Earth L.A.T. 12:00

Watch the Rotating Earth
https://EarthLAT1200.org

E.g. Partner Station KEPLERUHR

Three items are fulfilled by the partner station – contribution level 'Full':

(1) A sundial which shows a moving shadow/reflection of the gnomon/nodus/sun across a noon line (meridian).
(2) A fixed camera producing a live stream of the shadow/reflection moving across the noon line.
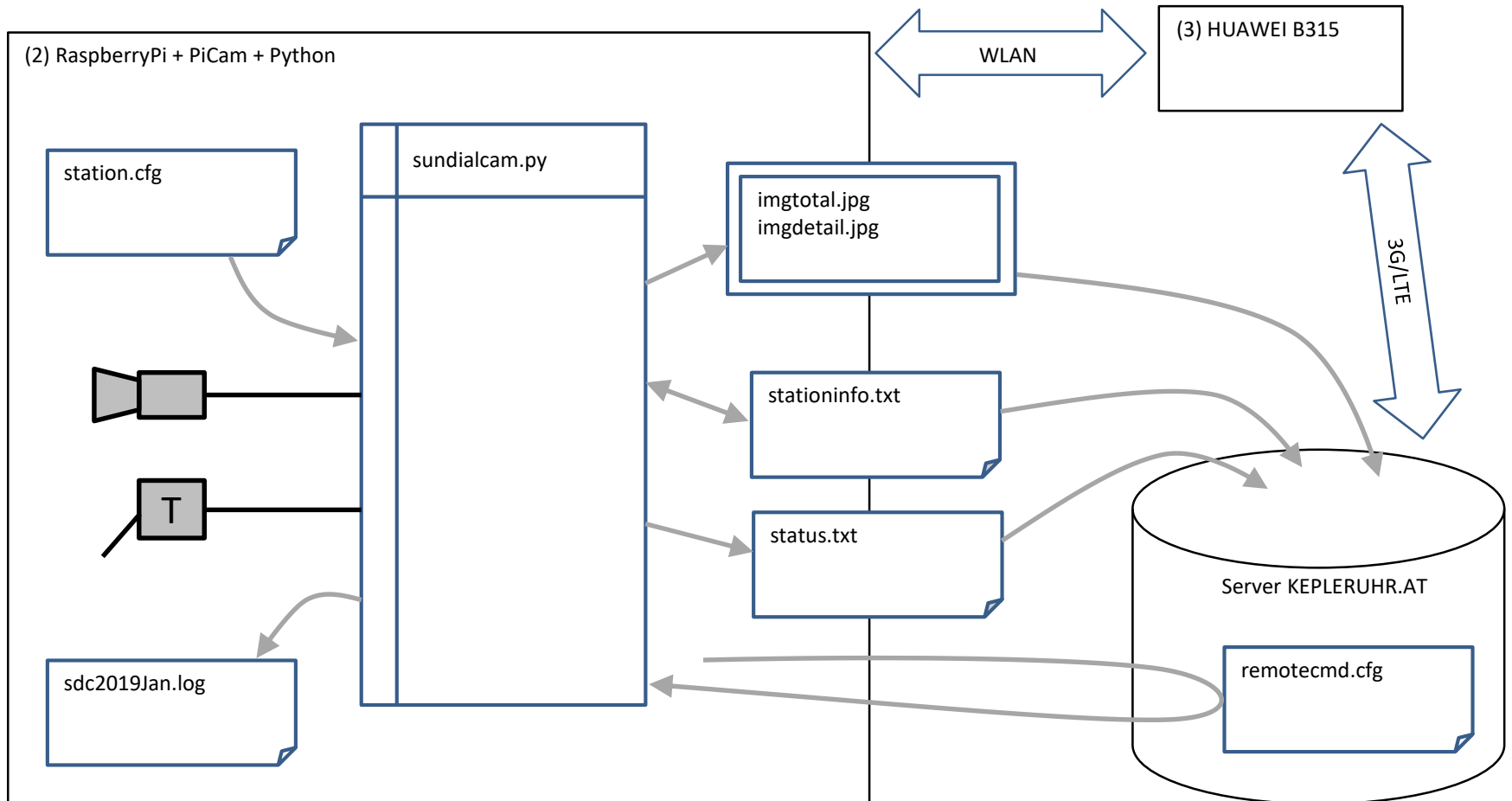(3) A device sending this live stream via ftp or similar to the server.
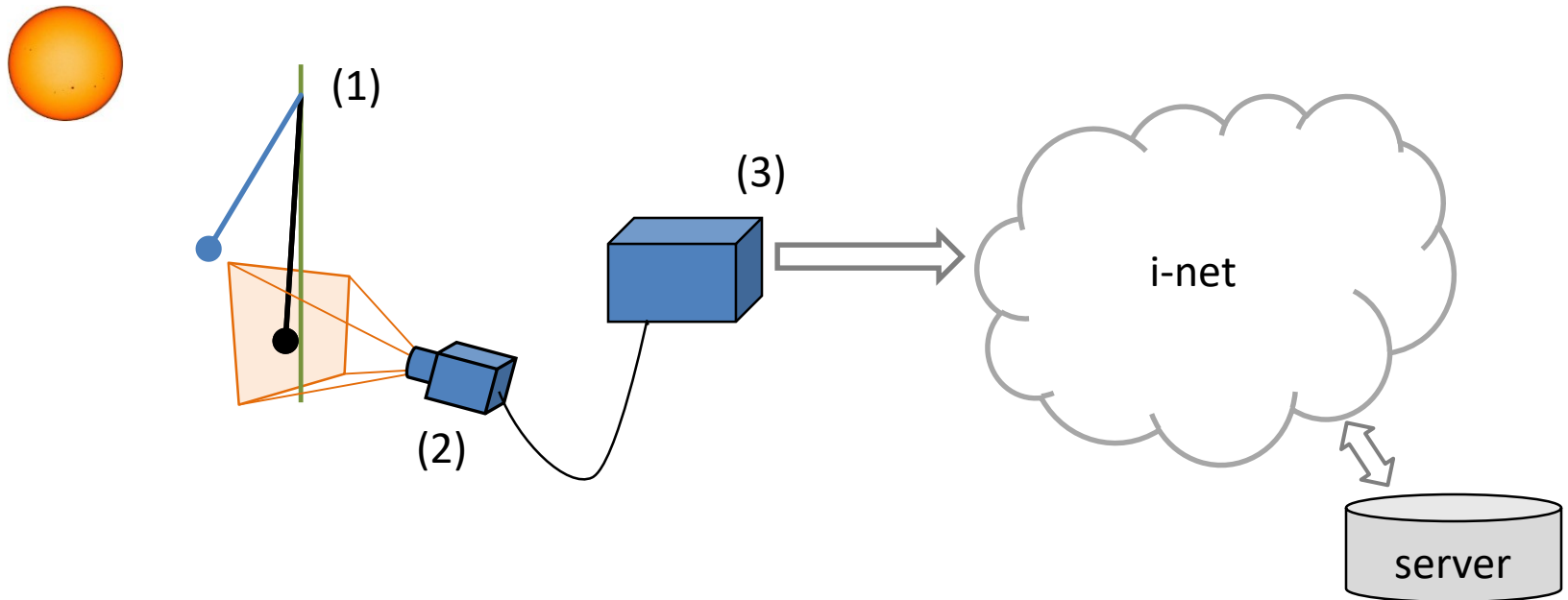
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imgtotal.jpg

