Usability Goals Setting

Chapter 04

Usability Engineering Life Cycle by Deborah J. Mayhew

Usability Goal Setting

- It is universally understood in the engineering discipline that to reach a satisfactory end result on any engineering project, the project team must establish and agree upon **clear goals** and then work towards accomplishing them.
- Designing without clear goal in mind is "**making a blind choice**"

- Usability goals are **mainly** based on the User Profile and the Contextual Task Analysis
- Categories of Usability Goals
  - Qualitative Goals
  - Quantitative Goals

Qualitative Usability Goals

- The general goals that guide design, which are not quantified, for example
  - The design must support users working in a high-interrupt environment, with lots of context information on screen to remind users where they are when they get distracted
  - The design must support very infrequent users of a very complex task. Thus, it must be self-explanatory and easy to learn and remember.

Quantitative Usability Goals

- Quantitative goals are objective and measurable.
- These goals can serve as acceptance criteria during usability evaluation
- Examples are
  - Experienced user (defined as users who have performed the transaction five times in a training session) should take no longer than two minutes on average to transcribe data from a certain paper form to a certain on-line data entry form.
  - Novice users (defined as first time users) should take no longer than three minutes to fill in a certain on-line subscription form

Classification of Quantitative goals

- Ease-of-use goals
  - Focus on the use of the product by experienced users who have been trained on how to use the product
  - Generally defined as the potential speed, efficiency and flexibility an interface offers to an experienced user
- Ease-of-learning goals
  - Focus on the use of the product by first-time users or infrequent users
- All quantitative usability goals can be formulated as either absolute goals or relative goals

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- Absolute Goals
  - Those goals that have an absolute quantification, for example, a specific number of seconds or minutes per task or a specific number of errors per task or transaction
- Relative Goals
  - Refer to users' experience on the product under design relative to their experience on some benchmark.
  - E.g. experienced users should take less time on average transcribing data from a certain paper form to a certain on-line data entry form on release 2 as compared to release 1

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- All quantitative usability goals can be formulated as either performance goals or preference or satisfaction goals
- Performance Goals
  - Quantify actual user performance while using a product to perform a task.
  - The usual measure are time to complete a task and errors (both number and task)
- Preference Goals
  - A clear user preference among alternative interface based on some level of experience
  - Easily quantifiable; the user make a choice

- Satisfaction Goals
  - A certain level of satisfaction with a particular interface
  - These types of goals measure subjective reaction rather than objective performance.
  - Satisfaction can be measured along a scale, for example, a 5-points scale ranging from “No at all satisfied” to “Extremely Satisfied”

Sample work product and templates

1. Qualitative Goals
2. Quantitative Goals

Stationhouse Usability Goals

1.

Support Task Interruptions

In the *noisy, stressful, and distracting work environment* in a typical police station, users will *frequently be interrupted* while performing property management tasks, sometimes by other competing tasks, sometimes by unexpected events, unpredictable prisoners, and so on. The user interface must constantly maintain enough context on the screen so that when users' attention is temporarily drawn away from their property management tasks, they can reorient quickly, and continue their task without errors and without having to back up or repeat any work.

Structure Work Tasks and Guide the User through Them

Because of the *extreme infrequency of use* and the *extreme complexity of the tasks*, the user interface should not require that users remember the correct sequences of steps to complete a property entry task. Instead, it should

- Allow users to define and stay focused on their immediate task goal (e.g., complete a property entry task)
- Guide users through tasks correctly and completely, based on minimal task/goal definitions provided by the users and relying minimally on user knowledge and memory
- Provide lots of support for users to remember and follow required policies and procedures

QUANTITATIVE GOALS TEMPLATE WITH SAMPLE DATA

2

The following template is filled in with sample data describing several types of usability goals for the user interface to a log-on procedure to an application.

Usability Goals

Goal #: 1

Task: Log on with security

Operational Definitions
Expert: Third trial
Novice: First two trials
Learn: Error-free performance
Satisfaction: 1=very unsatisfactory
4=neutral, 7=very satisfactory

Priority Definitions
1 = Required for release
2 = Important if not too ##
3 = Desirable if easy

Ease-of-Learning Goals

Priority	Measure	Goal
	Novice Time	
1	Novice Trials	3
	Novice Errors	

Ease-of-Use Goals

Priority	Measure	Goal
1	Expert Time	≤ 7 sec.
1	Expert Errors	0

Satisfaction Goals

Priority	Measure	Goal
3	Expert	6
3	Novice	5

End of the Lecture