Cansat 2019

AUTSAT

Ground Control System (GCS)

According to the PDR template:

Ground station can operate on laptop battery for minimum of two hours (when fully charged)

A cool pad is used for keeping the laptop from overheating and also a portable shelter (like an umbrella) to protect it from sun heat.

For auto update mitigation, OS will be updated to its last version, and auto update will be disabled, also OS will be disconnected from the internet.

Python 3.7 is used to receive data from USB serial, and then converted to CSV file via python CSV library.

The .csv file is created right after python script execution with the specified headers, then received data will be appended during the flight.

For CTOS:

QT is used for GUI design, implemented with its python binding. It’s also used for plotting processed data in real time.

Reasons for choosing python:

- Fast to develop, requiring less time.
- Available libraries for receiving, processing and monitoring data and also for CSV file creation and editing.

Reasons for choosing QT:

- Decent widgets both for monitoring and plotting
- Integration with python
- Comprehensive documentation

TODO list:

Deciding about bonus point; how to show received video from camera

Whether to show a simulation of probe's current state, according to current pitch and roll. And if yes, how and with which library

Using google map API to show probe's position in google map

Collecting some pictures of designed application and exporting some example plots with random data