

UNIVERSITY OF NOTRE DAME
DEPARTMENT OF AEROSPACE AND MECHANICAL ENGINEERING
AME30362: Design Methodology, Fall 2009

P1 – Customer needs assessment project
Project Due Date: Tues. Sept. 8, 2009

This project will give you the opportunity to interact with and determine the interests of customers and users of a proposed product. This experience will assist you during the early phases of a new product development process as you will have the chance to collect information from past and future customers in order to perform a customer needs assessment.

Project Description:

The proposed product is a second-generation mechatronic football game. An intercollegiate mechatronic football competition was proposed by a group of entrepreneurs. A first-generation set of game rules and players were developed and the first game played in May 2009 at the University of Notre Dame. You will be involved with collecting, studying and assessing the experiences of the users of the first-generation mechatronic football game in order to begin the process of developing an improved product.

The basic purpose of this project (which should not be confused with the actual design of the product) is to develop an understanding of the customer's "whats" for this product. "Whats" can take on many forms. They are usually quite variable, highly qualitative and can be related to many different aspects of the product. In the earliest phases of the design process, identifying all the potential customers – i.e. those that will interact with the product, and collecting and evaluating their respective "whats" is important. These insights and this information is used then used to define design specifications that eventually result in design concepts.

For this project there will be range of customers and you will need to decide:

- who you want to interact with?
- what information you want to gather?
- how to gather the information?

For the intercollegiate mechatronic football project, potential customers are:

- players, past and future – at ND and at other universities (the human controllers!)
- spectators
- competition planners
- league commissioners
- referees
- hardware manufacturers, marketers and distributors
- stadium custodians
- etc....

The information you might wish to gather:

- rules for the first and second-generation competitions

- videos, reports from the first game
- other types of mechatronic sporting events
- customer's comments
- entrepreneur's goals
- etc....

You can gather information using:

- interviews
- surveys
- focus groups
- personal observations
- printed publications
- internet
- etc...

The objective of the project is to identify and present a list of features, characteristics, elements, concerns and opportunities related to the user's or customer's experience with this proposed product and to prepare a brief presentation to present your insights to the a new product development group.

This project will be conducted by small design teams of 4 students. The teams will be assigned by lottery.

Project Requirements:

Each project group will prepare a plan to conduct the project, assign responsibilities to individuals in the group, implement the plan and document both the planning and results of the project. Each group will develop two deliverables for this project.

1. The project planning and individual responsibilities will be documented in a memorandum (2-pages max., typed, single-space, 12pt font). The memo should include a summary of the groups approach to the project, an indication of the key customers and methods used to collect information, assignment of responsibilities and the dates and duration of group meeting and individual activities associated with the project. Obviously this needs to be concise and well edited. Tabular information may be the most effective way to present some of this information. The memorandum should be submitted in hard-copy in class and electronically in .pdf form.
2. Each group will prepare a 3-slide power point presentation to document the results (not the planning) of their customer assessment. The presentation will be submitted in hard copy in class and electronically as a .pdf file. This presentation is not intended to be a description of the game or of potential mechatronic players designs – the purpose is to identify and prioritize the critical customer expectations for this improved product. Some of the project groups will be asked to present thier results to the entire class during in the semester.