Final Project

Presentation date: 5/2/13 (during class time)
Paper due date: 5/3/13

The goal of the final project is to have hand-on experience to design your experiment, implement an E-Prime paradigm, collect your own data, analyze and present them. The whole class will finish this project together. Each student will analyze the data of his/her own brain.

The final project should be summarized in a peer-reviewed journal format as following:

(1) Introduction: Please include some review of literature related to the project. Please state the specific hypotheses that you want to test in this project.
(2) Methods: Describe the experiments, including the number of subjects you scanned, the stimuli, E-Prime program, data acquisition, and how you analyzed the data.
(3) Results: (a) group results, (b) results of each subject (each student shows his/her own data).
(4) Discussion: Discuss your preliminary results and why your methods can answer your cognitive neuroscience questions. What are the limitations?

For the writing, you can use my Indoor-Outdoor paper as an example. I will look for clarity, completeness, and most importantly how well you apply what you have learned in my fMRI class.
Design Details

Part I) stimulus-based fMRI

Design:

Two runs

Each run 7-8 minutes.

Block design,

Stimulation type 1 (easy math): 2+ 6 + 2= ?

Stimulation type 2 (difficult math): 2 + 6 × 2 = ?

Feedback at end of block.

2.5 sec per trial.

TR = 2.5 sec.

How many trials?

Contrast of interest: difficult math – easy math

Modify the scripts in the Lab “fMRI Block Experiment Design” for the design.

Part II)

Two runs of 7-min resting-state fMRI.