OMApp – Cloud Application for Automatic Image Mosaicking and Georeferencing

FAIR implementation for NI4OS-Europe service providers

29 April 2022

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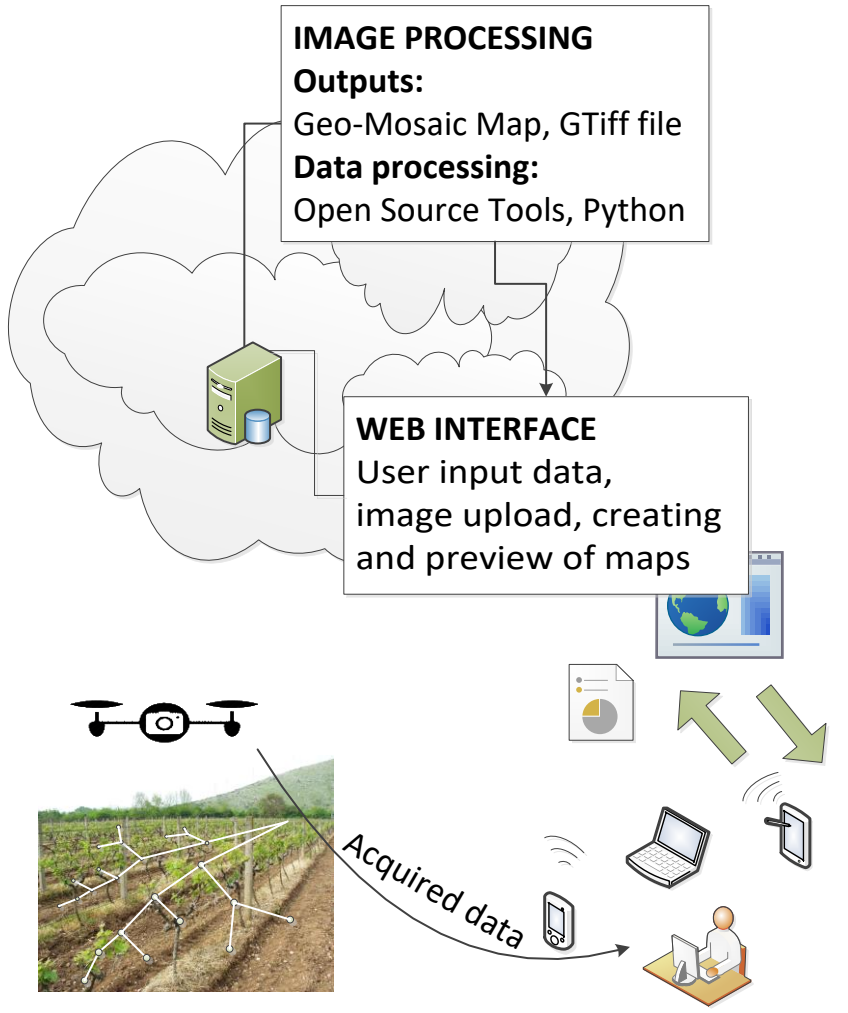
OMApp – Open Mapping Application

- Desinged for precison agriculture applications
- Cloud application for automatic mosaicking and georeferencing in aerial mapping applications

  http://www.omapp.ucg.ac.me/
- Application support several users, upload a set of captured images via a web interface, begin processing and preview already created maps.
- After processing, users receive an e-mail notification.
- Combines many opensource libraries :
  - server side : OpenDroneMap, gdal libraries, python

OMApp – Open Mapping Application

- Node configuration:
  - 20MB RAM
  - 12 cores x 2.9 GHz
  - 500 GB storage
- Currently the user interface and image processing are hosted on the same machine
- Image processing projects are sent to queue
- The most demanding processing tools use multiple cores to accelerate computations



OMApp – Outputs

```
<iframe src="www.omapp.ucg.ac.me/GetPMap/e7a4d300d2362b33df658d5dd06ff5e5" height="495" width="1140" frameborder="0" style="margin-top:5px;"> </iframe>
```

Imagery:

- GeoTIFF High quality image
- Georeferenced Digital Elevation (DEM)

