Hardware Specification

This is not my leg

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Introduction

This document will cover all the hardware specifications from all of the iterations of my thesis project. The three sections below are:

1. Terminology
2. Hardware Components:
3. Diagrams:

Terminology

I2C interface

I2C Master Slave

Serial Interface

UART Interface

Software Serial

Application Specific Sensor Nodes (ASSN)

System in Package (SiP)

MEMS

Accelerometer

Magnetometer

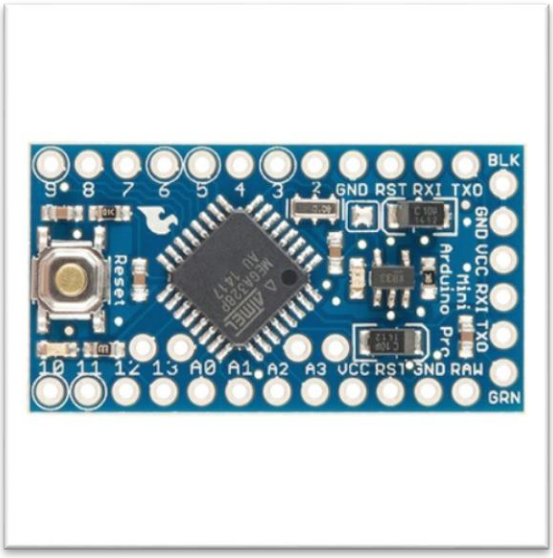
Gyroscope

Hardware Component

Arduino Pro Mini (3.3V 8MHz)

Small Arduino microcontroller, with ATmega328 chip. Has got one I2C interface, one SPI interface and one Serial interface (more serial interfaces with Software Serial using other digital pins).

website: https://www.arduino.cc/en/Main/ArduinoBoardProMini



Sparkfun Bluetooth Mate Gold

Bluetooth modem breakout with single FTDI breakout interface. Easy to hook up with Arduinos.In basic terms, it is a wireless serial emulator, in other words, having two of these connected to two separate microcontrollers can function as if the microcontrollers are wired up via their serial ports.

website: https://www.sparkfun.com/products/12580

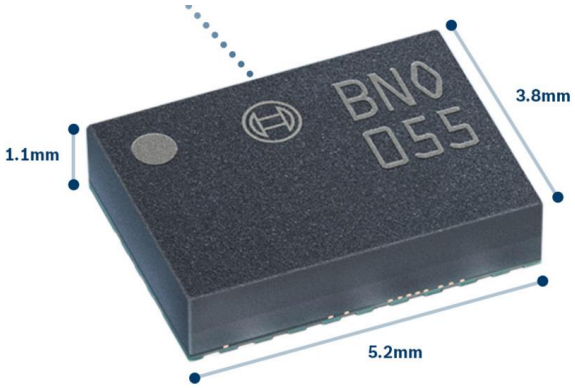
Sparkfun FTDI Basic Breakout (3.3V)

A basic easy to use FTDI breakout. Quite useful when interfacing a computer with microcontrollers or device which do not have internal FTDI convertors.

BOSCH BNO055

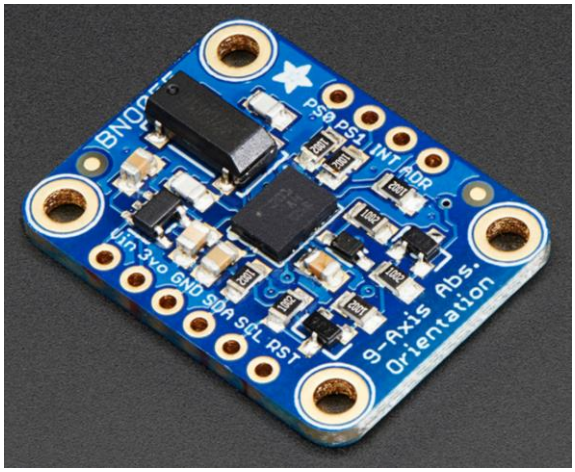
The BNO055 is a System in Package (SiP), integrating a tri-axial 14-bit accelerometer, a tri-axial 16-bit gyroscope with a range of ±2000 degrees per second, a tri-axial geomagnetic sensor and a 32-bit microcontroller running the company's BSX3.0 FusionLib software. At just 5.2 x 3.8 x 1.1 mm³, it is significantly smaller than comparable discrete or system-on-board solutions.

website: http://www.bosch-sensortec.com/en/bst/products/all_products/bno055



Adafruit BNO055 Breakout

website: https://www.adafruit.com/products/2472



Diagrams