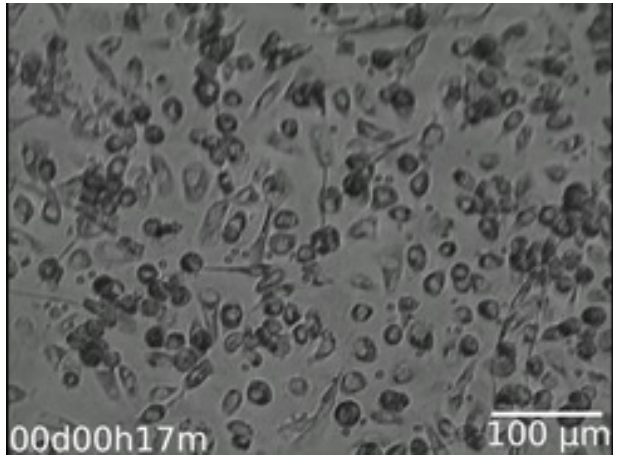
YOU. SEE. TOO.

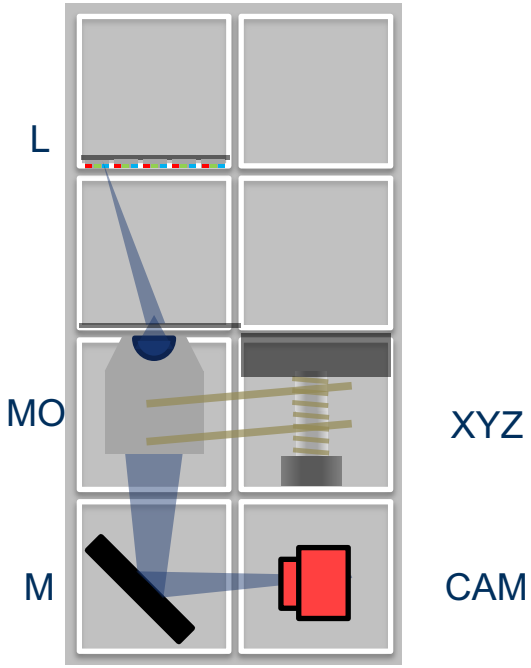
import uc2.modules

@openUC2

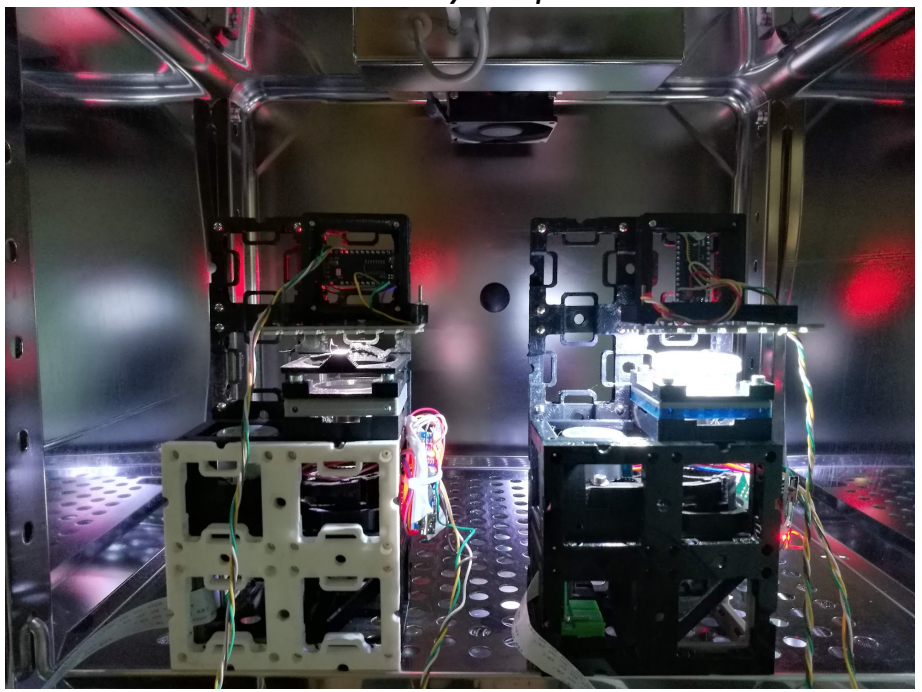
from uc2.modules import incubator_microscope

