

HANDY CAR

Group 8

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Overview

What are we building ?

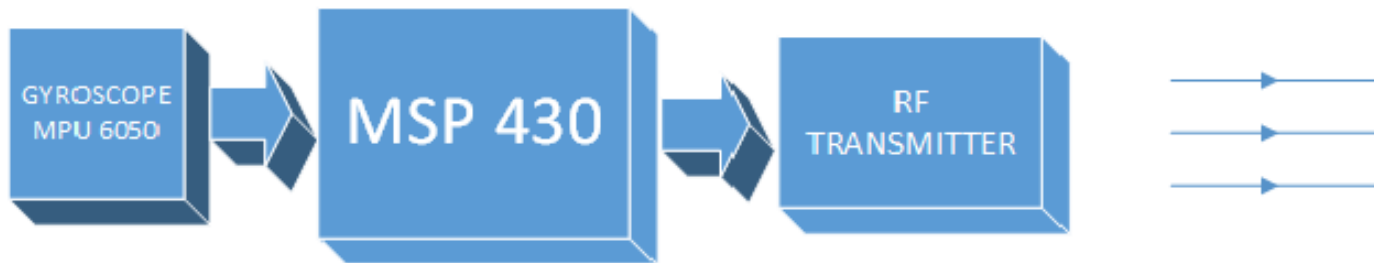
- A toy car that can be controlled by hand gestures.

Why are we building?

- Its FUN!
- Demonstrates the use of gyroscope and other complex components.

BLOCK DIAGRAM

Transmitter



Receiver



GYROSCOPE

The Gyroscope is used for motion sensing.
The gyroscope is attached to a glove.
We can control the toy car using the hand gestures.
The Gyro used here is MPU6050.

INTERFACE :

I2C protocol is used.

Ports P1.6 and P1.7 are used for I2C communication.

PROGRESS :

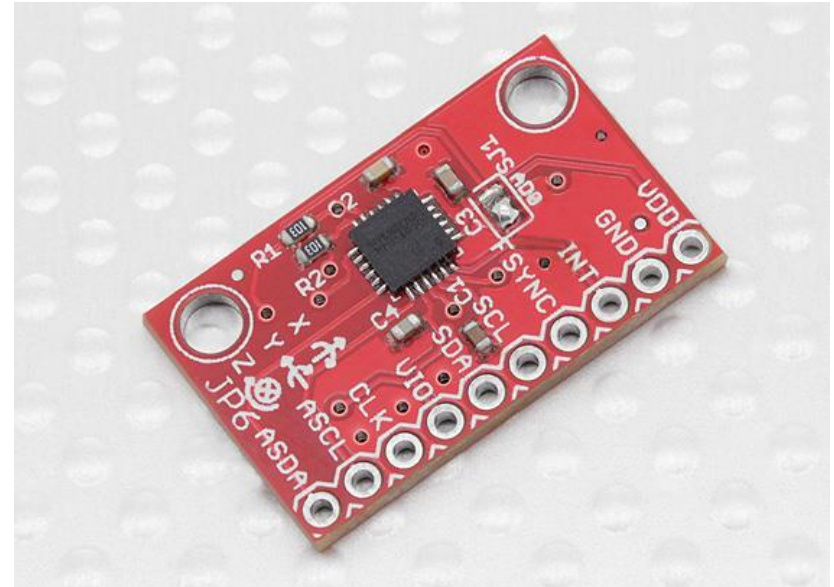
Standalone testing is in progress.

CHALLENGES :

Interfacing Gyro with MSP430 .

Calibrating the sensor.

System Integration of all parts with Gyro.



MOTOR & MOTOR DRIVER

Motor driver IC is SN754410

Spec

- 200rpm @ no load

Interface:

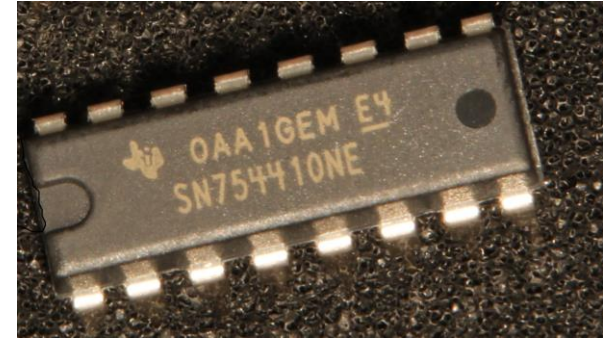
- PWM output via P1.2

Progress:

- H-bridge has been purchased.
- Motors have been ordered.

Challenges

- Controlling motor using PWM.



WIRELESS TRANSRECEIVER

SPEC

- RF transmitter and receiver pair.
- Operating frequency - 434MHz.
- 500 Feet range



OVERALL PROGRESS

- Initial research on the project is done
- Required components have been ordered.
- Standalone testing is in progress.

TASK DIVISION

- Arvin Asokan – Gyroscope Interfacing and Calibration
- Urvi Tank – Motor Interfacing
- Sai Kasyap – Wireless Transceiver Interfacing
- Nikhil – System Integration

Target for the next report

- Hardware interfacing of components will be completed
- Testing and initial debugging

Thank you