Task Analysis

The objective of this assignment is for you to determine the following by performing a contextual inquiry:

- What the users will do with the interface your will be building,
- Where the users will use the interface you will be building,
- When the users use the interface you will be building, and
- How the users will use the interface you are building

By completing this assignment, you will gain experience in performing a task analysis. This will include the planning and conducting contextual inquiry interviews, documenting your findings, analyzing your findings, and writing your results in a report.

Tasks

There are several tasks you will need to perform for this assignment.

1. Develop plan for contextual inquiry. This plan needs to include documentation of:
   - The project introduction you present and the interview you conduct at the beginning of the contextual inquiry,
   - The key tasks that you expect to ask the participant to perform during the contextual query,
   - How you plan to capture the information that will enable you to answer the analysis questions below, and
   - The wrap-up conversation at the end of the contextual inquiry.

2. Perform and document the contextual inquiry on three (3) participants (who are not in this class). Note that you may (and are likely to) change your plan based on the results of first and second contextual inquiry. Though it is good to stick to the plan you developed, it is more important to gather meaningful information. If your plan does not appear to work, you will need to keep going with the interview and gather as much information as possible. The results of such an interview will be used to change the plan that you will use for subsequent interviews. Please briefly document what you learned from each contextual inquiry and how your plan changed and turn this in with the rest of the homework materials.

3. Analyze the results of the contextual inquiries and write-up an analysis. Your analysis should specifically answer the ten (10) questions below.

4. Pick six (6) tasks out of your analysis that you will uses for the basis of the interface design. Two (2) tasks should be tasks that the users consider difficult to perform, two (2) should be of moderate difficulty, and two (2) should be easy. Write-up these tasks in detail.

Analysis Questions

In performing the contextual inquiry, you should find answers to the following ten (10) questions:

1. What tasks do users now perform?
2. What tasks are desired?
3. How are the tasks learned?
4. Where are the tasks performed?
5. What is the relationship between user and data (personal, private, public, meaning to the user, etc.)?
6. What other tools does the user have to complete the tasks?
7. How do users communicate with each other regarding the tasks?
8. How often are the tasks performed?
9. What are the time constraints on the tasks, if any?
10. What happens when things go wrong while performing tasks?

The contextual inquiry should be planned in such a way that you will get answers to the above questions. Be careful that you have planned to gather information that will enable you to answer these questions.

**Deliverables**

There are four (4) deliverables in this assignment. You will need to provide write-ups on each of these.
1. The plan for the contextual inquiry. Includes documentation of changes made to plan after each of the first two contextual inquiries.
2. Observational notes from the contextual inquiry interviews.
3. The analysis of the contextual inquiry (answers to the analysis questions above).
4. The six (6) tasks, described in detail, that you will use as the basis of the interface design.

**Plan for the Contextual Inquiry**

The write-up of the plan for the contextual inquiry needs to contain the following:

1. *The talking points and questions you plan to ask participants.*

   Instead of a full script for the interview, you are asked to provide talking points. Talking points are a list (sometimes with details) that describes the items which you plan to talk about during some conversation or presentation. This list needs to be clear enough that you (and for purposes of this assignment, the instructor or teaching assistant) easily understand and are reminded of what you plan to talk about.

   For example:
   - Introduce an electronic wallet.
   - Ask participant’s help.
   - Have the following questions to ask:
     a. Question 1.
     b. Question 2.
   - Will ask participant to perform task.
   - May ask questions while user performs task.

2. *A list of the key tasks that you plan to ask participants to perform during the contextual inquiry. Note that the list includes tasks, not directions.*
3. **A description of how you plan to gather information during the contextual inquiry.**

Describe the method you plan to use to record information during the interview. You may use recording equipment to record the interview. You need to describe the instruments you will use to get the actual and/or recorded information onto paper.

For example:
We will have two observers during the contextual query interview. The first observer’s job will be to write down each object the participant touches and looks at during the interview and describe how the user appears to be using the objects. The second observer’s job is to make notes on the participant’s dialog during the interview. For each observer we have created a write-up sheet which is labeled with the sections of the contextual inquiry. (List the sections.)

4. **The talking points for the wrap-up at the end of each interview.**

These need to include thanking the participant, how the participant can see the results of your project, and how to keep in contact.

