

Progress Report 1

Motion Detection Camera

Arun Bhargav

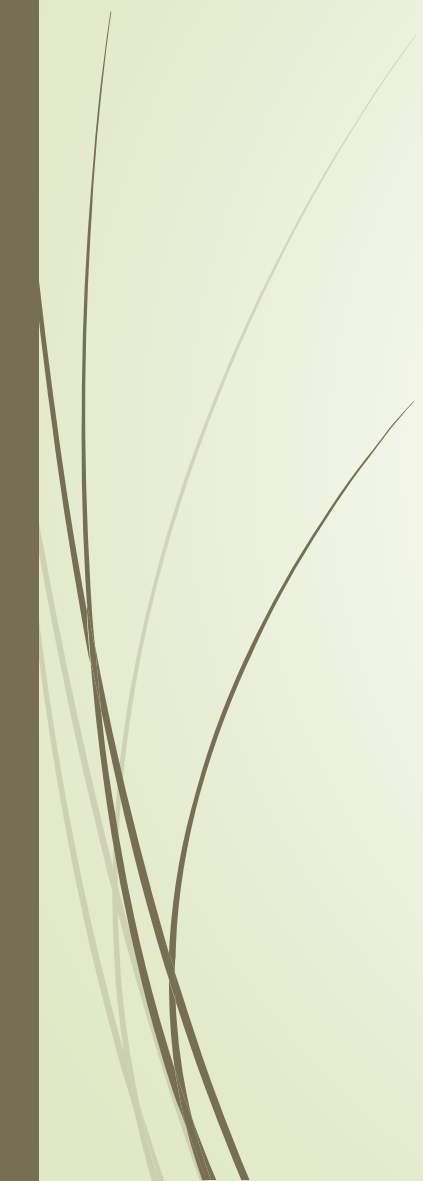
Harshad Patil

Sanjay Deshpande

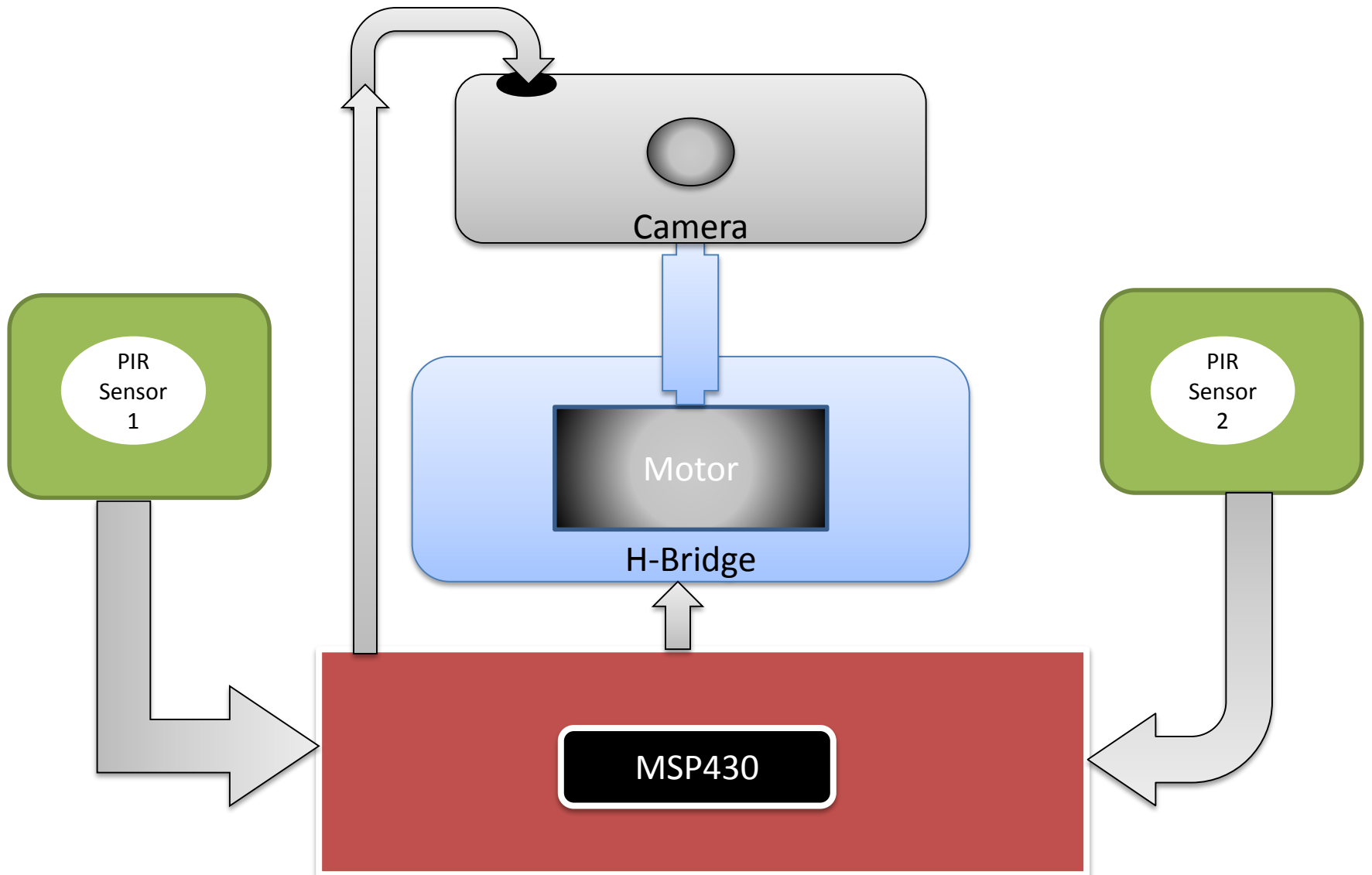
Saranya Mathialagan



Overview

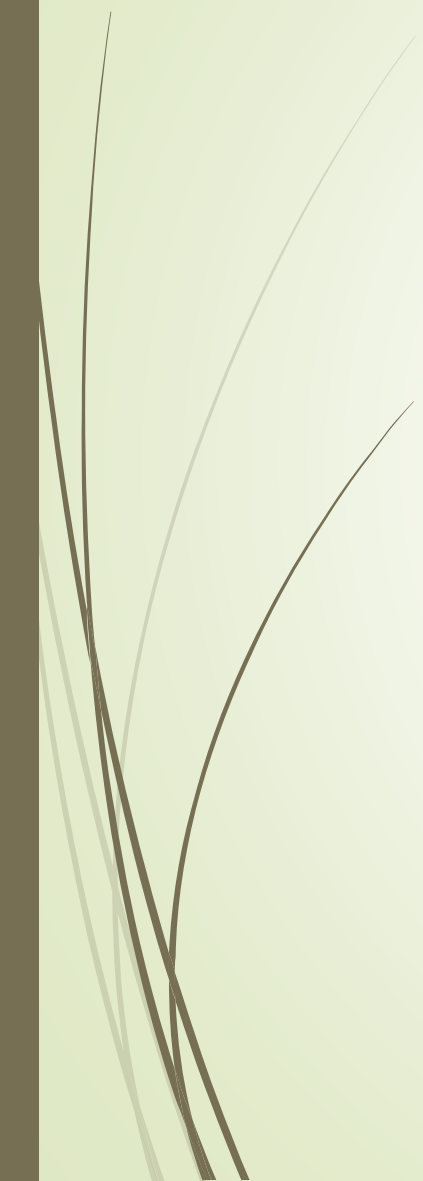
- ▶ We are going to build a camera that senses and captures an image of an object or animal that is in motion.
- 

Block Diagram





List of Components

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

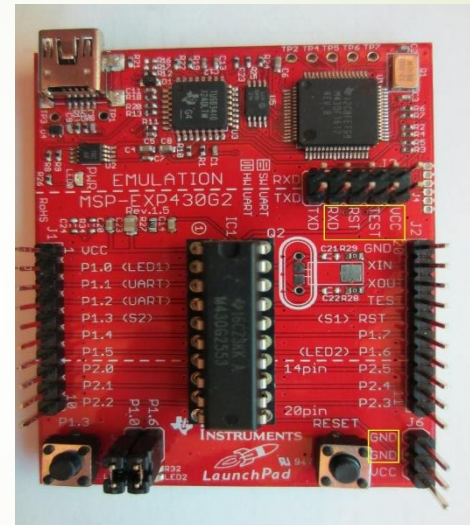
MSP430

Component Type: MSP430
Microcontroller (MSP-EXP430G2)

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

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

Progress: Acquired



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 to connect camera with msp430.