differentiating monocytes



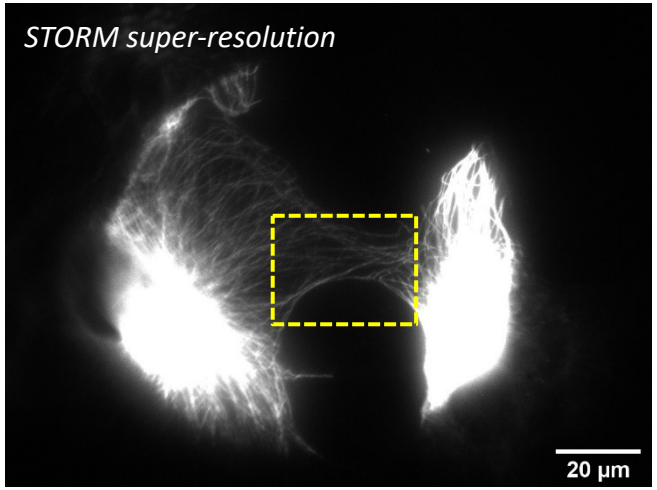


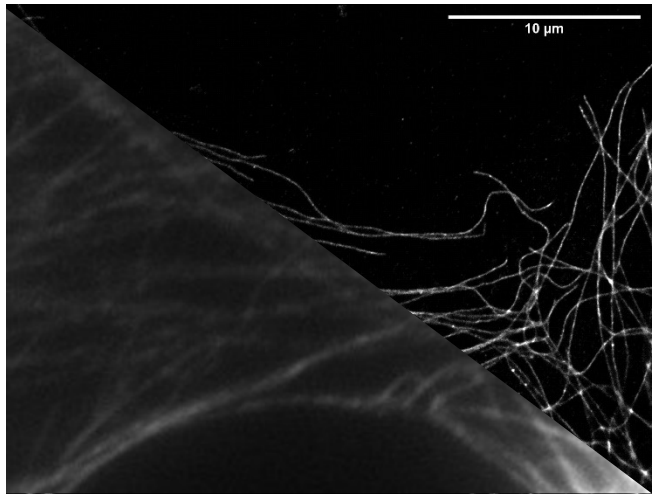
Inside the incubator – Fully 3D printed

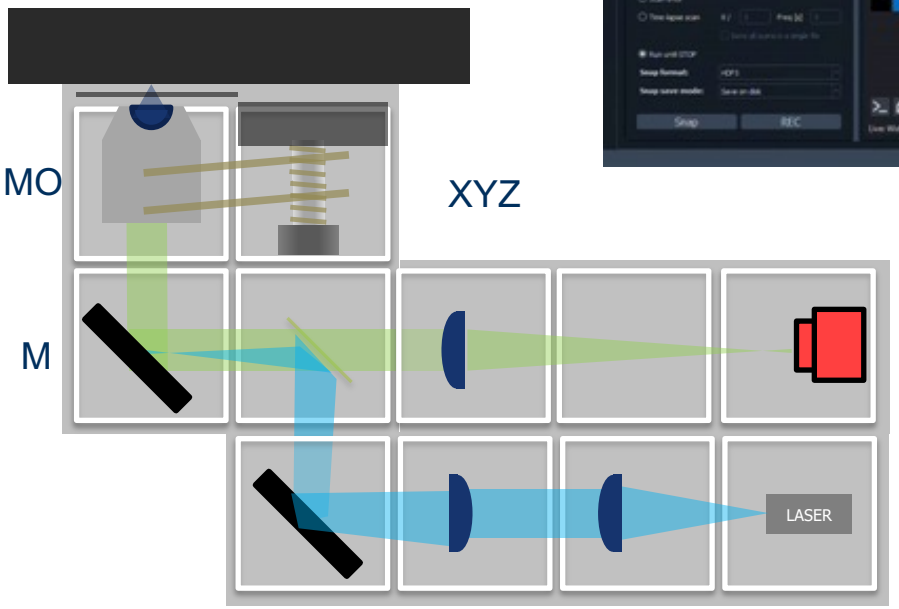


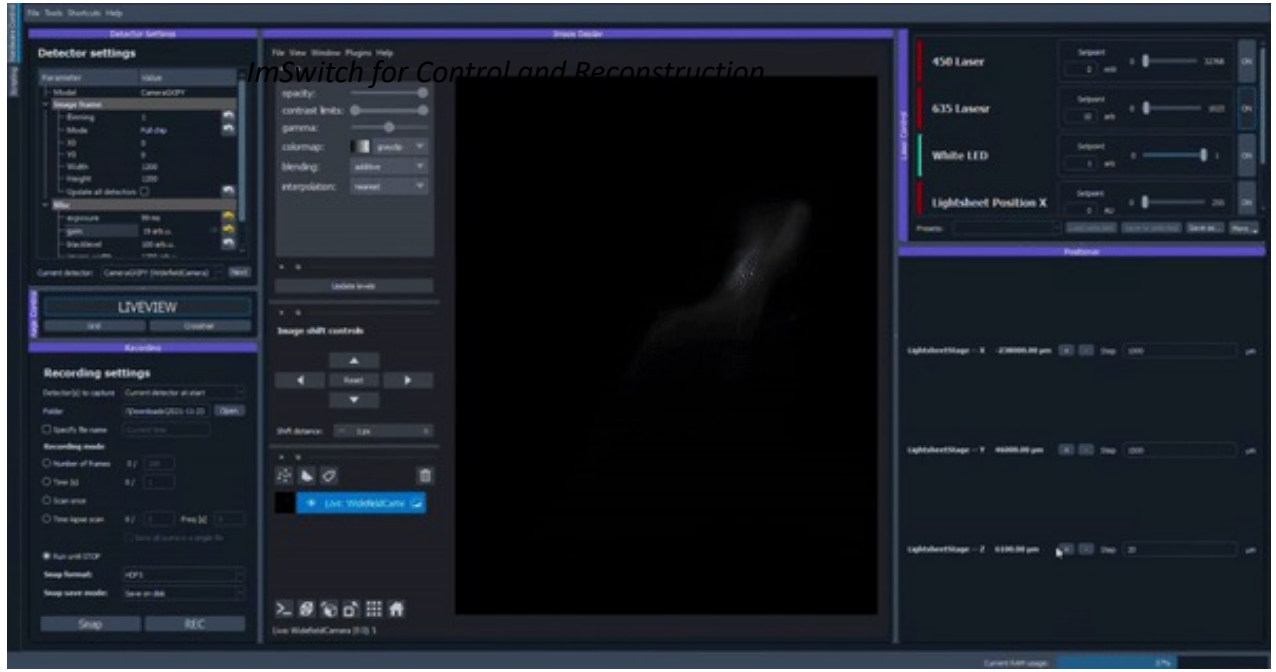
@openUC2

from uc2.modules import smlm

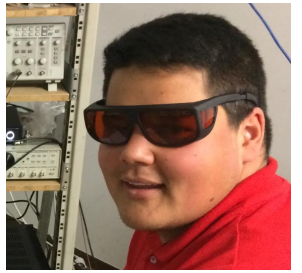








Ando Zehrer
AG Helge Ewers FU Berlin

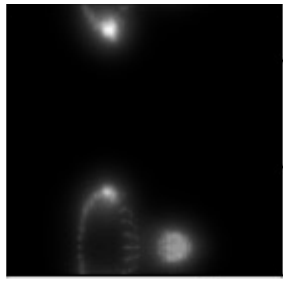


@openUC2

from uc2.modules.spim import holisheet

HOlography

LIghtSHEET



Devices:

