Requirement analysis

Topics

- Personas
- Scenarios
- Task Analysis
- Requirements
- Prototyping

Overall Purpose and Goals

During this phase of your assignment you will explore Personas and Scenarios to identify the tasks to be carried out and obtain the list of Requirements for your application. Remember, avoid focus primarily on what you want to do and the technology that you want to use. Instead, find what motivates the users, understand the tasks frequencies and sequences and explore the Scenarios when/where they will use the system. Finally, these Requirements will support the creation of a low-fidelity mock-up/Prototype for conceptual validation.

1.1 Step 1: Characterize your users through Personas

"The purpose of personas is to create reliable and realistic representations of your key audience segments for reference. These representations should be based on qualitative and some quantitative user research " In Personas @ usability.gov

For this step, we will limit the Persona creation process by considering your knowledge about the end-users as the main source of data. Naturally, you can (should) later search other sources of data and speak with other people, as representatives of the potential users, to enrich the Persona. To understand and define what are the main characteristics that should be considered for the Personas, for your application, you may consider the information in the file persona-development-discussion-guide.docx as a start (accessible from Personas@usability.gov), namely:

1) Gather as much data as possible about the relevant characteristics of your target users; do not include irrelevant information;
2) Can you find one representative Persona or do you need more? Think carefully. Personas should have significant differences to justify their existence;
3) Build a narrative gathering all the relevant information for your Persona(s). Keep it at a reasonable detail and size;
4) Brainstorm about what are the **motivations** of the Persona(s) that will be addressed by your work. Do not limit yourself to low-level aspects such as: "Send emails" or

"See match results". Instead, consider more high-level motivations such as: "Joana would like to keep in contact with her friends and to be able to know and participate on their regular hiking activities" or "Peter would like to improve his quality of life by performing more exercise and eating healthier food";

5) Find a name and photo/visual representation for your Persona;
6) Let potential end-users (and other third-parties) read the Persona. Do they feel well represented, overall? Is the Persona credible? Do they have suggestions that are relevant for the domain?

1.2 Step 2: Characterize contexts of use through Scenarios

"Scenarios describe the stories and context behind why a specific user or user group comes to your site. They note the goals and questions to be achieved and sometimes define the possibilities of how the user(s) can achieve them on " In Scenarios @ usability.gov

Create scenarios for the identified Personas describing their routine while using the envisaged application, for example: Where will the system be used? For how long? What activities does the Persona need to perform? Expected end results of using the system. How much complexity is permitted based on the Persona skills and frequency of use?

1) Context scenarios can have multiple scenes, preferably with titles, such as "Nuno shares a photo", "Maria sends a document to a colleague" or "Peter checks the results for the Premier League matches of this weekend";
2) Brainstorm about what features should be supported by the system having in mind the **motivations** of the Persona(s). Be open-minded. Let ideas flow;
3) Avoid entering into technical details; talk about features and when, where and how they are used;
4) If you have multiple Personas, consider if they need to interact (e.g., a father and his daughter exchanging messages using your system);
5) Let end-users read the scenarios. Do they find them credible? Do they identify with those actions and contexts?

1.3 Step 3: Analyze Main Tasks

Now, consider the scenarios to analyze the main tasks that users will perform with your application based on how the users perform the tasks currently (without the application).

1) Identify actions described in the scenarios; these will be the main tasks to analyze;
2) Carefully consider the context of use concerning the environment (e.g. light, noise, dust, stress level, etc.);
3) Write a list of these actions (tasks) such as "Send messages to friends", "Associate an emotion to a photo", "Provide information about medication side-effects";
4) Identify the new actions that might be useful for the users taking advantage of the new way to perform them offered by your application and prioritize;
5) Decompose the main tasks in subtasks (for instance using Hierarchical Task Analysis).

1.4 Step 4: Identify Requirements

Now, consider the scenarios and tasks to infer the requirements for your application.

1) What are the main actions described in the scenarios? Identify the tasks to be performed and detail the task decomposition;
2) Which functional requirements are more important, i.e., those that would provide a first useful (although not complete) prototype?
3) Are there any requirements that cannot be accomplished? Why? Do not remove them from the list. Instead, provide enough information to justify not targeting them (e.g., time constraints, technology not available, etc.).
4) What are the main usability requirements? (ease of use? ease of learning?...)
5) What are non-functional requirements relevant, besides usability?

1.5 Step 5: Conceptual validation using Mockups

"A prototype is a draft version of a product that allows you to explore your ideas and show the intention behind a feature or the overall design concept to users before investing time and money into development. A prototype can be anything from paper drawings (low-fidelity) to something that allows click-through of a few pieces of content to a fully functioning site (high-fidelity)." In Prototyping @ usability.gov

Prepare, for the next lab class, a paper prototype to test your ideas with your classmate. Paper prototyping is a fast and cheap way to test ideas before developing a functional prototype. It allows easily delete, modify or change the prototype during the testing. It is faster to create than any computer implementation and involves users in a very early stage of the project. It is estimated that 80% of usability problems are possible to be detected with low level prototypes.

1) The prototype developed needs to support, at least, three scenes from the scenarios, but, the most important aspect is that it enables end-users to validate the overall concept of the application. Take, as a first reference, the most important requirements identified in the previous step;
2) For the sake of simplicity, we advise you to develop a paper prototype. However, you may use an alternative prototyping tool such as: balsamiq, mockingbird, marvel, InVision, proto.io, figma, justinmind, powerpoint, etc…

Next deliverables

- ~6 slides (maximum 10 minutes) presenting: objectives/motivation, personas, scenarios, tasks and main requirements for discussion
- Paper prototype for user evaluation