

Cognitive Walkthrough of “Dino Hunt Dice”

Aims

Your aim is to select and use appropriate usability evaluation methods to evaluate the interface, and make informed design decisions based on the results of usability evaluation.

Your Tasks

In this lab, you’ll be conducting a “cognitive walkthrough” of your storyboard for Dino Hunt Dice. You might find it helpful to first do a PowerPoint version of the walkthrough, or at least draw it out fully (i.e., label the buttons, etc.). The cognitive walkthrough technique is described fully in the Lewis and Rieman book.

Assessed tasks

You have the whole of this course – 10 weeks of lectures and labs – to design a prototype for “Dino Hunt Dice”. YOU WILL NOT NEED TO IMPLEMENT THIS IN CODE.

As an interface designer in training, your job will be to work out how best to present the playing experience using a web-based or app-based interface.

- By now you should have a complete set of storyboards for your interface. Using these and the task lists you prepared earlier in the course, perform a cognitive walkthrough of the following tasks:
 - Starting the game with 3 players playing over a network.
 - Taking a turn during which you roll a red Dinosaur, a green Dinosaur and a yellow Leaf and decide to finish your turn there, scoring 3 points.
 - Taking a turn during which you roll two red Dinosaur and a yellow Dinosaur, then decide to continue. On your second throw you roll a green Footprint, a green Leaf and a yellow Dinosaur. You end your turn there, scoring 4 points.
 - Taking a turn during which you roll a red Dinosaur, a green Footprint and a green Leaf and decide to continue. On your second throw you roll a green Leaf, a red Dinosaur and a yellow Dinosaur and decide to continue. On your third throw you roll two green Footprints and a yellow Dinosaur, so you score no points.
 - Taking a turn during which you win the game.
- Prepare a brief usability report based on the results of your cognitive walkthrough. This should include the following:
 - A list the actions required by the user for each of the tasks
 - For each step in each action sequence, an evaluation grid showing that you have gone through the four questions and commented on the answers
 - A set of recommended changes that you might make to the system

Notes

The cognitive walkthrough is actually a technique for developing an interface, not just validating it.

To conduct a cognitive walkthrough, you need:

- A prototype of the interface
- A representative task description
- A complete list of the actions needed to complete this task
- A good understanding of the user's background

Cognitive walkthroughs: the process

- Identify the task
- Identify the actions needed to complete the task
- For each action
 - Try to tell a story about why the user would select each action in the list of correct actions
 - Easy way to do this: ask yourself the four key questions

These questions are:

1. Will users be trying to produce whatever effect the action has?
2. Will users see the control (button, menu, switch, etc.) for the action?
3. Once users find the control, will they recognize that it produces the effect they want?
4. After the action is taken, will users understand the feedback they get, so they can go on to the next action with confidence?

The easiest way of conducting a cognitive walkthrough is to go through this process with an open Word file in front of you, and to copy and paste the question for each step, then to write in your answer. Be critical: think twice before you answer 'yes', remembering you are answering on behalf of a user, not yourself.

Relevant material

Section 4.1 of Lewis, C., & Rieman, J. (1994). Task-Centred User Interface Design: A Practical Introduction: Shareware book available at:

<http://hcibib.org/tcuid/chap-4.html>

Rieman, J., Franzke, M., & Redmiles, D. (1995). Usability Evaluation with the Cognitive Walkthrough. In the proceedings of CHI'95, available at:

http://www.acm.org/sigchi/chi95/proceedings/tutors/jr_bdy.htm.