Human Computer Interaction
Cognitive Walkthrough with Personas Tutorial

In this tutorial, you will be practicing Cognitive Walkthroughs (CWs) with personas. The Cognitive Walkthrough is intended to identify usability issues in interactive systems by looking at how methods of accomplishing tasks are performed through the lens of a framework such as Neilsen's 10 heuristics or a persona. When done with a persona, the goal is to evaluate how an arbitrary person with some particular characteristics might accomplish the tasks (or not.)

Today you will be forming teams of 3 or 4 people. One person will be the *facilitator* who will be responsible for leading the exercise, keeping the participants on track, and working as an evaluator. One person will be the *recorder* who will be responsible for recording team comments and working as an evaluator. All members of the team (including the facilitator and the organizer) will participate as *evaluators* who will engage in the CW with a persona. You should each be familiar with the rules for each role (included).

The GenderMag kit (**Gender Mag**nifier) that this tutorial is based on comes from http://eusesconsortium.org/gender/

Your tutor is going to start by demonstrating an example of using the kit to perform a walkthrough, then you will decide in your group who will be the facilitator and the recorder.

The evaluation process:
1. On a piece of paper/whiteboard/flipchart write one scenario
   <persona-name> wants to complete <task>
2. On the same paper/whiteboard/flipchart write the sub-goals the persona will have (or should have) for that one scenario. It doesn't have to be perfect; the process will help catch errors.
3. Make sure your prototype is ready to start evaluating.
4. Distribute the persona(s) and read through them.
5. Answer the question on the form about the first sub-goal listed.
6. Answer *all* the questions about the first action <persona-name> would ideally take toward the sub-goal, then do the action on the prototype. Repeat for all the actions
7. Continue this process until all the sub-goals and their actions have been recorded.

A short video about the use of GenderMag and significance of the results can be found on YouTube (as of 16 October 2016): https://youtu.be/6HYvp5GrPjU

Today, you will have two scenarios to try based on this initial set-up for the prototype.

In sheets.google.com create a blank spreadsheet laid out as follows

	A	B
1		1
2		3
3		5
4		7
5		9
6		2
7		4
8		6
9		8
10		10
11		

Scenario 1: <persona-name> wants to sum a column of numbers in Google Sheets.
    Sub-task 1: choose a cell for the sum
        Action 1: point at the cell immediately under the column of numbers
        Action 2: left-click on the cell
    Sub-task 2: enter the sum function
        Action 1: click the "Σ" button
        Action 2: click on the SUM menu choice
        Action 3: click-and-hold on the first menu item in the column
        Action 4: drag the mouse pointer to the last item in the column
        Action 5: release the mouse button
        Action 6: press enter

Scenario 2: <persona-name> has been asked to create a bar chart of the values in the original list, identify the chart as "A chart of numbers" with the x-axis identified by the label "Some Values"
    Sub-task 1: Identify the numbers to be charted
        Actions? (identify the ideal actions)

    Sub-task 2: Select the bar chart
        Actions? (identify the ideal actions)

    Sub-task 3: Customize the bar chart
        Actions? (identify the idea actions)

Rules by role[1]

Evaluator

Everyone on the team serves as evaluators, including the facilitator and recorder. As evaluators, your job is to use the persona to step through the prototype as above to identify places where the persona might not do the things on the ideal list—these are the potential inclusiveness issues you're looking for.

To do this, simply answer the questions on the forms in the Appendices. It is not necessary to agree on a yes/no: simply record the different answers and move on. Remember:

- Stay true to the persona: This is about what your specific persona will do, not what you yourself would do or what some other user would do. If you think the persona might not do what the sub-goal or action says, think about why (refer to the persona bullet items), and write it down.
- Follow the "ideal" sequence: Your job is not to predict some sequence of actions the user might engage in, but rather to answer the questions about the sub-goals on the whiteboard and ideal actions to do them.
- Answer every question: Always answer the question for each sub-goal on your "ideal" list, and then the two questions for each action under that sub-goal. Answer every question as though your persona has gotten this far, so that you can fully consider the next question as though the persona got that far.
- You don't have to agree with each other: If any of the evaluators sees a possible issue (but not everyone agrees), just note it as "maybe" an issue, and write down why.
- Just find the issues, but do not try to solve the issues you find (at least not until after the walkthrough is completed).