imgdetail.jpg

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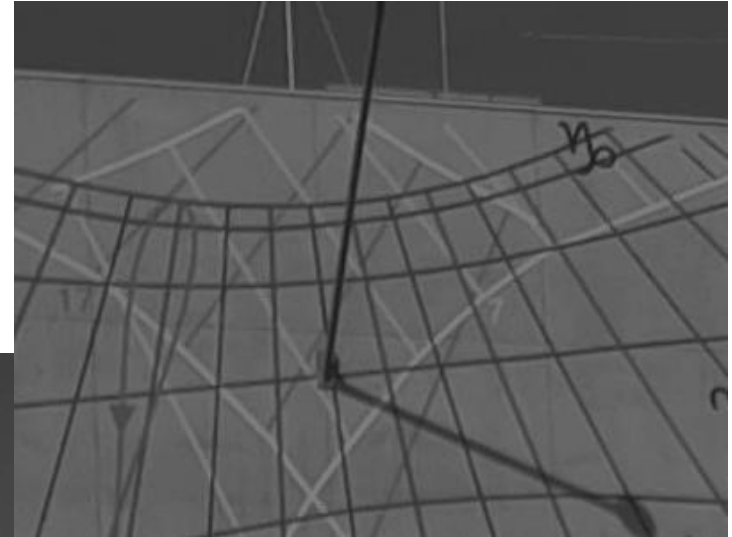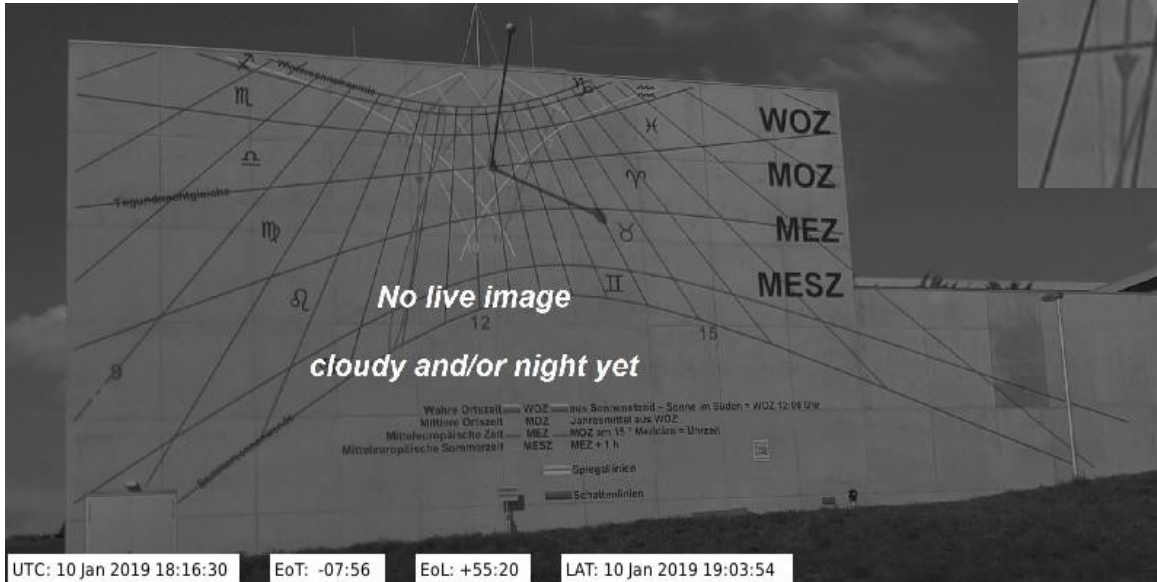(3) A device sending this live stream via ftp or similar to the server.

station.cfg

```
[Header]
idname = ATGrieDeveloper
idno = AT000

[FTP]
user = AT000@kepleruhr.at
host = kepleruhr.at
port = 22
password = xxxxxxxxx

[Generell]
cropx1 = 242
cropwidth = 1860
webwidth = 800
camheight = 1944
zoomheight = 300
zoomwidth = 400
webheight = 400
cropy1 = 277
cropheight = 930
camwidth = 2592

[Detail]
periods = 60
drawzrect = 1
boxcenty = 465
serie = 0
camoffline = 1
stream = 0
ftpupload = 1
boxcentx = 930
remotecmd = 1
```

stationinfo.txt

```
[Header]
idname = ATGrieDeveloper
idno = AT000

[Info]
location = Grieskirchen, Austria
longitude = 13.83370
latitude = 48.23519
typewebcam = RaspberryPI + PICam
website = https://kepleruhr.at
organization = public, sponsored by municipality Grieskirchen
nearbypublicinst = Neues Schulzentrum Grieskirchen, Parzer Schulstrasse 1, 4710 Grieskirchen
typetransfer = RaspberryPI + PICam, Python
text = This sundial has been erected in 2014, takes 240 sqm, and is starting point of a series of public astronomical
events.
team = Kurt Niel
```

