Assignment #1:

Customer Survey Questions
Statement of Work

• Read Chapter 3 and Appendix A (Sections A.1 and A.2) in our textbook.

• Identify a problem to be solved in the electrical and computer engineering area. It would save you work later, however, if the design problem addressed by this assignment is closely related to the one your group is considering working on throughout the ECE 396/397 course sequence.

• Write a list of survey questions that will help you identify the necessary design attributes (see Section 3.3.6, Table 3.3). These questions should address the following areas of interest to your design team:

  1. functional features of the product
  2. appearance / packaging
  3. type of user interface
  4. cost
  5. reliability
  6. maintainability
  7. time until delivery

These questions should be indirect and targeted, as described in the last paragraph in Section 3.3.1. The goal is to use responses to these questions from potential customers (your friends and family who are not engineers) to arrive at a non-technical statement of the problem. The questions should not be stated in numerical, but rather in non-quantifiable terms. They should, however, give you information that eventually may be stated as a technical specification.

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1 In some cases potential customers may be technically-oriented, such as engineering students for whom you are writing circuit design and analysis software tools
• Write another list of survey questions that will help you identify the following external factors that could impose constraints on your design (see Section 3.3.3, "Exploring Project Boundaries"). These questions are more intended for an engineering audience, but should still require non-quantifiable answers:

8. interfacing requirements with other systems
9. user training needs
10. government regulations and licensing
11. industry standards
12. safety issues
13. environmental concerns

• Survey potential customers and each other with all of these questions, and summarize the responses in a problem statement (statement of work), similar to that shown on pages 123-124 of Appendix A.

• Rate the customer responses in each area of interest with an "X" on the following scale:

Absolutely needed | Wanted, but not required

• Submit the list of survey questions, Statement of Work and "Need vs. Want" graphs for each customer response to Dr. Goncharoff in class on Monday, September 22. These should be typed, no longer than 5 pages in total length.

Grading:

Your survey questions and problem statement will be graded according to the following:

Was the problem described non-technically? (1 - 5 pts.)
Was the problem described non-quantifiably? (1 - 5 pts.)
Was the problem described completely? (1 - 5 pts.)
Was the problem described such that it is specifiable? (1 - 5 pts.)

-- see the beginning of Section 3.3 --