Embodied N170

(Desk Study)

Running Experiments

The Embodied N170 experiment is a VR based experiment designed to work with the Oculus Quest over the air link, through the local network. Setting the experiment up is not hard, however there are curtain steps that must be done in order, else the communication will fail not be found.

The first step is to ensure that the all computing devices used in the experiment are connected to a shared local network. This will require: 2 computers, one to run the experiment, and another to monitor the data being recorded; an Oculus / Meta Quest 2 headset; and a tablet with EEGO Lab installed, with a connection to the EEGO Amplifier.

Once all devices are connected, start the Oculus PC app on the experiment hosting PC. This will ensure that the quest will be able to connect over the air link through Unity.

With the Oculus app now open, opening the Unity project for the experiment will now set the editors default XR Runtime to be that of the Oculus app. This means that running the game within Unity will trigger an attempt to start the application on any connected headsets.

With this, the quest can now be connected to the PC over airlink, this is done on the headset itself. On getting this working, the view of the headset should now be inside a white, grid like room. From here starting the experiment from Unity will now trigger the experiment to run over airlink and work on the headset. For designing sessions, look at the document “Embodied N170 – Designing New Sessions”.

With the experiment setup and started, Unity has now created several streams using LSL, these streams will now be visible and readable to EEGO Lab. Here, setup the amplifier to the tablet, connect it to the monitoring PC with Windows’s remote connection tool and then start EEGO Lab, here the markers will now be appearing as the player moves around the environment.

The experiment is now ready to begin.

All data is saved at the end of the experiment, however, should the need to terminate the experiment early occur to avoid losing all data, it is possible for the participant to terminate the experiment at the end of a block, should they turn around and click exit, or the researcher from within the Inspector on the game object for the **GameControllerStateMachine** component. This will force the experiment to go to the **SessionComplete** state.