status.txt

```
[System]
outcasetemperature = 21.0
cputemperature = 43.3
capturetime = UTC: 10 Jan 2019 18:16:30
capturelat = LAT: 10 Jan 2019 19:03:54
cameratemperature = 25.0

[Dial]
brightness = 2847
cloudy = 0
night = 1
sunny = 0
```

sdc2019Jan.log

```
2019-01-09 23:51:11,254 INFO: Status: CPUTemp 60.0, CamTemp 42.625, OutTemp 27.062, Bright
2019-01-09 23:51:50,513 INFO: End by user <ctrl-C>
2019-01-09 23:53:05,858 INFO: Start sundialcam.py ----------------------
2019-01-09 23:53:40,514 INFO: Status: CPUTemp 60.0, CamTemp 42.75, OutTemp 26.812, Brightr
2019-01-09 23:54:20,740 INFO: End by user <ctrl-C>
2019-01-09 23:59:47,050 INFO: Start sundialcam.py ----------------------
2019-01-10 00:00:10,587 INFO: Status: CPUTemp 57.8, CamTemp 42.187, OutTemp 26.75, Brightr
2019-01-10 00:00:50,816 INFO: End by user <ctrl-C>
2019-01-10 00:02:30,691 INFO: Start sundialcam.py ----------------------
2019-01-10 00:03:09,910 INFO: Status: CPUTemp 59.5, CamTemp 42.187, OutTemp 26.687, Bright
2019-01-10 00:03:51,590 INFO: End by user <ctrl-C>
2019-01-10 00:12:03,730 INFO: Start sundialcam.py ----------------------
2019-01-10 00:12:42,389 INFO: Status: CPUTemp 57.8, CamTemp 41.687, OutTemp 26.75, Brightness 3016
2019-01-10 00:13:20,697 INFO: End by user <ctrl-C>
2019-01-10 00:14:25,971 INFO: Start sundialcam.py ----------------------
2019-01-10 19:14:37,508 INFO: Status: CPUTemp 35.8, CamTemp 21.562, OutTemp 20.375, Brightness 2847
2019-01-10 19:15:35,876 INFO: Status: CPUTemp 40.1, CamTemp 23.25, OutTemp 20.625, Brightness 2847
```

remotecmd.cfg

```
[Command]
camoffline = 0
periods = 60
serie = 0
drawzrect = 0

[Detail]
boxcentx = 800
boxcenty = 200
```

The upper limit of costs cannot seriously be given. Depending on ideas and realizations regarding sundial and webcam there is no upper limit.

Three parts have to be fulfilled:
(1) Sundial showing the sun crossing the south meridian
(2) A camera capturing the LAT 12:00 line and producing a live video stream
(3) A device connecting to the internet and uploading this live video stream to the server.

(1) The simplest sundial can be any stick orientated
parallel to the earth axis producing a shadow line
to any flat with a painted LAT 12:00 line →   U$ 0

(2)+(3) The camera plus the device with a connection
to the internet can be e.g. a RaspberryPi / PiCam
with access to a WLAN or a modem to the internet →   U$ 100

Total HW costs with a simple device e.g. →   **U$ 100**
Plus monthly costs for data transfer e.g. →   **+ U$ 5 / month**
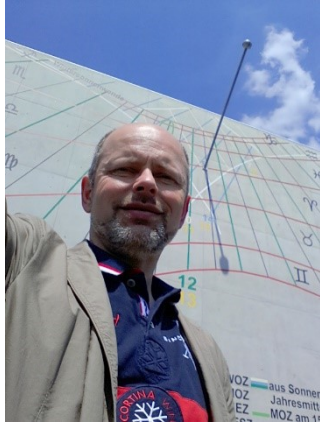
Kurt Niel, Grieskirchen, Austria

FH-Professor at the University of Applied Sciences Upper Austria
Fields: metrology, image processing, automation engineering

Design & Implementation of the huge sundial https://KEPLERUHR.eu
Initiator of a local group volunteering astronomy https://FHAstros.blog

Interested in putting STEM to the public.

Kurt.Niel@EarthLAT1200.org   @kepleruhr

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and is developed assisted by a high school team of the HTL Grieskirchen.