CS 3205, Section 001 (Horton) - HCI in Software Development Project Part 2: User and Task Analysis

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Submission: Submit your write-up as a .pdf file on Collab.
  Important: Put your team number prominently at the top of the document!

Deadline: Tuesday, Feb. 28, 11:30pm
You can submit this up to 24 hours after the normal deadline for a 10% penalty.
Note: You WILL lose 10% if your submission is not a pdf file.

Overview:

For this assignment, you will be generating a user and task analysis for the project you have decided to work on. This assignment will be done with your group, and you will submit a single document. In short, you will be generating a detailed definition of your users, including user roles and user personas.

Additionally, you will enumerate the tasks your users need to complete within your system. This will lead into a robust definition of the usability goals and requirements for your system.

Lastly, you will discuss the conceptual model of your system. I want you to focus on the abstract nature of the interaction and how this will affect your design once you begin prototyping.

REQUIREMENTS / DELIVERABLES:

Your submission could easily be longer than your first expect. But, please remember that longer submissions will NOT necessarily correlate with higher grades. In fact, a pithy but substantial submission is preferable.

Please remember that I am looking for you to analyze the aspects of your user base / goals / requirements analytically and in a manner that is specific to your system. Thus, your analysis should always be connected to your system and you should be arguing why the characteristics you identify are important and relevant. I suspect your submission might include the following. This is by no means a required structure, but merely a suggested starting point. DO NOT simply follow this summary blindly.

- **Abstract:** Provide a brief overview of the document and what it will describe. I should have a good idea of what I will find in the rest of the document by reading this section. You should also have an overview of the structure of the rest of the document in this section.

- **Overview of System:** Now that you have a group, you may have decided on various changes to the system, how it will work, and what the HCI questions you will investigate are. Give me a brief re-summary of the system, why it is interesting from an HCI perspective, and what aspects of the interaction your project will focus on. If what you are designing is part of a larger system, briefly discuss that here so we can clearly understand the scope of your system and its context.

- **User Roles:** Does your system have different user roles? If so, what are they? Define these systematically. If your system does not have user roles, then you do not need to include this. (By "roles" we mean what can also be called user "types", or as they're known in use-cases, "actors".)

- **Analysis of User Base:** For your users (or each of the user roles identified above), describe possible characteristics of the users or user-roles that might be important to consider when planning for building more usable interfaces. This might include "variables" such as age, experience, frequency of use, context of use, physical traits of the users, etc. Is it possible that your set of users might reflect different values or "levels" for these variables, or can you assume a more heterogeneous user population for some of these variables? Should your interface design reflect anything you've identified in this section? Does it need to work for a wide-distribution of users, or can you focus on a more targeted type of user?

- **User Personas:** Provide a user persona for each of the major user roles or demographics for your system. Make sure the differences in the personas are highlighted and described. Discuss some general conclusions that can be drawn from these personas that might be relevant when designing the interface.

- **Task Analysis:**

  - Give a high-level description of at least 10 tasks (and no more than 20 total) that your users might carry out with your system. For these, something like a story or a user-case name plus a short description is all that's needed. Indicate which user roles would be involved with each one. There should be at least 3 tasks indicated for each user role.

  - For at least 3 important or complex tasks from the previous list, give a more fully documented description. This might be a fully documented use-case, or a story with conditions of satisfaction, etc.

  - Include a section or information somewhere that discusses the task environment. This might be simply a typical situation of a user at a desk or looking at a mobile app, but highlight any interesting or important aspects of the environment if needed.

- **Usability Goals:** This section should outline the high-level usability goals or user experience goals for your system given the characteristics of its users and the

tasks they most wish to complete. Describe at least five usability goals. These may be tied to specific user roles.

- **Usability Requirements:** Given all of the information in the document, formulate at least five falsifiable (where possible), robust usability requirements. Make sure that these requirements are based on criteria that are testable, as you will be asked to evaluate your prototypes against these requirements in future assignments.

- **Conceptual Model:** Discuss the conceptual model of your system. What is the nature of the interaction? What are the abstract characteristics of the interaction? How does your user base think about and understand the interaction? What kinds of expectations do these users have regarding the interaction? How might this affect the design of your system? Etc.

- **Sources:** Include a description and justification of how the above information was gathered, including references to existing literature and on-line material that was instrumental in helping you complete this stage of the project.

- **Conclusions:** Wrap up the document by summarizing the information presented.

GRADING:

After discussion with the TAs, we will use the following grading approach.

An ideal submission will exhibit these qualities:

Paper is well thought out and robust. The user base is described thoroughly and an convincing list of relevant variables, roles, and usability-related characteristics of possible users are identified and discussed. The reasoning for the focus on relevant variables is convincing. User personas are well written and the group has identified the value obtained by writing them. Additionally, usability goals are clear, realistic, and directly related to the conclusions drawn from the analysis of the user base. Usability requirements are unambiguous and testable via experimentation. Lastly, the entire document is cohesive and the lessons from each section (user analysis, user personas, requirements, etc.) draw on each other and are not described as discrete processes.

For grading, a numeric score from 0 to 10 will be assigned to each of the following "components." Each component has the weight indicated, and your overall score will be the weighted average.

- 10% - Abstract and system overview
- 27% - User Analysis
- 27% - Task Analysis
- 18% - Usability goals and requirements
- 10% - Conceptual model etc.
- 4% - General organization, sources and conclusion
- 4% - Presentation and formatting

Each component will get a grade from 0-10 according to this rubric:

- **10:** For the given component, the paper clearly demonstrates excellent work. This corresponds to a clear 'A' grade.

- **9:** Paper fulfills the qualifications outlined for a score of 10 but contains one or a few minor, but noticeable flaws. This might correspond to an A- or B+ grade. This component is not quite as good as a submission that earned a 10.

- **8:** Paper fulfills the qualifications in the assignment but has more than a few noticeable flaws. The group did not go above and beyond the basic assignment requirements for this component.

- **7:** Paper has at least one MAJOR flaw. The paper makes a strong effort at fulfilling the requirements but demonstrates a major misunderstanding of at least one concept for this component. For example, perhaps the group shows a gross misunderstanding of the difference between usability goals and requirements.

- **6:** Paper demonstrates more than one major misunderstanding of the concepts and/or displays a lack of effort in understanding and applying the concepts from the course. Paper still contains a modicum of useful content.

- **5 or below:** Paper seriously fails in describing what's needed for this component, demonstrates multiple misunderstandings of the material, or displays a lack of effort on the part of the group.

Collaboration rules:

This is a group assignment, but your group is not allowed to submit work that was created by anyone outside your group. When you submit, you will pledge that you have followed these collaboration rules.