HCI part 8: Methods and criteria for interactive system evaluation

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1 First exercise: S.U.S.

The work for this exercise is the following:

> *Think about a system you know more or less. Provide first its name. Provide then your S.U.S. values and final score.*

I have chosen to provide an evaluation for Microsoft WORD(web interface) since I use it every day for filling documents.

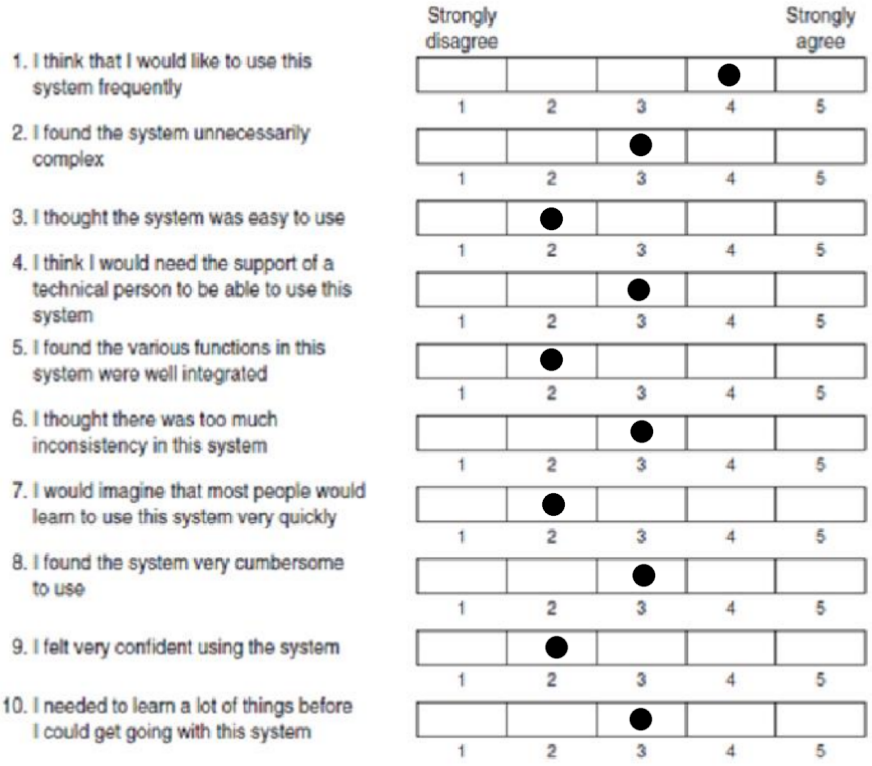

Figure 1: Evaluation for MICROSOFT WORD

$$
\begin{aligned}
sc(1.) &= 4 - 1 \\
sc(2.) &= 5 - 3 \\
sc(3.) &= 2 - 1 \\
sc(4.) &= 5 - 3 \\
sc(5.) &= 2 - 1 \\
sc(6.) &= 5 - 3 \\
sc(7.) &= 2 - 1 \\
sc(8.) &= 5 - 3 \\
sc(9.) &= 2 - 1 \\
sc(10.) &= 5 - 3
\end{aligned}
\tag{1}
$$

$$
scoring = 2.5 * (sc(1.) + sc(2.) + sc(3.) + sc(4.) + sc(5.) + sc(6.) + sc(7.) + sc(8.) + sc(9.) + sc(10.)) = 2.5 * (3 + 2 + 1 + 2 + 1 + 2 + 1 + 2 + 1 + 2) = 42.5
$$

Since the score is around 39(bad) and 52(acceptable), the evaluation is closer to **bad**

2 Second exercise: Cognitive walkthrough

The work for this exercise is the following:

> *Evaluate the (extract of) system below using the Cognitive Walkthrough method.*

- *Task: Add a new value to Suffix attribute*
  - *Action 1: Search for the Suffix attribute*
  - *Action 2: change its value with 20.1121.1211*

Provide the two evaluation sheets and from 1 (if you detect... only one usability problem) to several problem description sheets (if you detect several usability problems).

task	Will users understand how to start the task/action?	Are the controls conspicuous?	Will users know the control is the correct one?	Was there feedback to indicate whether the task/action was complete or incomplete?	Ambiguity and presence of similar actions?	notes
Add a new value to Suffix attribute						
Action 1: Search for the Suffix attribute	yes	no	yes	yes(cursor)	yes	The search is quite difficult, since the Suffix box is among many others and not seen at first glance, also other boxes could be mistaken for the action of adding a suffix, like appending
Action 2: change its value with 20.1121.1211	yes	no	no	yes	yes	the box is not enough to see the full value and the final result could be different since the string is not seen in full

2.1 First Problem: Ambiguity and difficulty of searching for the suffix attribute

2.1.1 Brief description

Since the suffix attribute is used as a way of adding a string to the end of the file(like appending), the ambiguity of using a different action than the one required is possible

2.1.2 How did I find the problem

Looking for the attribute, I found it after 1 minute more or less, and have also mistaken it for the appending attribute

2.1.3 Percentage of users that could have this problem

Probably 90% since the problem is easily seen to be quite common since the first thing to do when using the system is to search for the attribute, and among all the other attributes, it becomes quite cumbersome to find it, so probably most of the users will have this kind of issue.

