Part List

Bluetooth or Wifi Connectivity

- **SparkFun Bluetooth Mate Gold** ***$34.95***
(https://www.sparkfun.com/products/10736)
    - Designed to work directly with Arduino Pro's and LilyPad main boards
    - FCC Approved Class 1 Bluetooth® Radio Modem
    - Very robust link both in integrity and transmission distance (100m) - no more buffer overruns!
    - Low power consumption: 25mA avg
    - Hardy frequency hopping scheme - operates in harsh RF environments like WiFi, 802.11g, and Zigbee
    - Encrypted connection
    - Frequency: 2.402~2.480 GHz
    - Operating Voltage: 3.3V-6V
    - Serial communications: 2400-115200 bps
    - Operating Temperature: -40 ~ +70C
    - Built-in antenna
    - Board: 1.75x0.65z
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- XBee Explorer Regulated **$9.95**
(http://www.robotshop.com/en/sfe-xbee-explorer-regulated.html)

- we getting this in order to connect the XBee module to the razor IMU

- **XBee Module 2mW PCB Antenna - Series 2 (ZigBee Mesh)** **$25.95**
(http://www.robotshop.com/en/xbee-2mw-pcb-antenna-series-2-zigbee-mesh.html)

-this is the actual XBee module used to connect to wifi

IMU (inertial measurement unit)

- An electronic device that measures and reports a body's specific force, angular rate, and sometimes the magnetic field surrounding the body
- Combination of accelerometers and gyroscopes, sometimes also magnetometers.

- 9 Degrees of Freedom - Razor IMU ***$74.95***
(https://www.sparkfun.com/products/10736)

- Dimensions: 1.1" x 1.6" (28 x 41mm)
- 9 Degrees of Freedom on a single, flat board:

    - ITG-3200 - triple-axis digital-output gyroscope
    - ADXL345 - 13-bit resolution, ±16g, triple-axis accelerometer
    - HMC5883L - triple-axis, digital magnetometer
- Outputs of all sensors processed by on-board ATmega328 and sent out via a serial stream

- Autorun feature and help menu integrated into the example firmware

- Output pins match up with FTDI Basic Breakout, Bluetooth Mate, XBee - Explorer

- 3.5-16VDC input

- ON-OFF control switch and reset switch