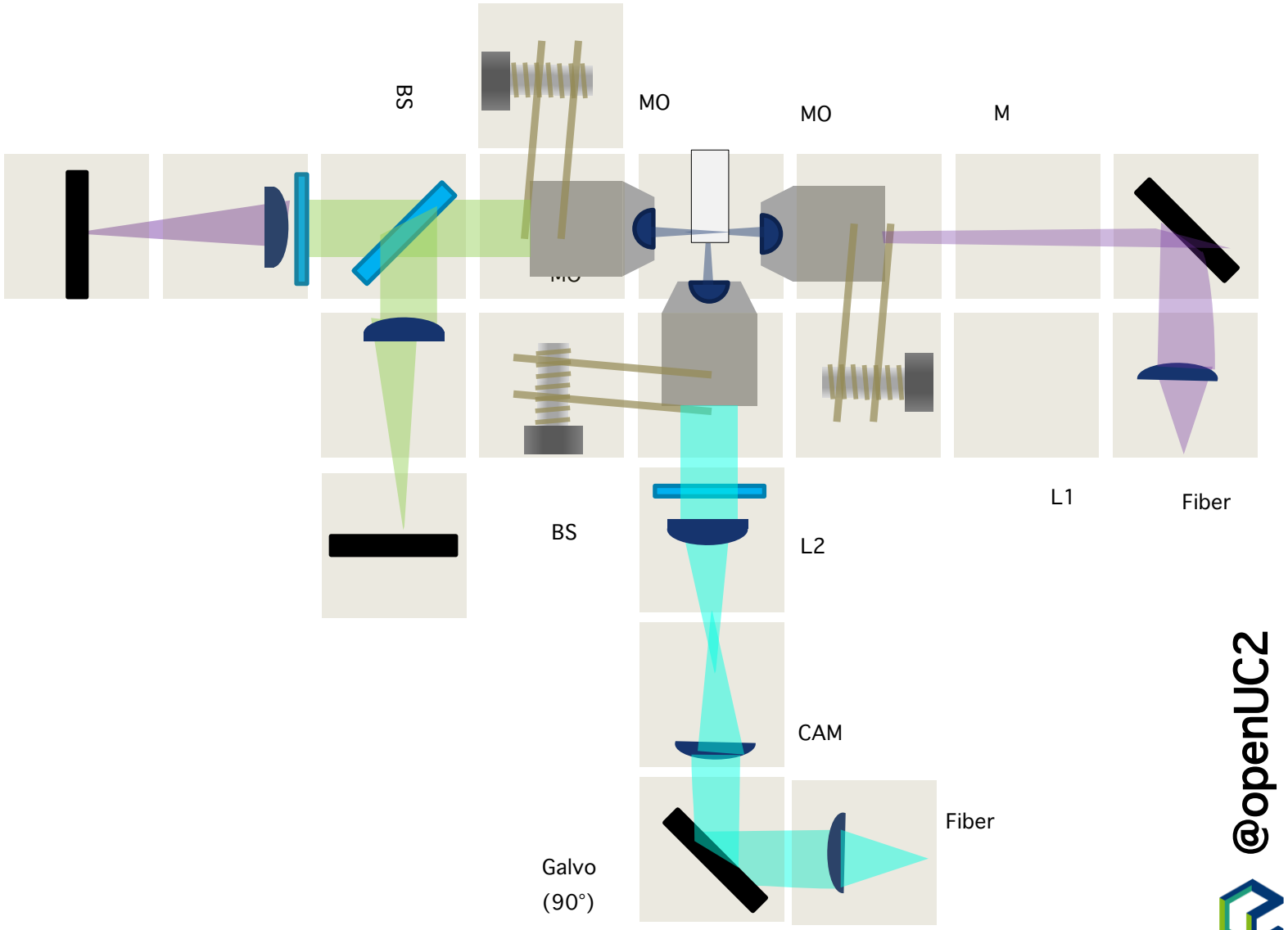
- 2 cameras
- LED array
- Laser
- Galvo mirror
- 2 Z-stages
- Tube rotator

Processing:

