

Design & Evaluation of User Interfaces - notes

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UX - User experience

The effectiveness, efficiency, and satisfaction with which specified users achieve specified goals in particular environments.

Effectiveness: the accuracy and completeness with which specified users can achieve specified goals in particular environments

Efficiency: the resources expended in relation to the accuracy and completeness of goals achieved

Satisfaction: the comfort and acceptability of the work system to its users and other people affected by its use

PACT

People

Physiological differences

- Disabilities
- Anthropometrics (Body)
- Ergonomic knowledge about capacities of a person (Dexterity etc.)

Psychological differences

- Spatial abilities
- Attention
- Memory
- Emotional disorders (depression)
- Personality types

Mental models

- An understanding of how a system works.

- Incomplete (Not all parts of a system is known)

Social differences

- Motivation
- Novice/expert (different experience)
- Homogeneous groups
- Heterogeneous groups

Activities

Context

Technology

Chapter 1

Requirement Analysis

*"What is a **requirement**"*

Something the product must do or a quality that the product must have.

Functional requirement, what the system must do.

Non-functional requirement, qualities that the system must have. Characteristics and/or parameters. Think qualitative.

Requirements needs to be testable

- What people do
- What people want to do
- How people do what they do

1.1 Terms used for activity

Requirement gathering, pre-existing specifications:

- Laws/legislation
- Documents from customer/user

Requirement generation, build from various sources.

Requirement solicitation, going deeper than user request.

Requirement engineering, active role, building the requirements.

requirements table

ID	Priority	Summary	Source(s)	Dependencies/conflicts	Satisfaction criteria	Change history
C4.1	1	View list of assignments, their status and type for the geographical area where the inspector is responsible.	Interview 3b.	None identified.	All assignments of the geographical area are shown. Only inspectors from the particular area can see these.	02-10-2007: Interview 3b -> Constraint on who can see the assignments.
...						

Figure 1.1: Requirements table

Prioritizing requirements, can be done using MoSCoW model.

Chapter 2

Data collection methods

Methods for Gaining an Understanding

Gather stories from stakeholders - examples of their work, struggles, processes, etc.

Interviews

Structured interview, with predetermined order and questions.

Semi-structured, loose understanding of questions, but more so following the flow of conversations.

Unstructured, loose understanding of questions, but more focused understanding general concern of customer.

Contextual Inquiry

Understand the actual work they are doing. Understanding their expertise of their needs and work. Abstraction, find commonalities and describe for the general user, not just the individual interviewed. Find the right granularity of the interview and understanding to not lose focus or getting overdetailed in descriptions.

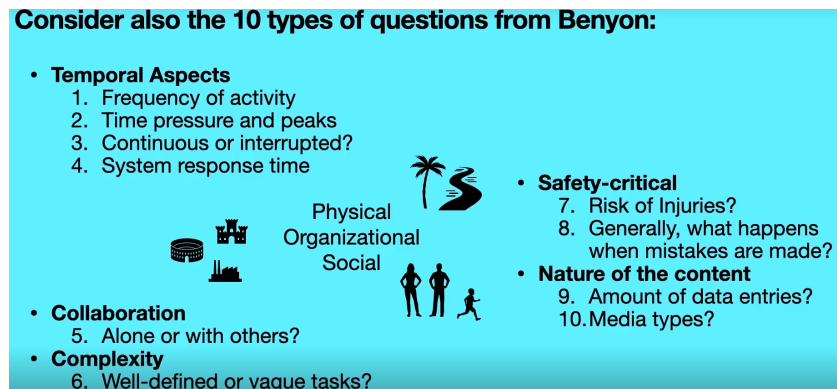


Figure 2.1: Benyons 10 questions

Quantifiable data

Usually a questionnaires. These can be first implemented into the development team to test, before sending to a customer. Keep it short. Preferably use a validated questions. Allows for comparing multiple users experience and wants for the potential system. Questionnaires can be found on pages like Google Scholar.

	Strongly disagree					Strongly agree
1. I think that I would like to use this system frequently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
2. I found the system unnecessarily complex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
3. I thought the system was easy to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
4. I think that I would need the support of a technical person to be able to use this system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
5. I found the various functions in this system were well integrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
6. I thought there was too much inconsistency in this system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
7. I would imagine that most people would learn to use this system very quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
8. I found the system very cumbersome to use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
9. I felt very confident using the system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	
10. I needed to learn a lot of things before I could get going with this system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	1	2	3	4	5	

Figure 2.2: Usability scale (SUS) - validated questionnaires

Cultural Propes

Gather information in a given activity, by letting user do activity without the designer being present. Where the user collects the data in their home or workplace. This allows the user to collect important information for them, whereas the design would have to guess.

Field Observations

It's difficult for users to express all details in interviews and surveys. Using field observations, common behaviour that is not thought about like keyboard shortcut can be

found. Usually done after interview to know what to look for. Being unobtrusive is important as to not distract or impeding them.