



Affordable photogrammetry — stereo measurement with smartphone

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PHOTOMOD Cloud



Hundreds of CPU
Cores
SSD RAID of CEPH
Storage



PHOTOMOD Cloud



PHOTOMOD Cloud – cloud version of PHOTOMOD

PHOTOMOD Cloud includes four components:

PHOTOMOD HPC – PHOTOMOD version for high performance computers.

REST-API – api to build web interface for automatic processing chains.

PostgreSQL server – used in distributed processing for task synchronization.

StereoClient – stereoprocessing of the images from cloud storages.



Thin Stereo Client

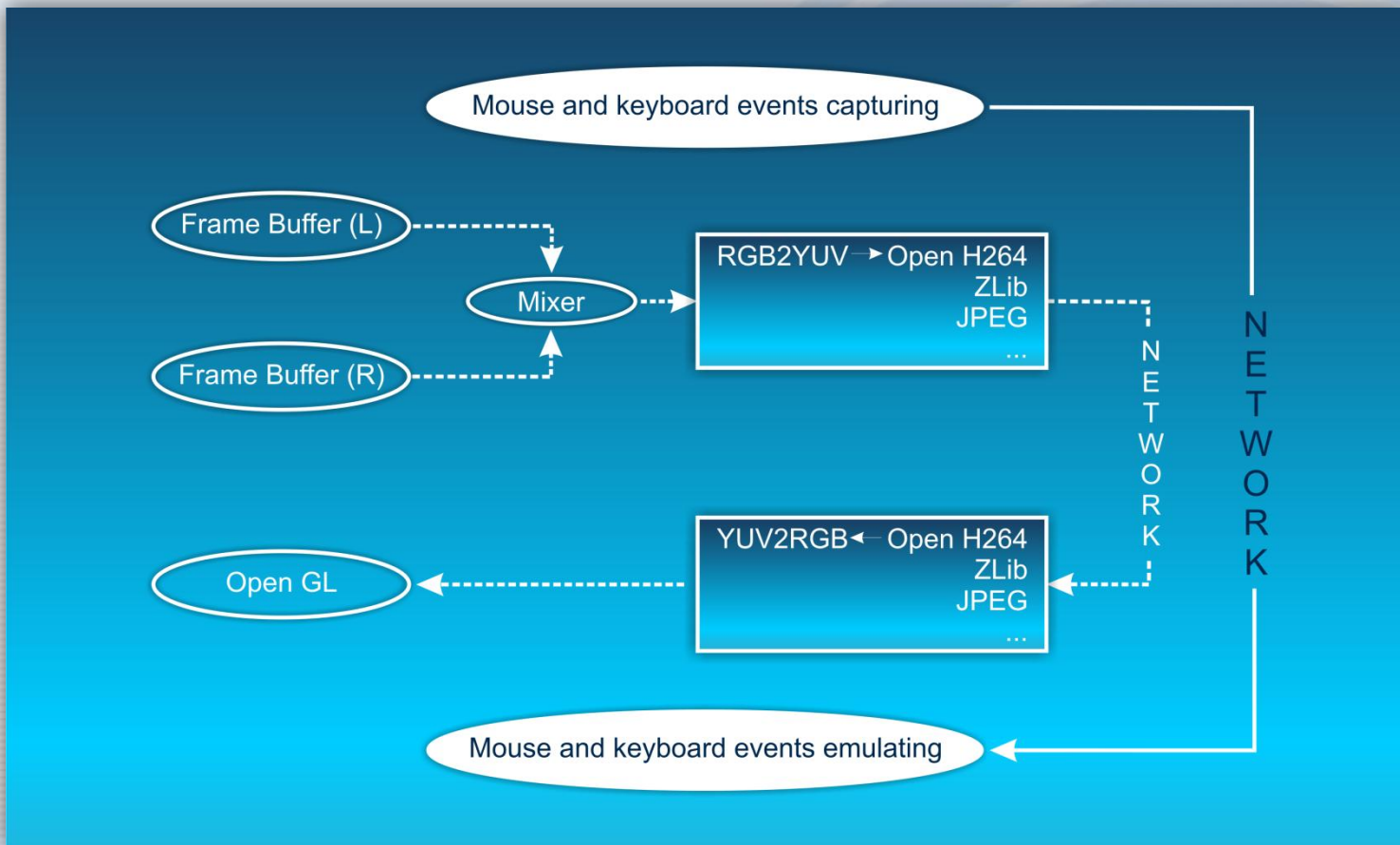
Semi Transparent Mirror and passive polarized glasses



Page flipping with active glasses



Thin Stereo Client - Dataflow



Thin Stereo Client - Benchmarks

Local (traditional) stereo client – **100 min**

Remote Stereo client (LAN) – **120 min**

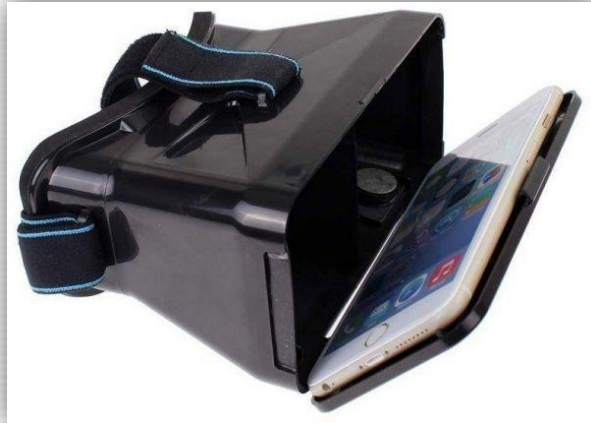
Remote Stereo Client (Internet)* – **140 min**

** 800 km between Server and Client, 20-25 ms ping
Delay Reasons – coding and decoding + packet
transfer time*



GPU has hardware coders

Thin Stereo Client on Smartphone



What it can do

- Load and save vector data from/to server
- Pan and zoom
- Adjust parallax
- Measure points (manually and with correlator)
- Measure length between 2 points
- Import/export vector data (smartphone file system)
- Import vector maps (WMS)
- Use GNSS coordinates from smartphone



Thin Stereo Client on Smartphone - Ideas



Thin Stereo Client on Smartphone – Who Needs It

- Cadaster
- Municipality (3D city models add-on)
- Housing and communal services (GIS add-on)
- Innovation projects



Thin Stereo Client on Smartphone – What is Required

- Cloud Server
- Stereo models (adjusted aero/UAS/satellite) block of images
- Smartphone (android)
- VR adapter
- Bluetooth mouse





Thank you for attention