- Holography reconstruction
- 3D reconstruction

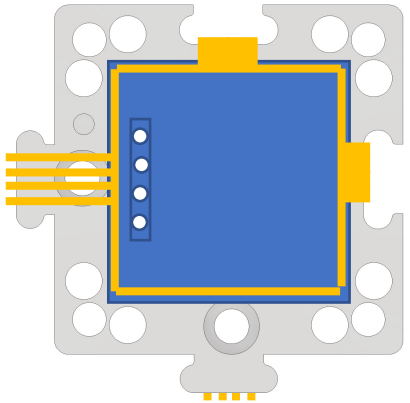
Manu Prakash, Stanford

Setup

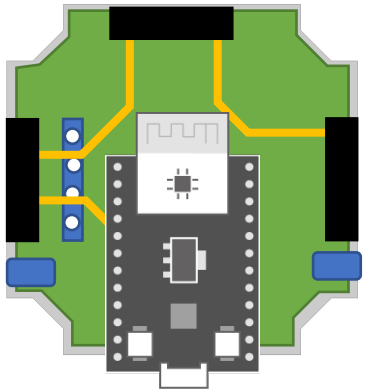


@openUC2

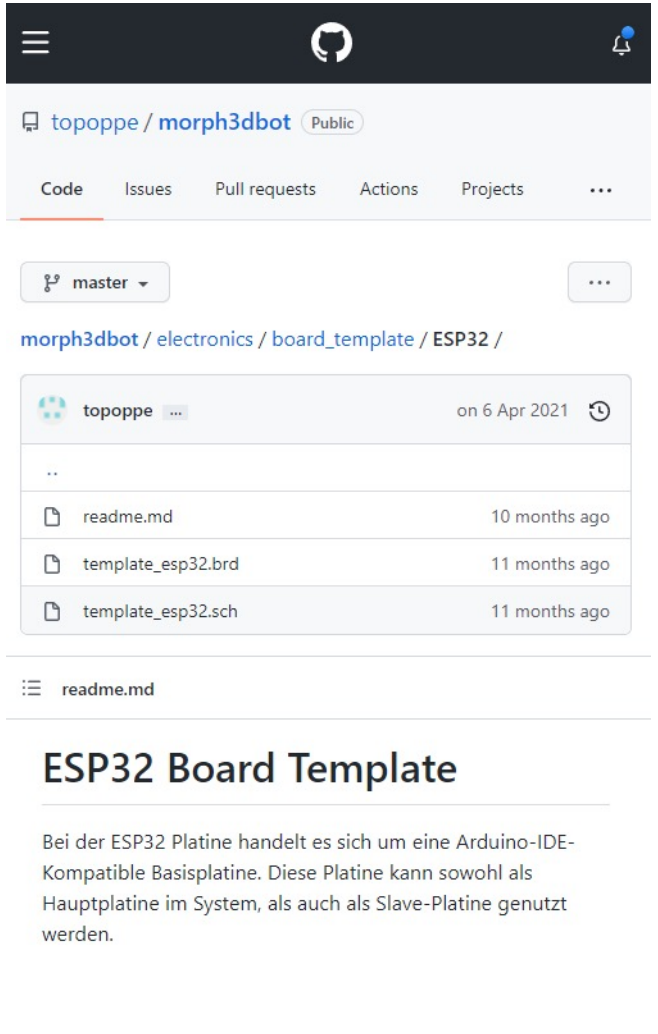
from uc2 import electronics

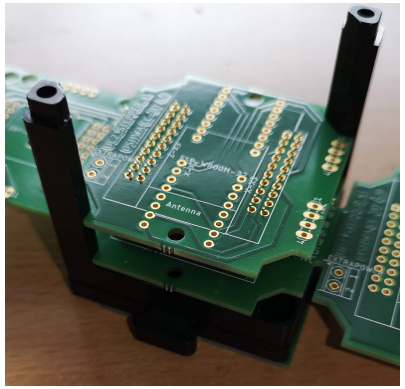


Baseplate as a
„passive“ connector



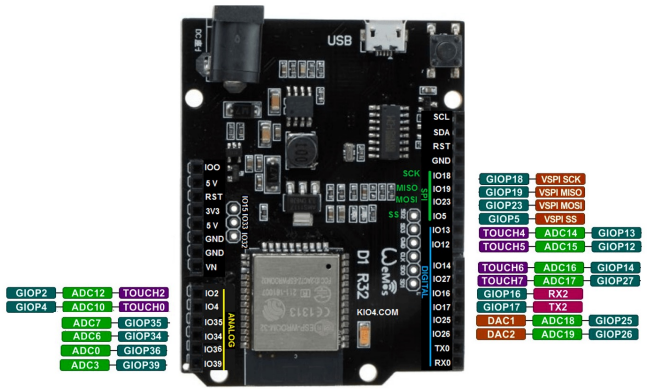
Insert as an „passive“ or
„active“ connector (e.g. ESP32)

