

Cognitive Systems 401
Guidelines for Final Research Proposal
Dr. L.M. Ward

1. **Purpose.** The purpose of this assignment is to give you practice in preparing a proposal to do a research project in some aspect of cognitive systems. To that end you are to write a paper of no more than approximately 2500 words describing what you propose to do. The document can contain as many tables and figures as you wish – they don't count toward the word limit. We have seen many types of projects in the class presentations. All of these are valid but they have somewhat different requirements in order to make them all viable. You should consider, as discussed in class, feasibility and importance. Also, you can assume that you have as much money as you need, within reason. For example, assuming you would get the entire US defense research budget (billions) for a study of the effect of robots on student stress is not really feasible. But you could be applying for, say, one million dollars to do this study, which would allow you to buy a robot for each of quite a number of students, hire several assistants, fund a postdoc, etc.. The amount of money that is feasible (which you *don't* have to specify) is usually equally dependent on the importance and the expense of the research. But I do want you to think big, especially if you feel you can justify that with a potentially important study. If you are doing research in which you propose to invent something, like a robot, an app, any kind of software or device, you will need to include a proposal about how you intend to test this invention for usefulness, acceptance, etc.
2. **Format. In general the format is somewhat flexible, as not all problems in cognitive systems can be crammed into the same document format.**
 - a. **WWH:** Your document should begin with a what, why, how paragraph that contains a theme sentence. That can be in the form of an abstract if you wish but that is not necessary as this is a proposal, not a report of research.
 - b. **Background:** The WWH paragraph should be followed by a section that lays out the background for your project, including especially a clear statement of the problem, previous work in the area, a theoretical framework if relevant, and discussion of any problems or gaps in the previous work. You should state explicitly how you are going to use previous work in building your own proposal. Do not include in this section descriptions of specific aspects of your method, but do make a preliminary statement about how you intend to test/augment/better/etc. the problem(s) you have identified.
 - c. **Method:** After the background section you should describe in as much detail as you can the specific methods you will use to implement your research idea.

- d. Expected results: If your project has something that can be called “results” you should say what you expect to find and what these might mean.
 - e. Limitations: Most projects have significant limitations. You should think about what your project faces in this way and see whether you can suggest ways to overcome these in future work.
3. Evaluation: Your proposal will be evaluated based on the extent to which you have made a convincing case for awarding you a reasonable sum to do your study, create your app, etc. Again, you don’t have to specify your budget or justify how much you are asking for, but you do have to think about this and make a good case for whatever you would need.