2.1.4 Frequency of users that could find this problem

The problem will present itself for new users of the system, while it will be more frequent after some time since the memory of the user will be trained to find the attribute more quickly. So constantly initially, but rarely after having used the system enough.

2.1.5 Problem severity

Moderate since the difficulty of finding the system could be a cause of stress and a block to the use of the system, but the functionality is not necessary or excessively important.

2.1.6 Comments and enhancement

Maybe a visualization of the parts of the name creation could be added and a selection of the part directly, since a visualization could be a lot more conspicuous than some bounding boxes.

2.2 Second Problem: the box for the suffix attribute is too small

2.2.1 Brief description

The box of the suffix attribute cannot contain the whole string from **action 2**.

2.2.2 How did I find the problem

The second image clearly shows that all the numbers in the suffix string cannot be seen.

2.2.3 Percentage of users that could have this problem

95%-100% since it depends on the string used but it is a problem of the UI itself.

2.2.4 Frequency of users that could find this problem

Almost constantly, for the same reason previously described

2.2.5 Problem severity

Serious, since it is not critical but it can be a serious problem when working with long strings.

2.2.6 Comments and enhancement

Add a slider or a maximum length for the suffix string.

3 Third exercise: WAVE

The work for the third exercise is the following:

> *Use WAVE on one or several websites of your choice. Copy and paste the results provided by WAVE for one website. Analyze WAVE and try to conclude about its constitutive modules or main functions. Explain in your own words your conclusion (about one paragraph).*

The output for http://tisch.comp-genomics.org (database focusing on tumor microenvironment) is the following:

> 23 Errors 21 X Missing alternative text Missing alternative text 1Missing alternative text 2Missing alternative text 3Missing alternative text 4Missing alternative text 5Missing alternative text 6Missing alternative text 7Missing alternative text 8Missing alternative text 9Missing alternative text 10Missing alternative text 11Missing alternative text 12Missing alternative text 13Missing alternative text 14Missing alternative text 15Missing alternative text 16Missing alternative text 17Missing alternative text 18Missing alternative text 19Missing alternative text 20Missing alternative text 21More information 1 X Linked image missing alternative text Linked image missing alternative text 1More information 1 X Missing form label Missing form label 1More information 1 Alerts 1 X Redundant link Redundant link 1More information 1 Features 1 X Language Language 1More information 45 Structural Elements 20 X Data table Data table 1Data table 2Data table 3Data table 4Data table 5Data table 6Data table 7Data table 8Data table 9Data table 10Data table 11Data

table 12Data table 13Data table 14Data table 15Data table 16Data table 17Data table 18Data table 19Data table 20More information 20 X Column header cell Column header cell 1Column header cell 2Column header cell 3Column header cell 4Column header cell 5Column header cell 6Column header cell 7Column header cell 8Column header cell 9Column header cell 10Column header cell 11Column header cell 12Column header cell 13Column header cell 14Column header cell 15Column header cell 16Column header cell 17Column header cell 18Column header cell 19Column header cell 20More information 1 X Heading level 1 Heading level 1 1More information 2 X Unordered list Unordered list 1Unordered list 2More information 2 X Navigation Navigation 1Navigation 2More information 3 ARIA 1 X ARIA ARIA 1More information 1 X ARIA tabindex ARIA tabindex 1More information 1 X ARIA alert or live region ARIA alert or live region 1More information

My conclusions are that the tool functions by analyzing web pages for accessibility issues and then providing feedback on how to fix them. The main modules of WAVE include an evaluation module that analyzes web pages for accessibility issues, a reporting module that generates reports highlighting the accessibility issues found, and a tool module that provides developers with resources and guidelines for improving accessibility. Overall, WAVE is a powerful tool that helps to ensure that websites are accessible to all users, regardless of their abilities or disabilities. From the output of the **tisch** website, I can see that a lot of problems arise with the alternative text not set in almost every part of the site, this can lead to little to no accessibility for blind people.