NASA SPACE APPS CHALLENGE 2017

TEAM NAME: falcon_ix

PROJECT NAME: Physical safety of GEO Satellite

Project Plan: There is many threads in the space. For that reason our satellite is unsecured. If we alarm about the space attack before it occurred at least 30+ second then we can take steps to protect from that. In this case motion, sound and smoke can be effective area. There is too many presence of that three but our track will tracking only the selected item then it send message in the earth station of hotline. The operator check the status and define it into green or red signal. If it is red it will be transferred in the system unit. Then the system unit analyze the total data and take control over the satellite by changing the orbital direction.

Motivation: Space disaster is the burning issue for satellite. Lake of utilize satellite is one of the reason not establish the satellite for development country.

Obstacles: Space thread or disaster has containing at least motion, sound or smoke and these are our main problem to protecting satellite.

Working Function: The total system is software based. Suppose a comet with detected motion/smoke/sound enter into the satellite sensor area then-

1. Firstly the sensors which is setup in the satellite control unit it is matched with the database and send a request in the server.

2. When the sensor based device fix it then it will try to communicate with the hotline which is set up in the earth station.

3. When the sensor send message in the system it will also send a confirmation message in the operation then the sensors is out of total system

4. After that changing of orbital command will be control from operation unit of earth station and directly connected between satellite and earth station.

Data Analysis: 1. Motion data, 2. Sound data and 3. Smoke data

Hardware: Satellite, Sensor device (IoT), Earth station device, Alarm device

Software: Total system will be control from a single software

Computer Language: Java or Python, it might be various type of language for various device

Future expectation: Using this process we can get more information from space using satellite or it can be implemented for planet info.

Pros and cons: Remote access