

# Camera Acquisitor System

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# Camera acquisition System



Goal:

Provide a full example experiment including user-interface, ground application and space application.

The application demonstrates:

- Communication between ground and space
- Interfacing with camera
- Controlling of spacecraft attitude
- Prediction of orbital position



# Camera acquisition System



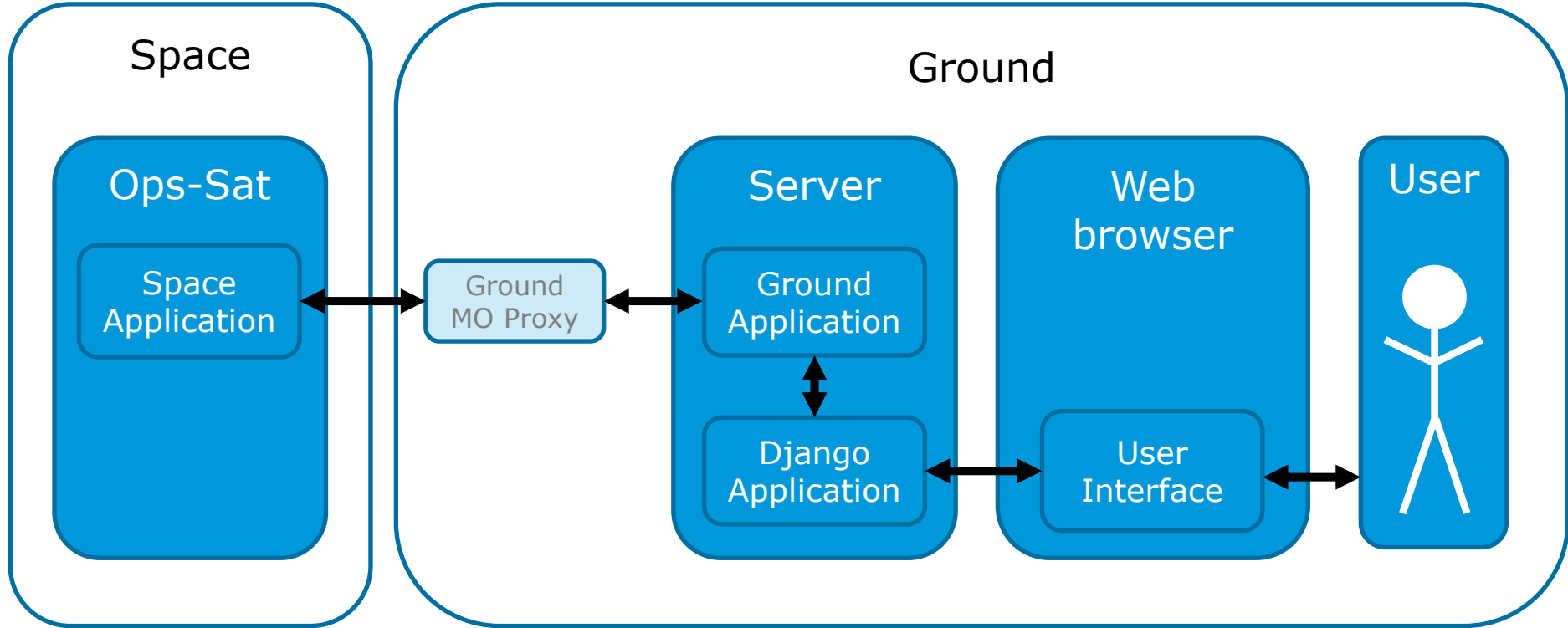
## Tasks of the Application

- Application for Planning and scheduling of satellite Photographs
- Minimal user intervention
- High level of automation
- Easy to use



