

PSYC 2270 - Introduction to Engineering Psychology: Group Project

Group Selection

Groups should consist of about 5 members. Choose your group members carefully – you will work with these people all semester, and nobody wants to get stuck doing all the work. In addition to choosing group members that you think you can count on, it would be a good idea to choose members that have a variety of skills and knowledge – remember the interdisciplinary aspects of engineering psychology.

Project Overview

The purpose of this project is to give you the experience of performing a complete evaluation and design recommendation, as if you were a practicing Engineering Psychologist. You will apply the knowledge you learn in class and develop the skills to be an effective Engineering Psychologist. This project will allow you to become familiar with the methods that Engineering Psychologists use, including evaluation by experimentation and inspection. For the design recommendation, you will gain experience implementing a systems approach to design, as well as user-centered design and the iterative design process. As part of the design recommendation, you will also build a mockup and/or prototype, and present the recommendations to an audience (your classmates). After you have finished this project, you will hopefully feel that you have been actively involved in a demonstration of how the field of Engineering Psychology can provide significant improvements in the design of products.

Part I: Evaluation

Due Friday, March 5th.

1. Mission statement
2. User Definition/Analysis
3. Context/Environmental Analysis
4. Task Analysis
5. Function Allocation
6. System Requirements
7. Functional Flow Charts / Decision-Action Diagrams
8. Workload Analysis
9. Collect preliminary data
 - *Use people in your group as your participants
 - Use this data to stimulate ideas about design recommendations
10. An Introduction and Conclusion section should be included in Part I. The Introduction should summarize your approach to evaluating the system. The Conclusion should suggest what design changes should be made.

Continued...

Part II: Design Recommendation

Due April 16th

1. Your new design may or may not necessitate an important change in any of the aspects considered in Part I Evaluation, such as the task performed, users involved, or how the functions are allocated. If your new design does necessitate these types of changes, then you should redo the relevant steps in Part I for the new design, before you implement the new design. For example, if you implement a new workflow, then do a new workflow diagram to document the changes.

2. Evaluations/recommendations for improvement of the following:

- Displays
- Controls
- Workspace layout
- Anthropometry

3. Mockup

4. Collect data on redesigned system

- *Use people outside of your group but within this class as your participants.
- Use this data to assess the effectiveness of your redesign.

5. Answer these questions:

- 1) Is there a need for additional functions?
- 2) Is there a need to reduce functions?
 - a. If yes to 1 or 2, generate additional FFCs or DADs
- 3) Does the design meet ADA requirements?
 - a. Displays/controls/workspace/anthropometry

6. An Introduction and Conclusion should also be included in Part II. The Introduction should summarize the reasoning for design recommendations suggested from Part I and their implementation. The Conclusion should summarize all the design changes and procedures that you completed in Part II, as well what the data collected in Part II say about your new design.

7. In-class presentation

- Approximately 15 minute talk, presented during last week of semester.