Addendum to Research Proposal for Task Classification of Electroencephalographic Data (IRB-017)

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2 Landmarks for Electrode Positions

In order to ensure consistency of the electrode placement for each individual a standardized system was developed. First the circumference of the test subject's head should be determined using a tape measure. This measurement will establish the cap size for the test subject. Next, a tape measure is used to measure the distance from the depression above the nose and below the forehead to the occipital protuberance (the natural bump in the back of a human head). The location of the halfway point should be noted. Next, the distance between the bottoms of each ear opening should be recorded. When taking this measurement the tape should pass over the position of the first measurement to ensure they intersect. Electrode A1 should be located at this intersection. This gives a consistent reference that is universally effective for every test subject.

3 Electrode Position Tracking

In order to properly catalog electrode positions for each test subject the Patriot electrode localization system will be used. This system will allow lab members to reference electrode positions in post processing. This information may be valuable in identifying brain regions and electrode positions associated with different tasks.

4 Human Subject Interactions

Human subject interaction in this experiment is absolutely fundamental to the research being conducted. Sixteen human subjects will participate in this study. The test subjects must be English speaking adults above the age 18. Because age and sex should not be a factor in the results of this type of research, there is no reason to recruit minors for the research. The human subject will be asked to assist to only one experimental session that will last about 3 hours.

5 Cosent Letter Signature

Once the test subject arrives he/she will be required to sign the consent letter that was ptovide to him/her.

6 General Questions for Test Subject

In order to ensure the integrity of the collected data some basic information will be required from each test subject. This questionnaire will include the following Yes/No questions **(5 min)**.

- Have you been able to get an adequate amount of sleep over the past week?
- Are you currently under the influence of any substance that may affect this experiment?
- Have you consumed any caffeine over the past 6 hours?
- Have you ever been tested for epilepsy or any other sort of neurological disorder?
- Is there any reason that you will not be able to focus for the duration of this experiment?

7 Patriot Data Collection

Recordings of the electrode position will be made after the cap is place on the test subject, using the Patriot tracking system **(15 min)**.

8 Comfort Level Questions

Once the test subject returns ask him/her to complete a questionnaire. This questionnaire will include the following questions **(5 min)**:

- In a scale of 1 to 5, 1 being poor and 5 being excellent, what level of comfort would you give to the experiment session?
- What could we have done to make your experience more comfortable?
- Were you able to concentrate on each segment of the test, or were you distracted? Could you explain why?