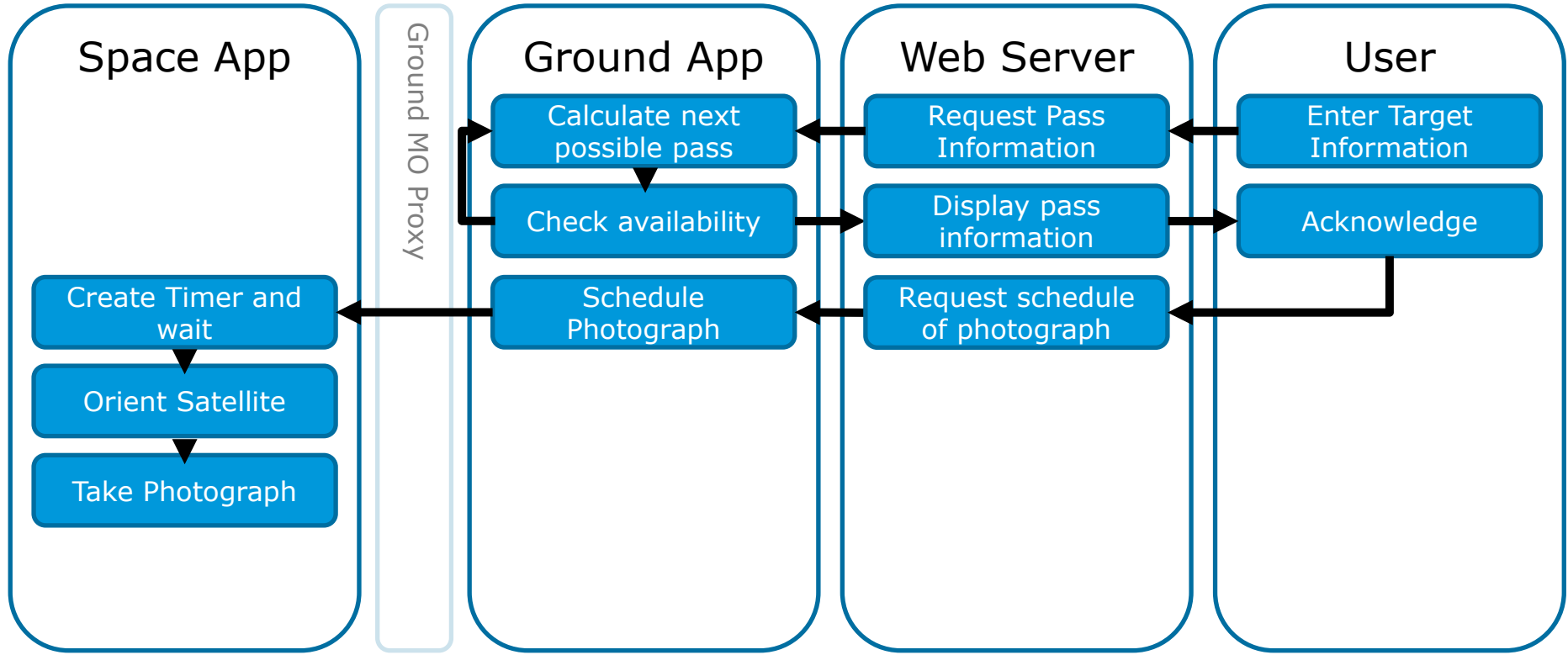
# Camera acquisition System

## Software architecture



# Camera acquisition System

## Operation procedure



# User Interface

Camera Acquisition System

[Track Action](#)

