

# Cognitive Walkthrough

Effectively role-playing as representative users

Slides adapted from Caitlin Kelleher

Slide deck by Saul Greenberg. Permission is granted to use this for non-commercial purposes as long as general credit to Saul Greenberg is clearly maintained. <sup>1</sup>  
Notice: some material in this deck is used from other sources without permission. Credit to the original source is given if it is known,

Saul Greenberg

# 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.



Item code	Amount
323066 697	1

# Cheap Shop

Screen 1

**Cheap Shop Catalog Store** *Donderly software, screen A1.1*

**Purchaser**

Name:  Phone:

Postal Code:  Province:  City:

Delivery Address:

Today's date:

Credit Card No.:  for dept use: validation id:

**Catalog Item**

Number:  Quantity:  Cost/item:  Total:

Balance Owing:

**Next Catalog Item (PF5)**

**Trigger Invoice (PF8)**

Screen 2

**Cheap Shop Catalog Store** *Donderly software, screen A1.2*

**Catalog Item**

Number:  Quantity:  Cost/item:  Total:

Balance Owing:

**Next Catalog Item (PF8)**

**Trigger Invoice (PF5)**

# 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 they recognize that it does what they want?
  - After they perform the action will they 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

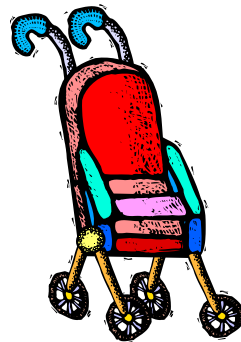
# Cognitive Walkthrough Questions

- 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**

# 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.



Item code	Amount
323066 697	1



# Cheap Shop

Screen 1

**Cheap Shop Catalog Store** *Donderly software, screen A1.1*

**Purchaser**

Name:  Phone:

Postal Code:  Province:  City:

Delivery Address:

Today's date:

Credit Card No.:  for dept use: validation id:

**Catalog Item**

Number:  Quantity:  Cost/item:  Total:

Balance Owing:

**Next Catalog Item (PF5)**

**Trigger Invoice (PF8)**

Screen 2

**Cheap Shop Catalog Store** *Donderly software, screen A1.2*

**Catalog Item**

Number:  Quantity:  Cost/item:  Total:

Balance Owing:

**Next Catalog Item (PF8)**

**Trigger Invoice (PF5)**

# 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

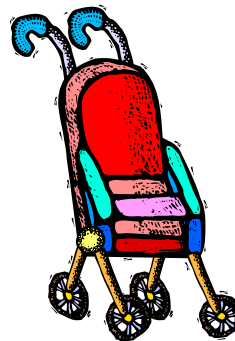
**Task number:** \_\_\_\_\_

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

# 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

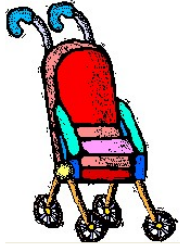
## Does it work?

- do a task-centered walkthrough to find out!

**What to do**  
Touch a different color,  
or scan another item.



**What you selected**



**JPG Stroller**  
For children between  
1-3 years old ...**\$98.**

Green  
 Blue  
 Red (out of stock)

<u>Item</u>	<u>Style</u>	<u>Cost</u>	
JPG Stroller	Green	98.00	Delete

tax: 6.98

**Total:** \$104.98

**All done?**

Place your order    Print this list    Throw this list away