Sensors

Waspmote

<http://www.libelium.com/products/waspmote/overview/>

Advantages:

Off the shelf solution, supports encryption, ope source sdk, big sensor stack, supports multiple communication premitives XBee 802.15.4 • XBee 868MHz • XBee 900MHz • XBee Digimesh • XBee ZigBee • LoRa. 1 year claimed bettery timing without recharging

Disadvnatges

Only supports certain encryption libraries, not sure if allows to program custom encryption solutions, safe recommended operating temperature of -10 to 50c

Rasberry Pi

<https://tutorials-raspberrypi.com/raspberry-pi-sensors-overview-50-important-components/#wireless>

Advantaged: very modular, open source, good community support, can build almost anything

Disadvantage: lots of manual work in programming and assembling components , may detract from the main project of focusing on blockchain.

Open source Iot projects

<https://www.linux.com/news/21-open-source-projects-IoT>

Telos B sensrs

<https://www.advanticsys.com/shop/mtmcm5000msp-p-14.html>

<https://telosbsensors.wordpress.com/>

# Todo list

SearchTelos b and its uses

Search for Telos b like devices or waspmote like devices

Look deeper into filament to decide and finalize requirements also look for which sensor node best matches these requirements.

# Rough Requirement thoughts

**Sensors themselves need to have security**

**Sensors job is just to report data to smart contracts on the block chain either continuously or at fixed intervals i.e. weather when shipping change hands etc. if case 1 contract will decide as soon as a violation has occurred that the violation has taken place. If case 2 sensors need to log data and securely communicate the data to the smart contract before changing hands at which point smart contract goes through entire logged data to determine if a violation has been made. Another alternative to this could be that before each hand off the data logged is cryptographically locked with each shippers key to determine who is responsible for any violation and data is communicated to the blockchain or smart contract only at the end of its journey.**

**Devise payment method for putting IoT data on the blockchain. When should the payments be made how oftern they should be made , how should disputes be resolved etc.**

**Devise Requirements weather intermediary nodes can keep information before or after putting them in the blockchain**

* **Method for modifying Ethereum or raiden network so that it supports post quantum crypto**