CS3240 Assignment G1: Group Project Proposal, Contextual Inquiry, Affinity Diagram and Task Analysis

DUE DATE

- Stage 1: Friday, Feb 1st, 23:59. You will receive feedback on your design problem on Tuesday Feb 5th (2% group grade).
- Stage 2: Monday, March 4, 23:59. (10% group grade)

The purpose of this assignment is to brainstorm ideas for the term project, and perform the initial interaction diagrams and task-centered system design. Note: the final exam will not simply test you on what you can remember from the lecture slides; instead, it will focus on your understanding of the design process from the lectures and knowing how to apply them in practice. Such understanding will come from the “real world” experience of working on the project assignments G1, G2, and G3.

Stage 1 Design Problems and Potential Interviewees

What to do and deliverables for stage 1

1. Select design problems: As a group, you will select 2 design problems from I1 (or you can also develop new design problems if you believe they are better than the ones presented in I1) as your course project candidates. Record them in a document for each design problem, provide a maximum of 1-page description. Submit them as a single document on the course website under G1 assignment.

2. Identify target users: For each design problem, try to identify at least 3 potential target users for that particular problem for interviewing (real people who you know in person and are highly related to the problem you want to work on, such as your Dad’s colleague or strangers with known ways to reach, or a professor in the physics department in NUS, a dentist in Alexandra Hospital, or a customer shopping at Cold Storage, etc.).
   a) For example, if your design problem is to blind people can’t interact with the web, you probably want to find a few blind users who are currently having such problems as your interviewers. List these potential interviewees (however, don’t use their real names for privacy concerns) at the end of each idea and a short description of why s/he fits into your target user group. You need to perform contextual inquiries on them in the second stage. Since setup appointment for interview takes time, so it’s important to identify them early.

Based on your submission, we will provide feedback and suggestions to the design problems you have selected to help you to make a decision of the most suitable problem to work on for this class. Of course, you have the final say about which problem to work on. Our role is only to provide suggestions and feedbacks.
Stage 2: Contextual inquiries, affinity diagram, and task analysis

What to do

In stage 2, you will use the contextual inquiry methodology to learn more about the problem your target users are facing. The interviews will also help you perform a task analysis of the current practice of solving the problem.

1. **Contextual inquiry**: Perform contextual inquiry on at least three target users (no CS3240 classmates and ideally they should not be your friends either) in their current working place. Follow the master and apprentice relationship model (you can divide the team up to do this separately to save time, or you could do the first one with the entire group for practice, and split the team to perform the remaining two interviews in parallel. For each interview, you need ask the participant to sign a consent form (can download a template from course website). During the interview, one group member should be the apprentice, while the others take notes. You can also use a voice recorder (with the subject’s permission). Alternate roles for each subject. Each interview should last between 30-90 minutes. During this process, keep an open mind. You are welcome to identify new “real” design problems from your users at this stage.

2. **Data Interpretation and Affinity Diagram**: Based on what you have learned in class, use affinity diagram to interpret and analysis your data, and try to come up with a thorough analysis of the interview results and identify the user needs, goals, problems and constraints as well as new design opportunities.

3. **Task analysis**: Answer the 11 task analysis questions presented in class.
   - 1. Who is going to use the system?
   - 2. What tasks do they now perform?
   - 3. What tasks are desired?
   - 4. How are the tasks learned?
   - 5. Where are the tasks performed?
   - 6. What's the relationship between user and data?
   - 7. What other tools does the user have?
   - 8. How do users communicate with each other?
   - 9. How often are the tasks performed?
   - 10. What are the time constraints on the task?
   - 11. What happens when things go wrong?

**Deliverables for stage 2**

You will submit a write-up of text and sketches in a document as well as preparing a 10-slide design brief presentation. Your write-up should follow the outline below and will be graded accordingly. Try to be succinct but complete. Long-winded descriptions are just as bad as descriptions that are too short.
• **Cover page (3%)**
Each team member’s name and a short description (one sentence per person at most) of how they contributed to this assignment.

• **Design Problem Overview (3%) [1 to 2 paragraphs]**
This overview should be a concise statement of the problem you are tackling.

• **Target Users (6%) [up to 1 page]**
Describe the rationale behind your choice of target users. For each of the three (or more) target users, give some details of their background, their likes/dislikes and priorities. Avoid information that may reveal their identity.

• **Contextual Inquiry (13%) [up to 3 pages]**
Summary of each contextual interview, including the person’s gender, approximate age (20s, 30s, etc.), job title, the location of the interview, who conducted and who took notes, how long it took to complete, etc. For privacy, don’t use people’s real names or any other uniquely identifying information. Also, include any difficulties you had or surprises you encountered in conducting the contextual interview. [2 pages]

Reflect on the experience of doing a Contextual Inquiry. What was easy? What was hard? What did you expect? What was surprising? Did you ask too many questions? Did you ask too few? What types of questions worked best? Which lead to poor answers? Which lead to in-depth answers? Which work models were difficult to produce? Which were easy? Which helped most in developing your understanding? Which helped least? [1 page]

• **Affinity diagram (15%) [up to 3 pages]**
Briefly describe the affinity diagram process you adopted to analysis the particular problem you are working on. Be specific by discussing the process in the context of your specific problem and the data you collected and provide examples.

Share the result of the bottom-up hierarchy of notes of the following types of notes

- **Key observations**
- **User statements**
- **Breakdowns**
- **Insights**
- **Design ideas**
- **Questions and ambiguities**

Remember, the goal is to **summarise**, prioritise, find trends, patterns, by **finding the rules of the world**, pushing knowledge up the hierarchy, and making data more presentable. You also want to **explain** differences, contradictions, generate **new knowledge**, more **design ideas, more concepts**. This analysis also can help you to make **design decisions** by understand what matters and how should we respond. Whenever possible, **involve** the people you interviewed with the data for the discussion together.

• **Task Analysis Questions (15%) [up to 2 pages]**
Answer the 11 task analysis questions. Use examples from your interviews when applicable.
• **Requirement Analysis for your solution (15%) [up to 3 pages]**

Based on the task analysis and contextual inquiry, now describe the main features and components needed for the new solution. Justify your decisions and analysis. For example, don’t just give the final requirements. Convince the reader that your requirement analysis is based on data discovered in the contextual inquiry.

The suggested presentation format for the 10 slides (the number in parenthesis is the suggested number of slides for that topic) (30%)

- Goal of the project (1)
- Focus of the contextual inquiry (1)
  - *Users interviewed*
  - *Focus changes related to findings*
- Findings (6)
  - *Top insights from the affinity*
  - *User goals, constraints, problems and opportunities*
  - *Key design ideas*
  - *Primary persona(s)*
  - *Result of task analysis*
- Final design brief (2)
  - *Target audience (persona)*
  - *Business goals and features of the product*

Note: this assignment will be graded based on

- The quality of the contextual inquiry carried out.
- The quality of the information you collected via the contextual inquiry.
- The quality of the analysis you have performed based on the collected data.
- The quality of the writing.

• **Appendices.** These **may** include the following:
  
  - field study protocol (from template)
  - consent form (submit a blank copy, keep completed confidential forms on file until the end of the term)
  - the questionnaire(s)
  - useful raw data (don’t worry about typing this up if handwritten)
  - group meeting notes (don’t worry about typing this up if handwritten)