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Eye Tracking

Eye Tracking Project Summary

Idea:

1) Pupillometric measures of cognitive load: a comparison

Type:

I would greatly prefer to do modeling but will need to have discussion on how to interpret data for actual modeling to be done otherwise I'll make a proposal as the alternative.

Why:

There are two primary reasons why I decided to work with Idea 1, first and foremost the dataset that is available for it is quite interesting as I am studying for a pilot's license and I do enjoy teaching, so anything to further expand the field of information for topics that are similar to my interests is quite nice. And secondly, the majority of students in the class leaned into working on Idea 2 and 3, so I would like to do something that may not overlap with others even if the possibility is allowed.

Problems:

I've gone through both VR Tasks and VR Music, and they seem reasonable in their setup but without a data dictionary, it's hard to assess what to do without going blindly. As for Study03 and Study04, they were 1) missing a lot of data and 2) unclear in what was going on compared to the first two studies. So, the best thing I could assess was that they were probably similar to the study found within the Lindbauer paper, but that is my best guess.

I would probably need to first understand the Lindbauer paper fully as there are gaps in my knowledge of VR tools that I would have questions on, and then after that I would have to speak with Iza and Ann Feit (whoever would know more about the experimental setup) to better understand what it is that I'll be doing with the dataset.

Proposal:

With all that has been said, it's quite hard to make a basic proposal at this point in time as I know that I will be implementing the three different pupillometric measures on the datasets that were provided by Ann Feit, however, I'm uncertain how to obtain these at this given moment with the data in its current form.

Upon figuring out all of the aforementioned, I would compare this to the mixed-reality dataset provided by Lindbauer and if possible, I would like to specifically compare it as well to both flight safety or flight data in general or e-learning data of some kind.

Request:

I'm very strong in both R and Python, I'd like to see how the project differs with the two tools given the timeframe allows for it. However, given the discussion in class, the first version will be the Python version since it was Iza's preference and only do the R code afterwards.