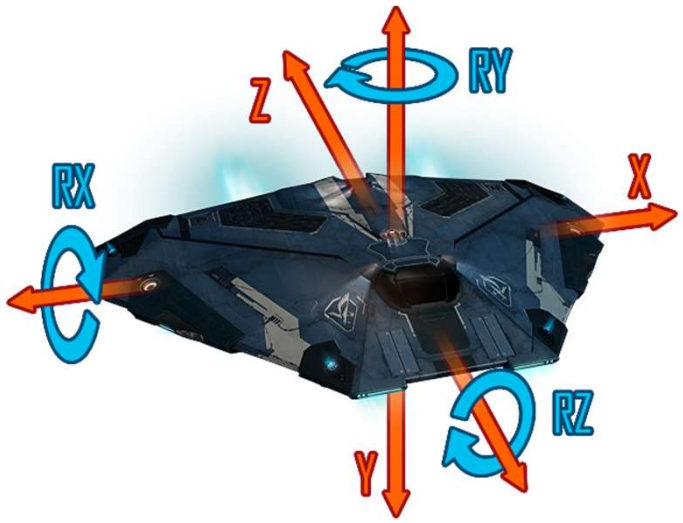
6DOF Controller Joystick



(Space Sim) ‘Problem’

- HOSAS/HOTAS setups don’t use the full range of motion of our hands
- Free up one hand for secondary tasks
- More intuitive controls

Approach

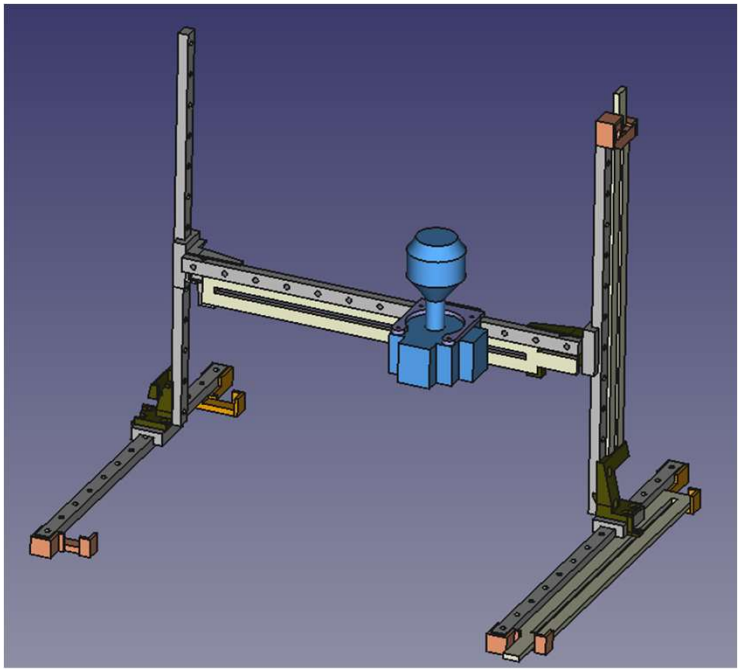
- For each Degree of Freedom, have a separate axis
- Map position/ rotation of hand 1:1 to translational/rotational input
- Put 3 DoF Rotational Controller on 3D-Printer like Rail System
  - Track Position in 3D Space with sensors
  - Track Rotation using typical controller

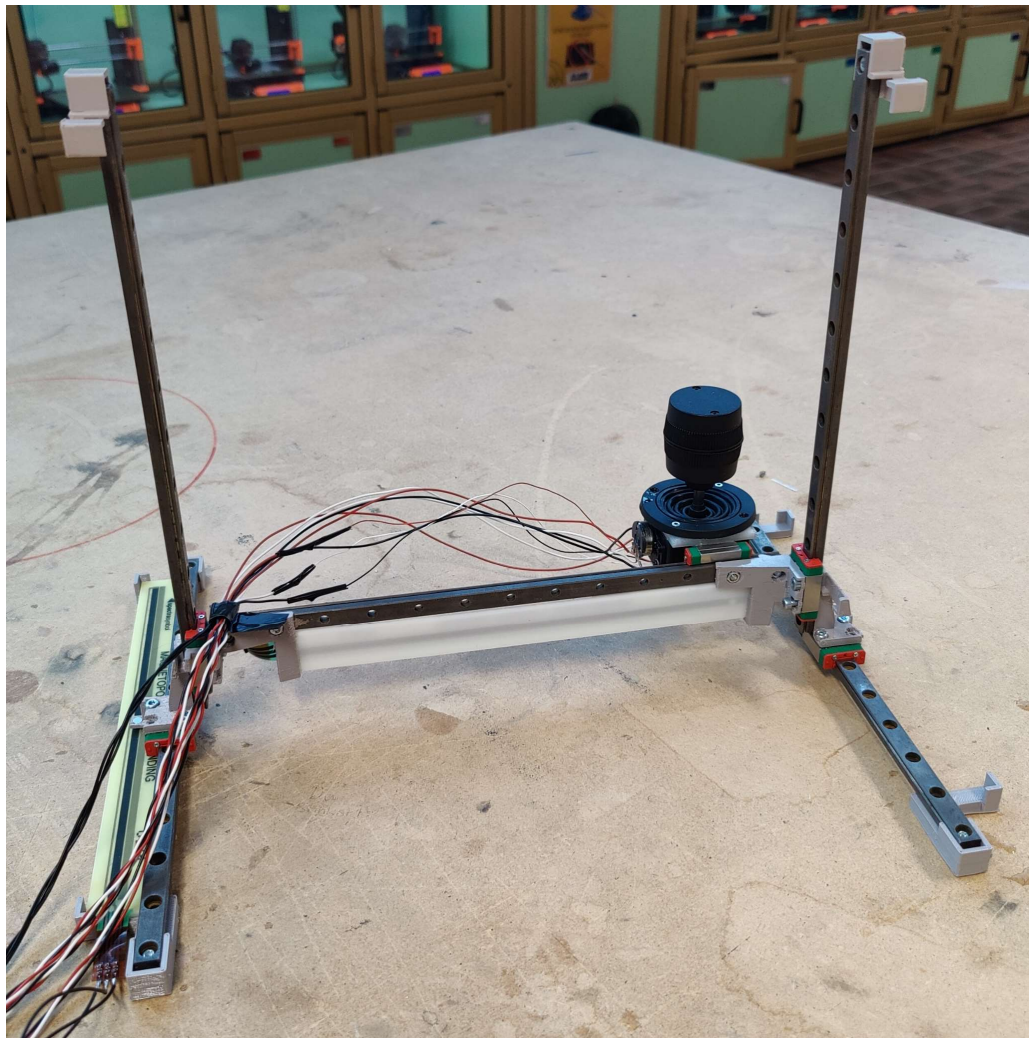
Applications

- Space-Sims
- Drones/submarines
- Anything which can freely move and rotate independently

Current Progress

- Translational Axes: X,Y functional
- Rotational Axes X,Y,Z functional





Project Possibilities

- Design of Rotational Joystick, Center of Rotation = Wrist
- Implementation of End-Consumer grade Prototype for design evaluation
- Research into the advantages/disadvantages of this type of controller