**GENERAL INFO**

* People involved
  + Ede Rancz <[Ede.Rancz@crick.ac.uk](mailto:Ede.Rancz@crick.ac.uk)>
  + Xavier Cano Ferrer <xavier.cano-ferrer@crick.ac.uk> - Engineer at Crick that designed the device
  + Mathias - Is doing the 3D printings, works in the fab lab
* NeuroGEARS: Project leader, Andrew Erskine
* GitHub to interface with Ede
  + <https://github.com/neurogears/vestibular-vr/issues>
* Files will be on GitHub as well
  + <https://github.com/neurogears/vestibular-vr>
* Also have files on GoogleDrive
  + G:\My Drive\management\external projects\NGR\2201 VestibularVR Ede Rancz Marseille

**16-08-2022**

Due to the slip ring restriction, the camera needs to be USB2.0.

Andrew will check with Ede the valves (voltages) and lick ports they are using.

DrawIO: <https://drive.google.com/file/d/1IXwrk58W3oOoU6d4bJTaxhsgl-Ja3gbr/view?usp=sharing>

**Previous notes**

**Updated documentation:**

https://atranvan.github.io/vestibular\_setup/

**Optical options:**

PMW3360

https://www.pixart.com/products-detail/10/PMW3360DM-T2QU

https://pdf1.alldatasheet.com/datasheet-pdf/view/899001/PIXART/PMW3360.html

https://github.com/SunjunKim/PMW3360\_Arduino

https://geekhack.org/index.php?topic=100027.0

ADNS3050 -- didn't find good documentation and seems to be obsolete

**17-06-2022**

We will use GitHub to keep track of things.

Mouse as the flow control: we can't have a timestamp but the precision and sample rate (>= 1KH<) is very good.

The distance between the mouse/flow control sensor changes in time because the ball is floating and moves the center of mass when the animal is walking.

To Ede, the major issue is jitter, no latency. The animal learns if there's a delay of less than 16 or 17 ms but will not learn if there's a significant jitter.

The SQUAl value of the current sensor used in the setup is stated in the document (Rotary stage documentation.pdf).

VR: There are two approaches:

- VR googles, use two screens in front of the animal.

- Cave, which uses a round screen around the animal.

Ede:

"

The idea is to cover the animal field of view as much as possible.

If surrounding the animal is possible, that's ideal.

A stationary screen has a lot of advantages.

We've chosen the google approach because it was easier for the Ph.D. student that was doing the work.

"

Slip ring:

ONIX coax

Cameras

And hardware timestamp of these (trigger or strobe from cameras)

We may need a hole to blow air to the ball

Spinner, na have a solution for that.

The rotation platform should be as cheap and simple as possible to be open source.

Screens used by NGR on other experiments for high speed 240Hz and low latency.

https://www.amazon.co.uk/Alienware-AW2721D-2560x1440-DisplayPort-Adjustable/dp/B08NFBBTTL

https://www.dell.com/en-uk/shop/alienware-27-gaming-monitor-aw2721d/apd/210-axnu/monitors-monitor-accessories#techspecs\_section

Ede says that using 6 screens in portrait can be a good idea to increase the filed of view.

-> First meeting notes 23-05-2022

Optical flow acquired at 100Hz seems reasonabale to Ede.

Round screen: [link](https://pt.aliexpress.com/item/1005002875234974.html?_randl_currency=GBP&_randl_shipto=GB&src=google&src=google&albch=shopping&acnt=494-037-6276&slnk=&plac=&mtctp=&albbt=Google_7_shopping&albagn=888888&isSmbAutoCall=false&needSmbHouyi=false&albcp=1622677378&albag=57224001810&trgt=1460151206306&crea=en1005002875234974&netw=u&device=c&albpg=1460151206306&albpd=en1005002875234974&gclid=Cj0KCQjwgYSTBhDKARIsAB8KuktYVlzyD6tsEsypsFGTlmEps5VUBzJsSw6b2MBUdkqFX2I59z39FGAaAmnlEALw_wcB&gclsrc=aw.ds&aff_fcid=e9ab44e600594739b3c012ebd56f8648-1650542896552-09574-UneMJZVf&aff_fsk=UneMJZVf&aff_platform=aaf&sk=UneMJZVf&aff_trace_key=e9ab44e600594739b3c012ebd56f8648-1650542896552-09574-UneMJZVf&terminal_id=c38c8d963ba44b4d96c034ddb79d9de6&afSmartRedirect=y&gatewayAdapt=glo2bra)

The PCB will be outside of the board

<https://www.kicad.org/download/windows/>

https://github.com/Aharoni-Lab/Miniscope-v4/archive/refs/heads/master.zip

**DD-MM-YYY  
(template)**

**Agenda**

* Topic 1 to discuss.
* Topic 2 to discuss.

**Discussions**

* Topic 2 discussed.
* Topic 1 discussed.

**Action items:**

* Person name: Action item
* Person name: Action item