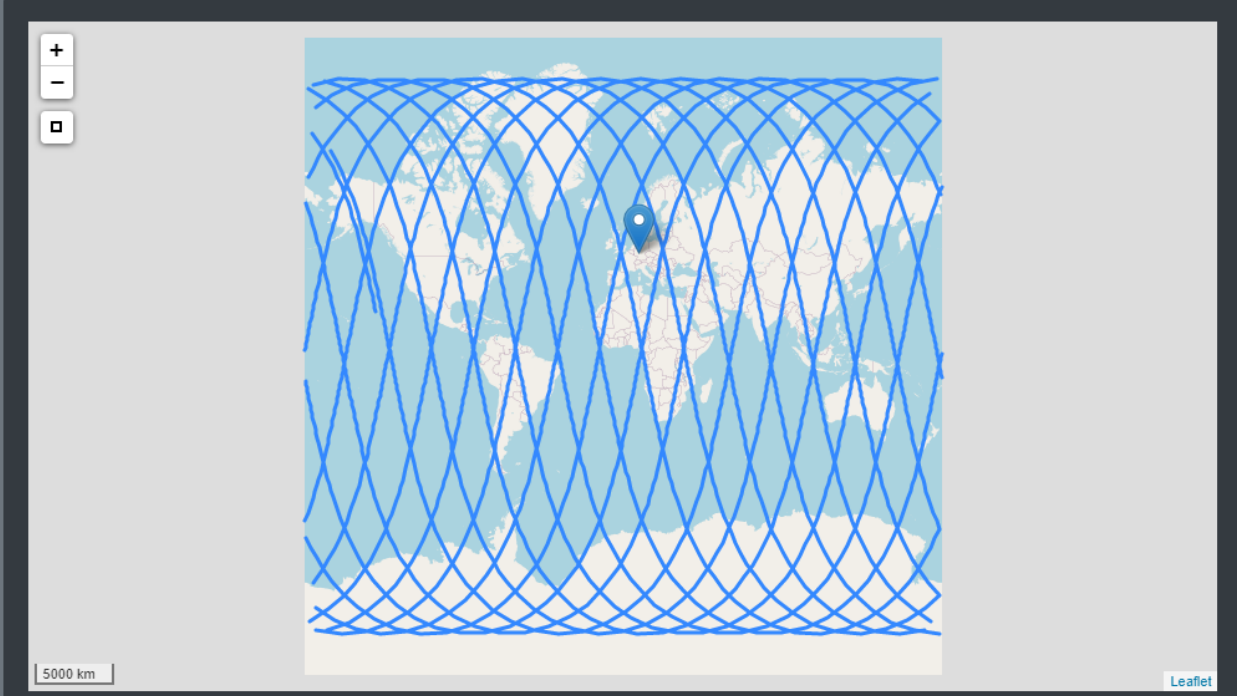
**Latitude:**

**Longitude:**

**Maximum Angle:**

**Time Mode:**

[Schedule Photograph](#)



5000 km

Leaflet

Camera Acquisition System Track Action

Please confirm Photograph target location and Time:

Latitude 49.878708  
Longitude 8.646927

2020-12-13T20:58:28.516 ▾  
2020-12-13T20:58:28.516  
2021-01-12T08:28:51.724  
2021-02-04T20:59:08.861  
2021-07-16T20:49:17.674  
2021-08-29T20:49:29.522  
2022-05-13T08:29:43.385

Confirm Abort

Camera Acquisition System

Track Action

The Action was submitted to the ground station and is being forwarded to the satellite as soon as possible.  
You can check the status of your Action by using the following **Action ID: 14**



Camera Acquisition System  [Track Action](#)

[Wait for Uplink](#) [Wait for begin of pass](#) [Point Satellite](#) [Wait for optimal moment](#) [Take photograph](#) [Wait for Image Transmission](#)

Progress bar

Last Status:  
The Request is awaiting uplink to the Satellite

```
Run (ESA NMF SDK Ground Example - Camera Acquisitor System) x Run (ESA NMF SDK App Example - Camera acquisitor system) x
dic 13, 2020 3:45:18 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler$SchedulerArchiveAdapter sendResponse
INFORMAZIONI: recovered action: 2021-01-05T08:33:50.439 longitude:49.878708 latitude:2021-01-05T08:33:50.439
dic 13, 2020 3:45:18 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler photographLocation
INFORMAZIONI: Starting Timer for Photograph, Number of Seconds: 114.428,934
dic 13, 2020 3:45:18 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler$SchedulerArchiveAdapter sendResponse
INFORMAZIONI: recovered action: 2020-12-14T22:32:26.934 longitude:75.878708 latitude:2020-12-14T22:32:26.934
dic 13, 2020 3:45:18 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler photographLocation
INFORMAZIONI: Starting Timer for Photograph, Number of Seconds: 2.354.846,308
dic 13, 2020 3:45:18 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler$SchedulerArchiveAdapter sendResponse
INFORMAZIONI: recovered action: 2021-01-09T20:52:44.308 longitude:49.878708 latitude:2021-01-09T20:52:44.308
dic 13, 2020 3:45:48 PM esa.mo.mal.transport.tcpip.TCPIPServerConnectionListener run
INFORMAZIONI: Socket accepted at port 42.596
dic 13, 2020 3:49:44 PM esa.mo.mal.transport.tcpip.TCPIPServerConnectionListener run
INFORMAZIONI: Socket accepted at port 38.622
dic 13, 2020 3:55:33 PM esa.mo.nmf.apps.CameraAcquisitorSystemMCAdapter photographLocation
GRAVE: 49.878708 8.646927 2020-12-13T20:58:28.516
dic 13, 2020 3:55:33 PM esa.mo.nmf.apps.CameraAcquisitorSystemCameraTargetHandler photographLocation
INFORMAZIONI: Starting Timer for Photograph, Number of Seconds: 21.775,516
```

# THANK YOU FOR YOUR ATTENTION

