**Icarus ONE**

“While not always true, in this case, it’s way easier to analyze additional data than it is to collect it.”

Background

Rationale (“Go big or go home.”)

Overview

Hardware:

* Payload box
* Raspberry Pi
* Arduino Mega
* Arduino Uno
* Arduino Nano
* Cameras
* Tracking
* Communication
* Environmental Data
* Payload data
* Data storage
* Accessory functions
  + Selfie servo
  + Buzzer
* Custom Boards
  + Power regulation
  + Power distribution
  + User input/control

Software:

* Raspberry Pi
  + Python
  + Shell scripts
  + Crontab
  + AdHoc Wifi Network
* Arduino Mega
  + Sensors
  + Communication
  + Data storage
* Arduino Uno
  + Watchdog (Heartbeat monitor)
  + Watchdog (Internal)
* Arduino Nano
  + Servo control

Device to Device Communication:

* Raspberry Pi to Arduino Mega (Bidirectional)
  + Serial
* Arduino Mega to Arduino Nano (Unidirectional)
  + Digital
* Arduino Uno to Arduino Mega (Unidirectional)
  + Digital/Reset