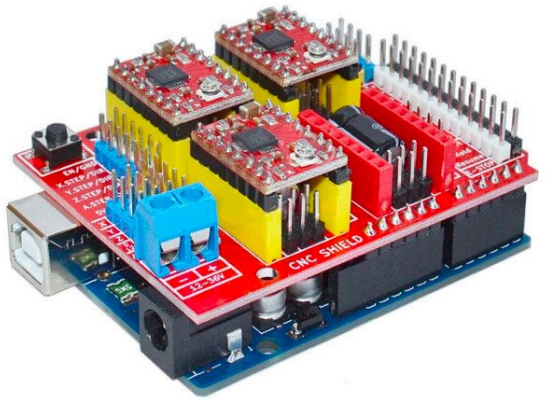




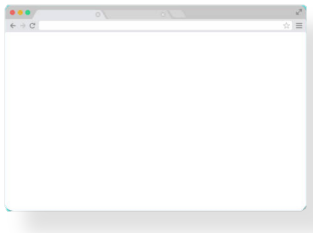
@openUC2

from uc2 import electronics.offtheshelf



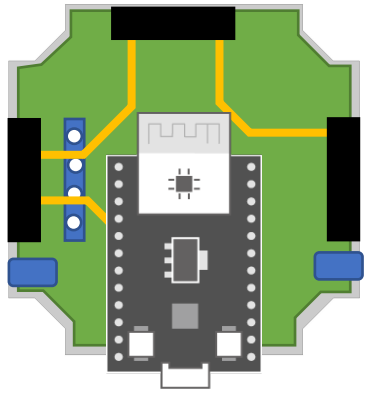