Progress: Ordered



PIR 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.
- PIR produces an analog signal which is converted to digital.

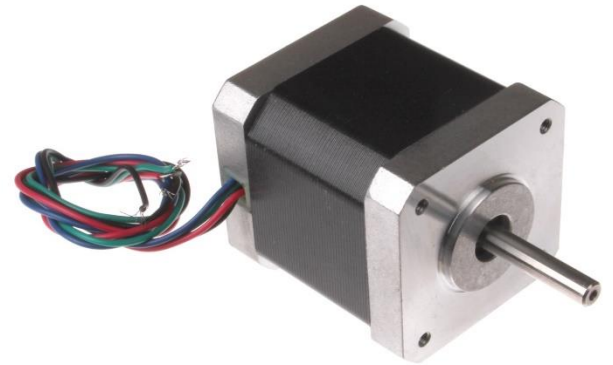
Progress: Ordered



Stepper Motor

Component Type: Motor

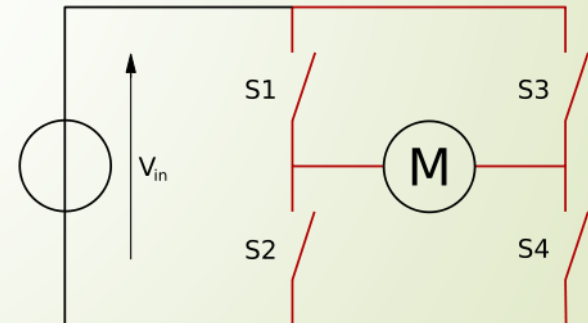
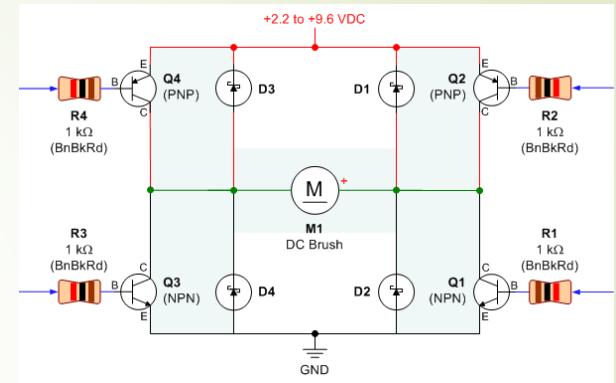
- Bipolar Stepper Motor. It has four connections.
- No. of pulses give the angle of rotation.
- We use H- bridge that acts as a motor driver circuitry for stepper motor.
- The motor rotates by taking pulses.
- The angle by which it rotates depends on the number of pulses.
- It is connected to H- bridge.



H-Bridge

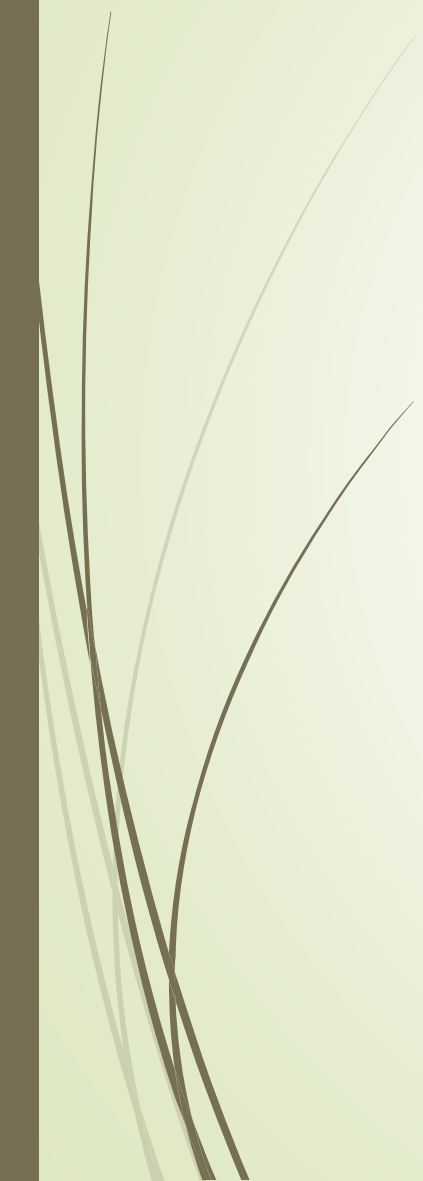
- L293NE IC is used as H-bridge.
- It is connected to msp430 and the stepper motor.
- We use one IC.
- IC is connected to msp430 via 3 pins and to the stepper motor via 2 pins.
- $S1=S4=1$ -> Motor turns right
- $S2=S3=1$ -> Motor turns left

