Spring 2022 Senior Project

Weekly Status Report

Brain Waves as a Controller

https://github.com/knotekbr/cs475_capstone

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WEEK 1 (JAN 31- FEB 7)

A. Weekly Accomplishments

Describe what task was completed and by whom. In parenthesis, provide the number of hours the team member worked on the specific task.

1) GANTT chart completed by Brandon which serves as a framework for our project steps.(2 hours)

2) Initial Maintenance done on OpenBCI headset to perform first testing, done by Brandon, was successful in detecting brain waves through connected software. (2 hours)
3) Preliminary literature review completed by Walid, this helps to direct our processes when we begin implementing code. (2.5 hours)
4) Researching and analyzing documentation of OpenBCI and drone hardware by Walid to develop project steps and goals. (3 hours)
5) Summary sheet completed by Jack to ensure a clear goal is established for the project and to help outside observers understand the scope and size. (.5 hours)
6) Proposal presentation completed by Jack to describe the project and planning for it to other students and Dr. Dimitglou. This enabled us to receive feedback and criticism before delving too far into the project. (.5 hours)

B. Problems/Issues

Describe the problem/issue, who is working on it, what is the cause, what has been tried to solve it, expected resolution. Explanation on how it affects project schedule.

1) A project shift from controlling a drone with the headset to controlling a self-developed video game with the headset. The entirety of the group worked on discussing how to adjust for this change, the cause was that any drone with the appropriate capabilities, (full access to drone flight commands via software) would be prohibitively expensive and/or time consuming to work around. We expect that this should not affect project schedule too much even though time was lost trying to decide on how to proceed, overall a video game implementation will save time compared to the drone.

2) The OpenBCI headset had corroded nodes and had to be calibrated, since it was in storage for an extended period of time. Brandon solved this issue and it did not affect the project schedule greatly.

C. Next week's planned work

What do you plan to work on next week? If you have pending issues from section B, how will they affect next week's plan?

1) Jack and Walid will begin development on the game, so that initial testing can begin with the headset after basic controls are implemented.
2) Brandon will be working on identifying brain wave output that could be parsed into video game controls, finding specific wavelengths for left, down, up, right, etc.
3) Pending issues should not affect next week's work, only a shift in planning.

D. Time log

Total Number of Hours worked on the project this week per team member

Brandon- 7 hours

Walid- 12 hours

Jack- 2 hours