A System to Link Tobii Pro Glasses to a Standard Desktop Environment

Mid-project review

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So far, I believe the project is progressing well. It would be hard for me to assign a particular grade for which it is headed due to the nature of the project itself, as it requires access to the Tobii Pro hardware and as such I require a workspace to be set up in the Queen Mother Building before I can begin development proper.

In the meantime, however, I have been looking over a large amount of literature relevant to the field of eye-tracking as a whole, and have developed my own literature review which was handed in to my main supervisor during semester 1. Such literature includes IEEE journals such as *A wearable, wireless gaze tracker with integrated selection command source for human-computer interaction* by Rantanen V, Vanhala T, Tuisku O, et al., which also deals with converting the data output of a head-mounted eye tracker into usable data for a desktop environment.

Again, it would be difficult to break down a particular project plan or methodology as I have yet to have a chance to actually use either the Tobii Pro Glasses' software suite or the Tobii SDK, so any plan put forward by me at this point would be based on pure conjecture.

In terms of potential issues arising in the second half, the main hurdle I anticipate is the fact that the glasses detect the user's eye-in-head coordinates whereas the typical Tobii desk-mounted eye-tracker would detect the world coordinates of the user's eyes and extrapolate the line of sight from that. I had previously alleged that it might be as simple as getting the data from the glasses' API and supplying it to the desktop SDK but it's likely some kind of algorithm will need to be in place to ensure the data is usable while still ensuring it does not sacrifice the freedom of movement provided by using a head-mounted tracker over a desk-mounted tracker.