Progress: Ordered



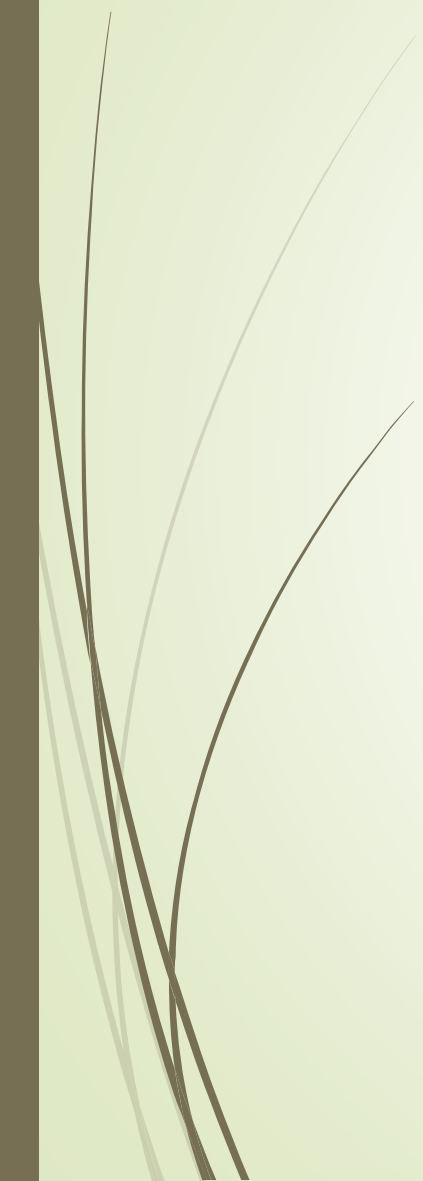


Challenges

- Interfacing the stepper motor with MSP430
 - Replacing the trigger of the camera with a transistor.
- 

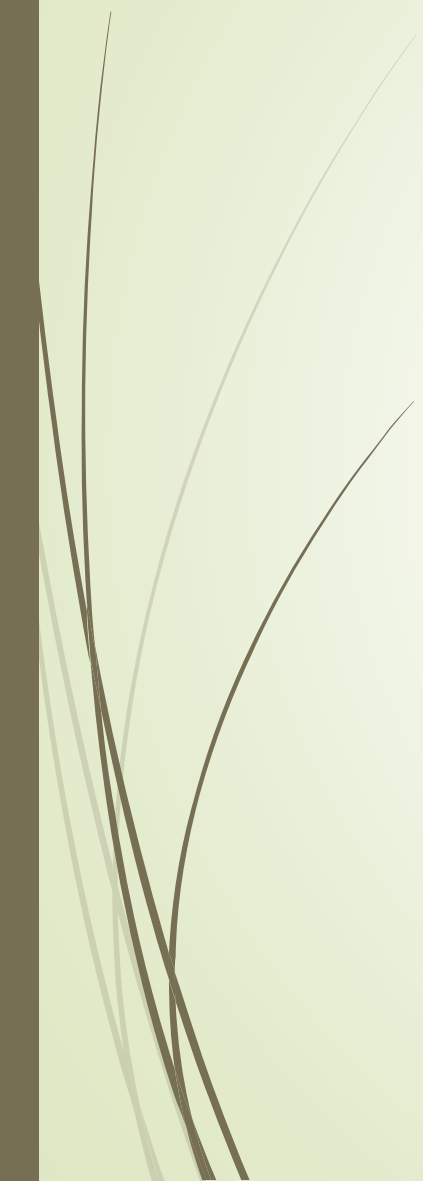


Task Division

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



PLAN B

- If we find any difficulty with interfacing stepper motor, we will use servo motor.
- 



Thank you