@openUC2



Client

{REST: "API"}



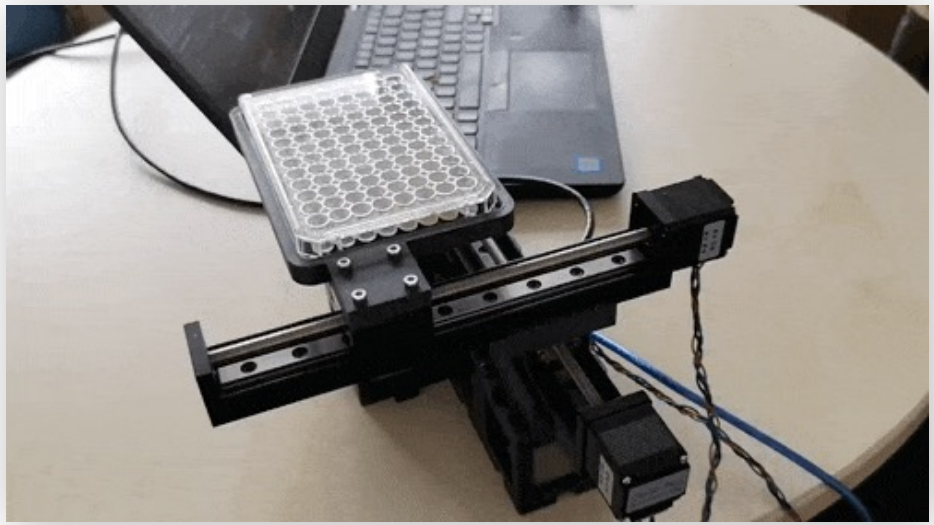
Server

@openUC2

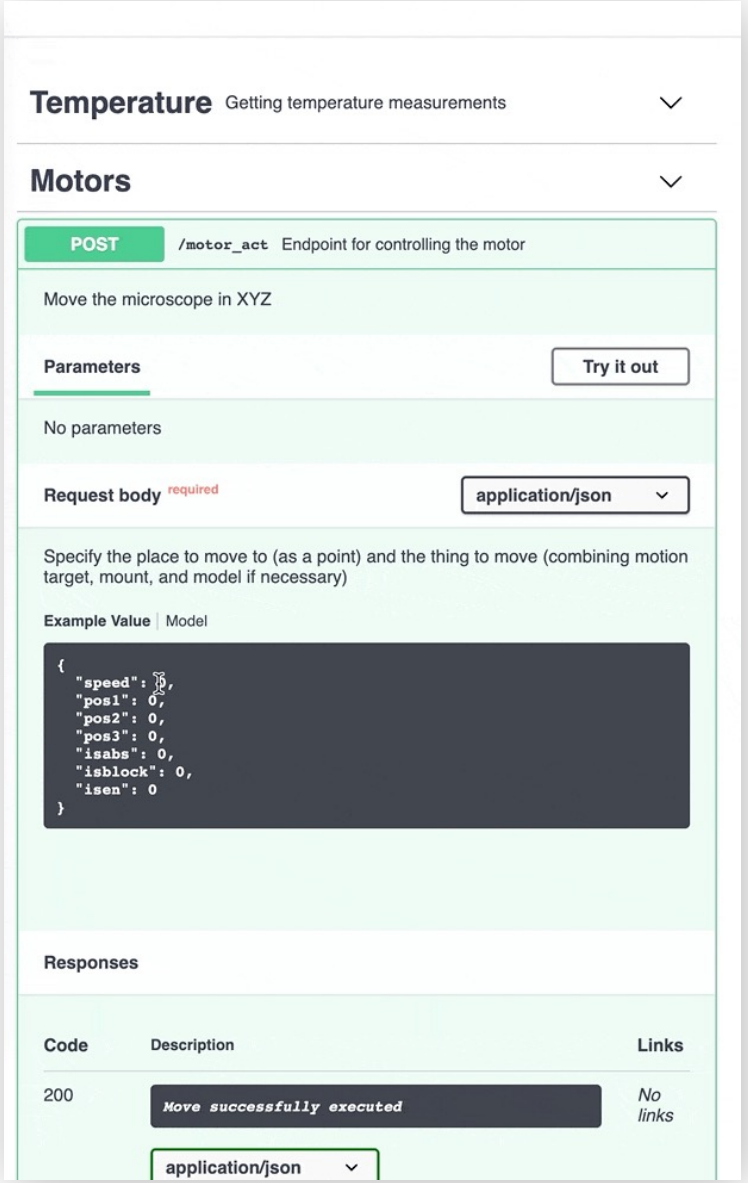
Swagger

Stage Properties:

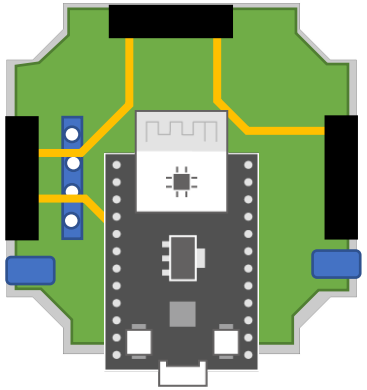
- Axis
- Speed
- Steps
- Acceleration



-Client



@openUC2



Server

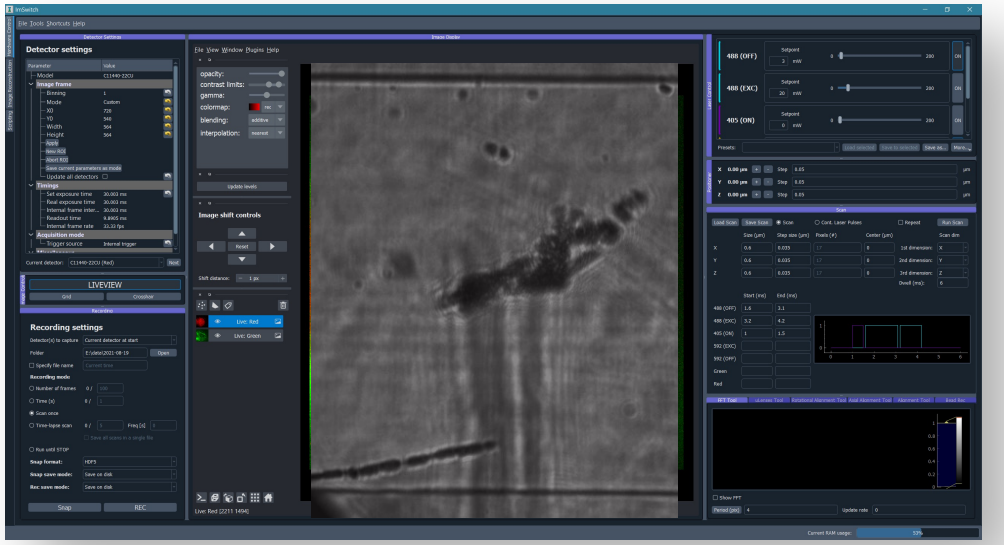
USB / Serial

WIFI

JSON (REST) communication

Python Client

HTTP Client (e.g. browser)



ImSwitch for

- Image Acquisition
- Hardware Control
- Image Reconstruction
- President

https://github.com/openUC2/UC2-REST/

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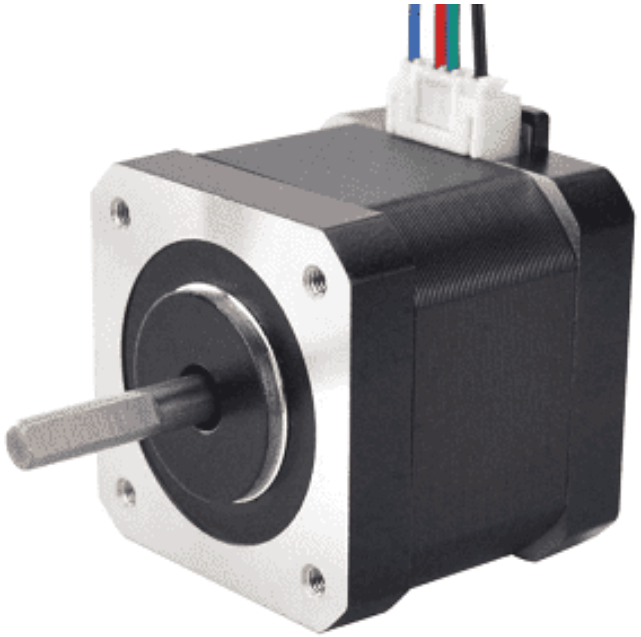
Example: Move a motor

```
{
    "task":"/motor_act",
    "speed":1000,
    "pos1":4000,
    "pos2":4000,
    "pos3":4000,
    "isabs":1,
    "isen":1
}
```



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example: led matrix


```
{
    "red":193,
    "green":193,
    "blue":193,
    "indexled":27,
    "Nleds":1,
    "LEDArrMode":"single",
    "task":"/ledarr_act"
}
```


example: trigger list


```
{
"task": "multitable",
"task_n": 9,
"repeats_n": 5,
"0": {"task": "/motor_act", "speed":1000, "pos1":4000, "pos2":4000, "pos3":4000, "isabs":1, "isblock":1, "isen":1},
"1": {"task": "/state_act", "delay": 100},
"2": {"task": "/digital_act", "digitalid": 1, "digitalval":1},
"3": {"task": "/digital_act", "digitalid": 2, "digitalval":1},
"4": {"task": "/digital_act", "digitalid": 2, "digitalval":0},
"5": {"task": "/digital_act", "digitalid": 1, "digitalval":0},
"6": {"task": "/laser_act", "LASERid":1, "LASERval":10000, "LASERdespeckle":100},
"7": {"task": "/state_act", "delay": 100},
"8": {"task": "/laser_act", "LASERid":1, "LASERval":10000, "LASERdespeckle":100}
}
```


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