Facilitator

The facilitator should make sure everyone follows the instructions above (staying true to the persona, following the "ideal" sequence, answering every question, and finding issues), reminding them as needed. The facilitator leads the meeting in other ways. For example, if the discussion veers off course or group dynamics start to become counterproductive, the facilitator needs to get the meeting back on track.

Recorder

The recorder should record the discussion of each question using the forms from the Appendices You should document any issues and why the team thinks this might be an issue for the persona, briefly referring to the items in the persona that made the team think this would be a problem.

---

[1] Section 3.3.2 *Margaret Burnett, Simone Stumpf, Laura Beckwith, and Anicia Peters, "The GenderMag Kit: How to Use the GenderMag Method to Find Inclusiveness Issues through a Gender Lens", http://eusesconsortium.org/gender, May 10, 2016.*

Example Scenarios and "Ideal" Sequences to Perform Them[2]

Choose one or more problem-solving scenarios (use-cases) that users need to be able to accomplish with the software. For example, a scenario might be "print my document" and "learn more about printing in this system". Write it on the whiteboard/flipchart.

Next, under each scenario/use-case you listed, write on the whiteboard the sub-goals in the order a user would have or need to accomplish their goals. These are higher-level actions in the order.

Finally, looking at the prototype, decide what action an "ideal user" should do first to fulfill the first sub-goal you wrote down, and answer the questions about it. (An "ideal user" is one who accomplishes the scenario the way the developers had in mind, so always performs the "right" actions in the "right" sequence.)

Example 1: Printing a section of a document
For example, suppose the scenario/use-case is to print a section of a document. A set of sub-goals could be:

- Sub-goal #1. Select the section of the document you want to print.
- Sub-goal #2. Print it.

An ideal user's action sequence for Sub-goal #1 would then be:

1. Put the mouse at the beginning of the section you want to print.
2. Left-click.
3. Hold down shift.
4. Put the mouse at the end of the section you want to print.
5. Left-click

And an ideal user's action sequence for Subgoal #2 would be:

1. Click "file" to open the "file" menu.
2. Select the "print" menu item.
3. In the part of the Print Window about which pages, push the "selection" radio button.
4. Click the "print" button.

---

[2] Appendix A, *Margaret Burnett, Simone Stumpf, Laura Beckwith, and Anicia Peters, "The GenderMag Kit: How to Use the GenderMag Method to Find Inclusiveness Issues through a Gender Lens", http://eusesconsortium.org/gender, May 10, 2016.*

GenderMag CW Forms [3]

(Scenario name):

Subgoal # __:
(e.g., "Select the section of the document you want to print")

• Will \<persona name\> have formed this sub-goal as a step to their overall goal?

- Yes, maybe or no: _____
- Why? (Especially consider \<persona name\>'s *Motivations/Strategies*.)

Ideal Action # __ :
(e.g., "Put the mouse at the beginning of the section you want to print")

• Will \<persona name\> know what to do at this step?

- Yes, maybe or no: _____
- Why? (Especially consider \<persona name\>'s *Knowledge/Skills, Motivations/Strategies*, *Self-Efficacy* and *Tinkering*.)

• If \<persona name\> does the right thing, will she know that she did the right thing, and is making progress towards her goal?

- Yes, maybe or no: _____
- Why? (Especially consider \<persona name\>'s *Self-Efficacy* and *Attitude toward Risk*.)

---

[3] Appendix C, *Margaret Burnett, Simone Stumpf, Laura Beckwith, and Anicia Peters, "The GenderMag Kit: How to Use the GenderMag Method to Find Inclusiveness Issues through a Gender Lens", http://eusesconsortium.org/gender, May 10, 2016.*