Task-Centered System Design

How to develop task examples

How to evaluate designs through a task-centered walk-through

The Cheap Shop interface

Task-Centered System Design

Requirements Analysis in HCI

• Exactly who would use the system to do exactly what?

Phase 1: Identification

• identify specific users
  – prototypical categories & extremes
• articulate example realistic tasks
  – routine
  – infrequent but important
  – infrequent and incidental

Phase 2: Design

• decide which tasks and users the design will support
• base design representation and sequences on these tasks

Phase 3: Evaluation

• walk through these tasks to test the interface
**The Task-Centered Process**

Get in touch with real people who will be potential users of your system
- End users
- If you can’t find them, who will actually buy/use your system?

Spend time with them discussing how the system might fit in
- Who would be willing to talk to you about this?
- Are they interested? Why or why not?

Learn about the user’s tasks
- Develop concrete, detailed examples of tasks they perform or want to perform that your system should support

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**Developing task examples: Cheap Shop**

At your local “Cheap Shop” superstore, people browse through a catalog and then order goods from a clerk.

**Task example 1:**
A man carrying a demanding toddler buys an umbrella stroller (red is preferred, but blue is acceptable), pays for it in cash, and uses it immediately.
Developing task examples: Cheap Shop

At your local “Cheap Shop” superstore, people browse through a catalog and then order goods from a clerk.

Task example 2:
An elderly arthritic woman is price-comparing the costs of a child’s bedroom set, consisting of a wooden desk, a chair, a single bed, a mattress, a bedspread, and a pillow. She takes the description and total cost away with her, to check against other stores. Two hours later, she returns and decides to buy everything but the chair.

Developing task examples: Cheap Shop

Task example 3:
• A “Cheap Shop” clerk, who is the sole salesperson in the store, is given a list of 10 items by a customer who does not want to use the computer.
• The items are: 4 pine chairs, 1 pine table, 6 blue place mats, 6 “lor” forks, 6 “lor” table spoons, 6 “lor” teaspoons, 6 “lor” knives, 1 “tot” tricycle, 1 red ball, 1 “silva” croquet set
• After seeing the total, the customer decides to buy everything except the silverware, but then adds a blue ball to the list.
• The customer then changes his mind about paying by credit card, and decides to pay cash.
• The customer wants the items delivered to his home the day after tomorrow.
A good task example will…

…say what the user wants to do, but not how they would do it. You do not want to tie any interface assumptions into the scenario description. This will allow you to compare different approaches without preconceptions.

…be very specific. It needs to be clear exactly what the user wants to be able to do. It needs to present what “input” the user will need to be able to make (though not necessarily how they will provide it).

…describe the complete task. These aren’t meant to be lists of the individual things that are done in general. We want to be able to see the big picture, not just unlinked sub-goals.

…identify the user. By knowing more specifics about the user, we can do things such as design based on what the user will already know how to do.

…be evaluated with users. Ask them if there are any things that need to be corrected or clarified, whether things have been omitted, and if there are general suggestions for additions.

Walk-throughs

Good for developing and “debugging” an interface.

Process:
1) Select one of the task scenarios
2) For each user’s step/action in the task:
   – can you build a believable story that motivates the user’s actions?
   – can you rely on the user’s expected knowledge and training about the system?
   – if you cannot:
     • then you’ve located a problem in the interface!
     • once a problem is identified, assume it has been repaired
   – go to the next step in the task
You now know
How to develop concrete task examples
How to use task examples to motivate your designs
How to evaluate designs through task-centered walk-throughs

Readings
Shneideman/Plaisant: Chapter 3, 4