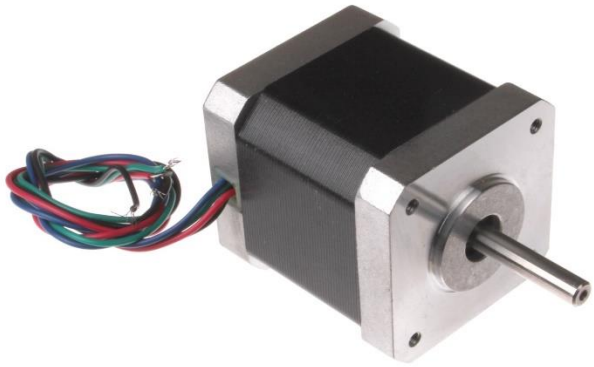
Progress: Acquired and tested.

Stepper Motor

Component Type: Motor

- Bipolar Stepper Motor. It has four connections.
- No. of pulses give the angle of rotation.
- We use H- bridge that acts as a motor driver circuitry for stepper motor.
- The motor rotates by taking pulses.
- The angle by which it rotates depends on the number of pulses.
- It is connected to H- bridge.

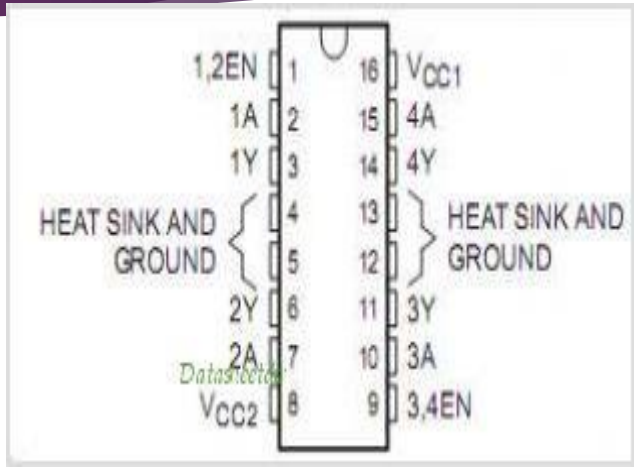
Status: Acquired and tested.



H-Bridge

- L293NE IC is used as H-bridge.
- It is connected to msp430 and the stepper motor.
- We use one IC.
- IC is connected to msp430 via 4 pins and to the stepper motor via 4 pins.

Progress: Acquired and tested.



Sequence of steps

Step	wire 1	wire 2	wire 3	wire 4
1	High	low	high	low
2	low	high	high	low
3	low	high	low	high
4	high	low	low	high

Challenges

- Replacing the trigger of the camera with a transistor. We are yet to test the trigger mechanism using a transistor to capture an image.

Task Division

- Arun → Interfacing Motor using H Bridge
- Harshad → Interfacing PIR sensor and Camera
- Sanjay → System Integration
- Saranya → Coding and Debugging

Overall status of the project

Component	Status
PIR sensor	Acquired, Tested and Interfaced
H- bridge	Acquired, Tested and Interfaced
Stepper Motor	Acquired, Tested and Interfaced
Camera	Acquired and testing in progress

Thank you