5. **A description of how the plan changed between the different interviews.**

The plan that you include in the write-up should be the plan for your final interview. It is very likely that you will have changed your plan between each interview. Describe the changes to your plan and why the change was added.

For example:
- Between the first and second interview we added task X to the list of tasks we ask the participant to perform because the first participant told us that task X was key in her/his work process.
- We also removed task Y between interview two and three because both participants said that they do not perform task Y.

**Observational Notes**

You will need to write-up the notes taken during the contextual inquiry interview. This write-up is the raw data. You should put as little interpretation in this write-up as possible. This write-up is an appendix to the core of the report. You will use this for the basis of your analysis and the instructor or teaching assistant will use this to determine if your analysis is reasonable.

These notes must include the following:
1. Name and contact information for the subject for each interview.
2. Name of the team members involved in a specific interview and what role each member was playing. Roles will normally include interviewer, observer, and sometimes the person handling recording equipment. You may have specialized observers like the ones in the described in the example above.
3. Each fact that was observed and who observed that fact.
Analysis
The write-up of the analysis should answer the ten questions listed above. For each answer relate it back to observed facts. You should have a heading identifying each of the ten questions in your analysis.

For example:
*Analysis Question 10: What happens when things go wrong while performing tasks?*
We believe that users will make the following kind of mistake: [specifically describe the mistake]. Users will also have difficulty recovering from this mistake because in interview two, the participant made the mistake and spent several minutes trying to undo its effects. [If it is not clear which facts are the basis for this conclusion, reference the specific fact.] This occurred in observations 4 though 7 by Jim Tso in interview 2.

The Six (6) Tasks
From your analysis, pick six (6) tasks that you will use for the basis of your design. As described above, two tasks should be difficult for the user, two should be of moderate difficulty, and two should be easy.

Your write-up needs to include the following (see sections below for more information):

1. **Task Description**
2. **Method:** the method(s) that the participants currently use to perform these tasks.
3. **Objects and Communication:** used by the participant during the task.
4. **Environment:** in which the user performs the task.

Task Description
It is very important that the task description meet the definition of task description discussed in class and recitation. Think of the task description as a description of the user’s end-goal, where the user is the subject and there is no computerized system or interface involved. *By having an inappropriate task description, you may eliminate design possibilities.*

It is strongly recommend that you apply the following tests to determine if it is a correct task description:

- A task is described in terms that the user uses to describe what they want to do (the user’s domain).
  - *The task description should not contain terms from an interface or computerized system.* If it is ambiguous if a term comes from the user’s domain or the interface, pick a different term that is unambiguously from only the user’s domain.
- The user is the subject of the sentence (or paragraph) describing the task.
  - *The computerized system, including the interface, should not be the subject.* If the computerized system is the subject, you are describing design, not the users’ tasks.
- The verb of the sentence describing the task is some form of “want” or “need.”
• A task is never a set of directions.
  o A task is a description of what outcome the user wants to produce, not how they
    produce that outcome.

Methods
This should be a set of directions. It may contain terms from both the users’ domain and the
existing interface, though it is better to use terms from the users’ domain when possible. This
section should only describe what the system does if it is in terms of what the user wants.
Otherwise, the instruction should be imperative sentences with the user as the subject.

Objects and Communication
This section should contain a list of objects and communications the participant uses during the
task, and what the user does with them. These objects and communications will most likely be in
the description of the methods the user uses to perform the task. This section revisits them from
an object perspective.

Environment
This section should describe where the task is being performed and what other activities are
happening around the participant while they are performing the task. This should include the
physical and social environment. Remember that users are involved in the physical and social
world while they are performing their tasks. There have been many cases where this has not
been considered and the resulting designs were unusable.

Write-up Structure
The write-up should be organized as follows with a maximum number of pages as listed:

1. The six (6) tasks – four (4) pages maximum
2. The contextual inquiry plan – two (2) pages maximum
3. The analysis – six (6) pages maximum
4. The observation notes – as many pages as needed

Each section gives details on what is to be included, with numbers. Use these numbers to label
the different sections and subsections. Use your common sense in producing the organization.
The easier it is to relate your work back to the assignment, the easier it is to grade. This will
make the instructor and teaching assistant happier.

You are to hand this assignment in twice, once by email and once by paper. The paper copy is
due at the beginning of class on the day the assignment is due. (Refer to the class website for the
due date.) The email copy is due at the same time. The assignment will be considered as late as
the last of the two submissions.