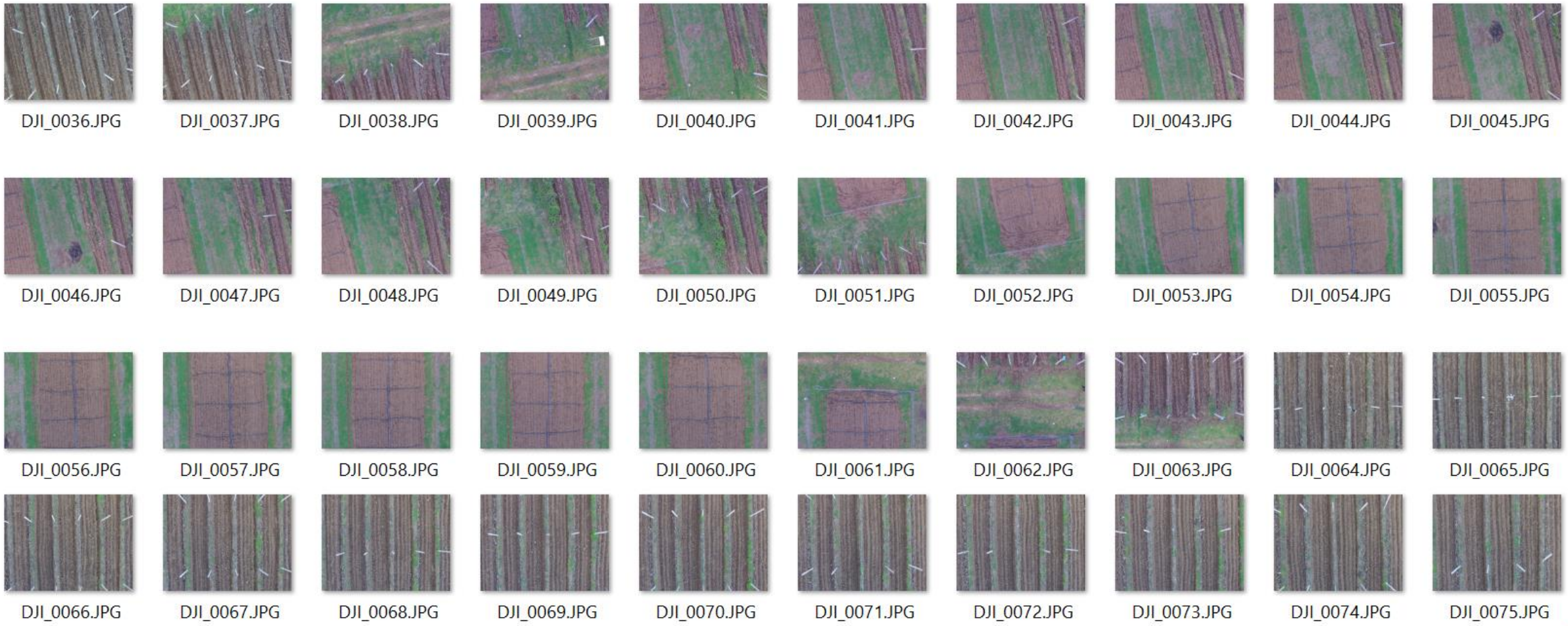
3D Outputs

- Textured 3D Model (OBJ, MTL)
- Point Cloud and LAS outputs for compatiblity with CAD and GIS software

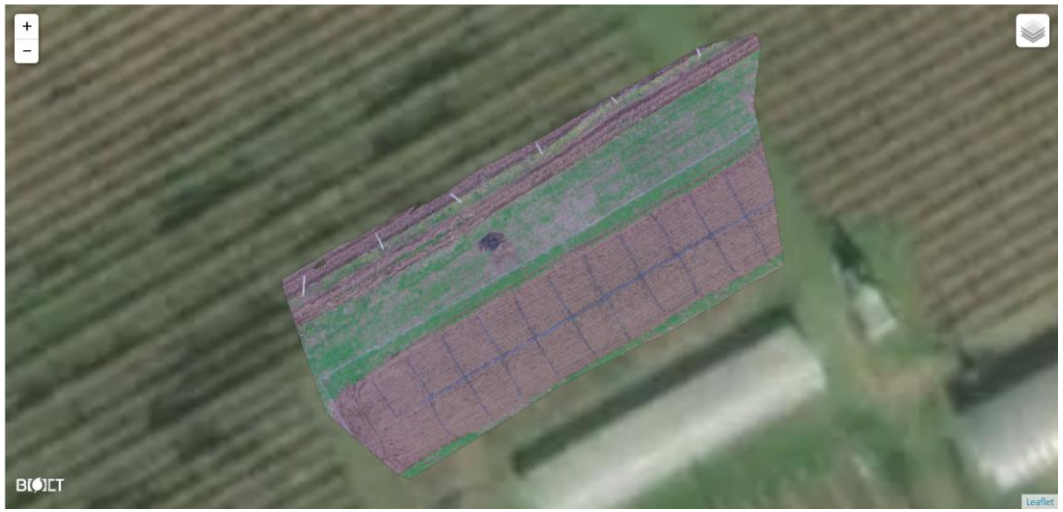
Compatible with open source software:

