Cognitive Walkthrough

Effectively role-playing as representative users

Slides adapted from Caitlin Kelleher

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Task Centered System Design

An end-users perspective
  • exactly who would use the system to do exactly what?

Phases:
1. Identification
   identify *specific users* and articulate their *concrete tasks*

2. Requirements
   decide which of these tasks and users the design will support

3. Design
   base design representation & dialog sequences on these tasks

4. Walkthrough Evaluations
   using your design, walk through these tasks to test the interface

The Cheap Shop Catalog Store

In Cheap Shop, people shop by browsing paper catalogs scattered around the store.

When people see an item they want, they enter its item code from the catalog onto a form.

People give this form to a clerk, who brings the item(s) from the back room to the front counter.

People then pay for the items they want.

<table>
<thead>
<tr>
<th>Item code</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>323066647</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cheap Shop

Screen 1

Screen 2
Phase 4: Walk-through Evaluation

Process

1. Select one of the task scenarios

2. Write out the correct sequence/system responses

3. For each user’s step/action in the task:
   a) can you build a believable story that motivates the user’s actions?
   b) can you rely on user’s expected knowledge and training about system?
      • Will they see the control?
      • Will the recognize that it does what they want?
      • After they perform the action will the understand the feedback?
   c) if you cannot:
      • you’ve located a problem in the interface!
      • note the problem, including any comments
      • assume it has been repaired
   d) go to the next step in the task
Cognitive Walkthrough Questions

• Will users be trying to produce whatever effect the action has?
• Will users notice the correct action is available?
• Once users find the correct action in the interface, will they know it is the right one for the effect they want to produce?
• After the action is taken, will users understand the feedback they get?
Developing task examples: Cheap Shop

Task example 1

• Fred Johnson, who is caring for his demanding toddler son, wants a good quality umbrella stroller (red is preferred, but blue is acceptable).

• He browses the catalog and chooses the JPG stroller (cost $98. item code 323 066 697).

• He pays for it in cash, and uses it immediately.

• Fred is a first-time customer to this store, has little computer experience, and says he types very slowly with one finger. He lives nearby on Dear Bottom Avenue NW.

JPG Stroller. This well made but affordable Canadian stroller fits children between 1-3 years old. Its wheels roll well in light snow and mud.

...$98.

Red: 323 066 697
Blue: 323 066 698
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Cheap Shop

Screen 1

Screen 2
Specifications

To create an order

• On screen 1, shoppers enter their personal information and their first order
• text is entered via keyboard
• the tab or mouse is used to go between fields.

Further orders

• shoppers go to the 2nd screen by pressing the Next Catalog Item button

Order completion

• shoppers select ‘Trigger Invoice’.
• the system automatically tells shipping and billing about the order
• the system returns to a blank screen #1

To cancel order

• Shoppers do not enter input for 30 seconds (as if they walk away)
• The system will then clear all screens and return to the main screen

Input checking

• all input fields checked when either button is pressed.
• erroneous fields will blink for 3 seconds, and will then be cleared.
• the shopper can then re-enter the correct values in those fields.
## Walkthrough template

<table>
<thead>
<tr>
<th>Description of Step</th>
<th>Does the user have the knowledge/training to do this?</th>
<th>Is it believable that they would do it? Are they motivated?</th>
<th>Comment / solution</th>
</tr>
</thead>
</table>

Developing task examples: Cheap Shop

Task example 1

• Fred Johnson, who is caring for his demanding toddler son, wants a good quality umbrella stroller (red is preferred, but blue is acceptable).

• He browses the catalog and chooses the JPG stroller (cost $98. item code 323 066 697).

• He pays for it in cash, and uses it immediately.

• Fred is an office worker who is comfortable with computers. He lives nearby on Dear Bottom Avenue NW.

JPG Stroller. This well made but affordable Canadian stroller fits children between 1-3 years old. Its wheels roll well in light snow and mud. ...$98.

Red: 323 066 697
Blue: 323 066 698
Relationships to User Testing etc.

• In practice, you can use this to get more out of your user testing.
• But it should not be replacement for user testing.

• Domains where it’s not practical to run user tests supporting all of the tasks you envision.
Are there better ways to do it?

A task-centered prototype
  • partial wizard approach to tasks
  • prototyped several different ways
    • paper - 45 minutes
    • scripted animation - 2 hours

Does it work?
  • do a task-centered walkthrough to find out!