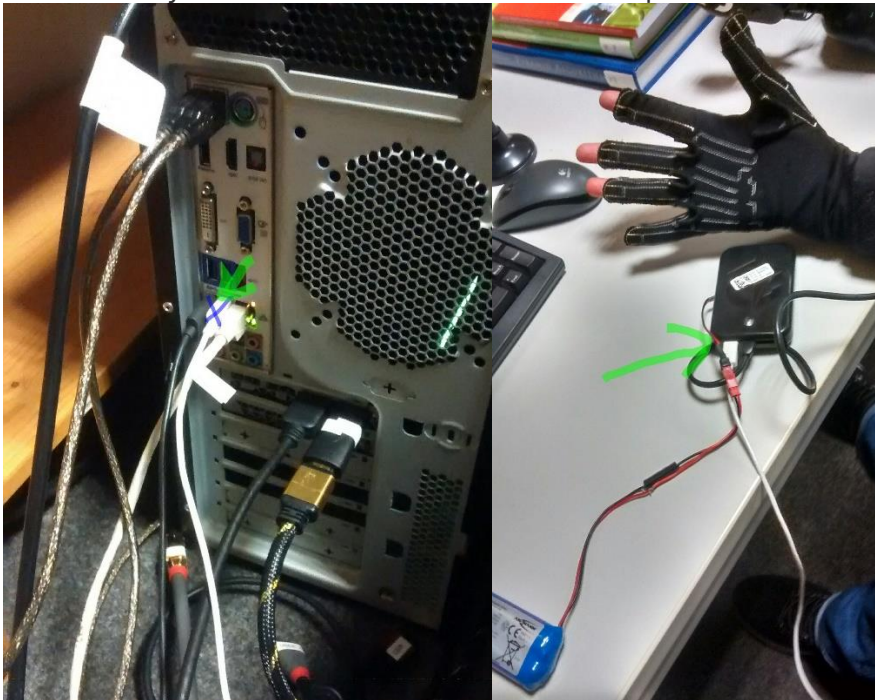# CyberGlove

STEP 0: Don't forget to charge the battery pack

- The charger can be found next to the suitcase.
- Connect it to a power outlet and plug the red plug of the cyber glove into the charging station.
- Fully charging the battery can take a few hours, so make sure you recharge the glove once you leave it to another group.

STEP 1: Connecting the glove to your computer

- There is only one cable to connect to the computer.

- Turn on the little switch on the cyber glove to turn it on. There is a pen lying around the table somewhere that is small enough to fit the gap to turn the switch. A green light should be showing when it worked.
- Open the device manager and look for the COM Port number where the CyberGlove is plugged in by going to the USB Controllers list. If you plugged everything the way it was described above and work on the same PC, the Port number would be "COM6".

STEP 2: Setting up the glove in Unreal Engine

- Clone Repo of "UE Heatmaps"
- Start the "UnrealGrasping" project of the UE Heatmaps Repo with Unreal Engine Version 4.22
- Enter the COM Port number in the "HandActorBP" object you can find on the right-hand side of the project window
- Wear the CyberGlove on your left hand.
- Play the application.
- Click inside the game and move around a bit to prepare Unreal Engine for getting Input.
- On the keyboard, first Press "I" on the keyboard. In the log it should say "Cyberglove initialized"

STEP 3: Calibrating the Glove

In conclusion you will need to press "F" four times, while doing it you need to make certain poses with your hand. As the distance between the PC the glove is cabled on and the Monitor, where Unreal is controlled, two people are required for following the calibration steps.

- Simultaneously press "F" on the keyboard while
  - 1st time: make a fist (setting min), hold it for a few seconds.
  - 2nd time: open the hand (setting max), hold it for a few seconds.
  - 3rd time: don't move hand: the program is doing the calibration.
  - 4th time: don't move hand: the program is applying colliders.
- The log should say "Cyberglove calibrated".
- The glove movement should now start replicating in the application.