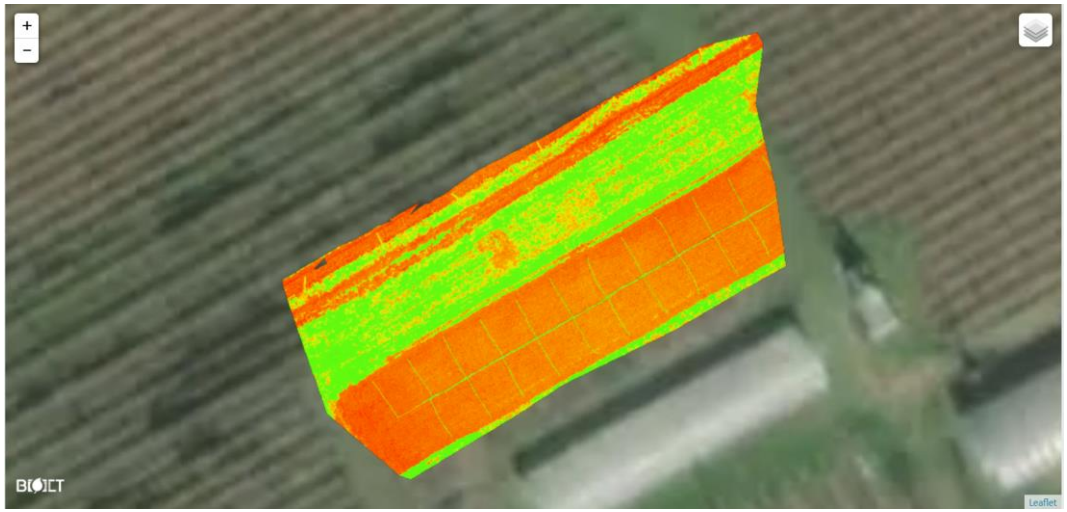
- QGIS (.GeoTIFF), CloudCompare (.las), MeshLab (.obj, .ply)

OMApp - example

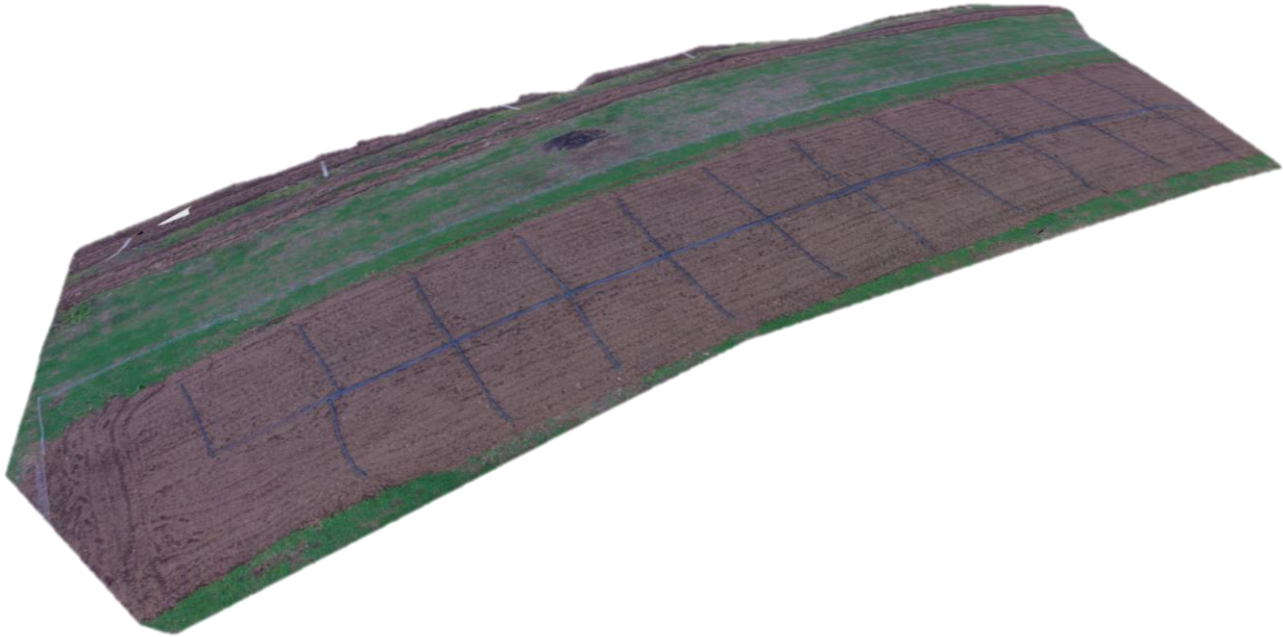


OMApp - example





Podgorica, Montenegro
70 images
DJI Phantom 4, 12.6Mpx camera,
Altitude 50m



Thanks for your attention!