INF1403 – Avaliação de Comunicabilidade (2/2)

Turma 3WB

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Estudo de Caso publicado no “Interaction Design Book”

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14.1: Communicability evaluation

Overview

These movies have been created using TechSmith Camtasia. To view them you will need to download the TSCC.exe Codec from Techsmith's website at:http://www.techsmith.com/codecs/tscc/default.asp

Arach1a.avi

Spider1a.avi

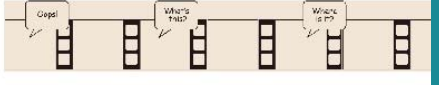
of communicability evaluation to analyze the user's
same type of application – HTML Tag Editors.
ality of interactive computer-based systems that
ly to uses their underlying design intent and interactive
ow how the results of this particular evaluation method can
sign of problematic interaction design.

method. Then we will present the case study. We will
ssing other situations where communicability evaluation

how old we are, our gender, the way we speak, etc., can all be interpreted as
information.

Semiotic engineering views human–computer interaction in terms of communi
designers of the artifact and the user. In linguistic terms the designer and the
as interlocutors and the artifact is thought of as a message from the designer
interest here is how the theory is applied in evaluation, which focuses on ident
in communication between the user and the designer.
These breakdowns occur when the user fails to understand the message (i.e.
artifact) sent by the designer—in other words, the problems that the user has
artifact—i.e. the *communicability* of a design. The method used is *communica*

Like usability testing and field studies, evaluating communicability is based or
experiences with an application either directly or, more usually, recorded on v
a predefined set of tags the evaluator analyzes the user's behavior, focusing o
which the user either could not understand the designer's intentions (as encoc
or could not make herself understood by the application. The first step in the
evaluation involves tagging the user's interaction with communicability utteranc
it consists of "putting words into the user's mouth" in a kind of reverse protoc
Souza, 2005, p. 126). The evaluator looks for patterns of behaviour that corres
as: "Oops!," "Where is it?," "I can do it this way," "I can do otherwise," "Loo
figure below presents a schematic image of communicability utterances for a
recorded video. Thirteen such tags have been identified and you can see how
this case study.



The Communicability Evaluation Method

In Semiotic Engineering the user interface is viewed as a communicating agent that can tell users how the designers have tried to meet the users' needs and expectations through the functions and features of the interactive artifact they have produced. By doing so, in whichever interface language (from natural language to direct manipulation, from gestures to voice commands, and so on), such interactive systems interfaces represent the designers and allow for computer-mediated designer-to-user communication at interaction time. This is why we say that such interfaces are the designers' deputies - they speak for the designers.

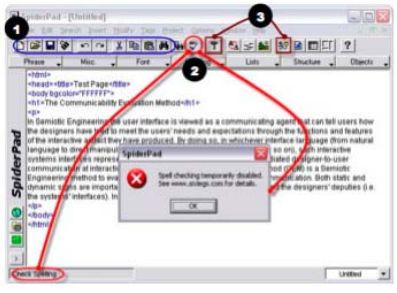


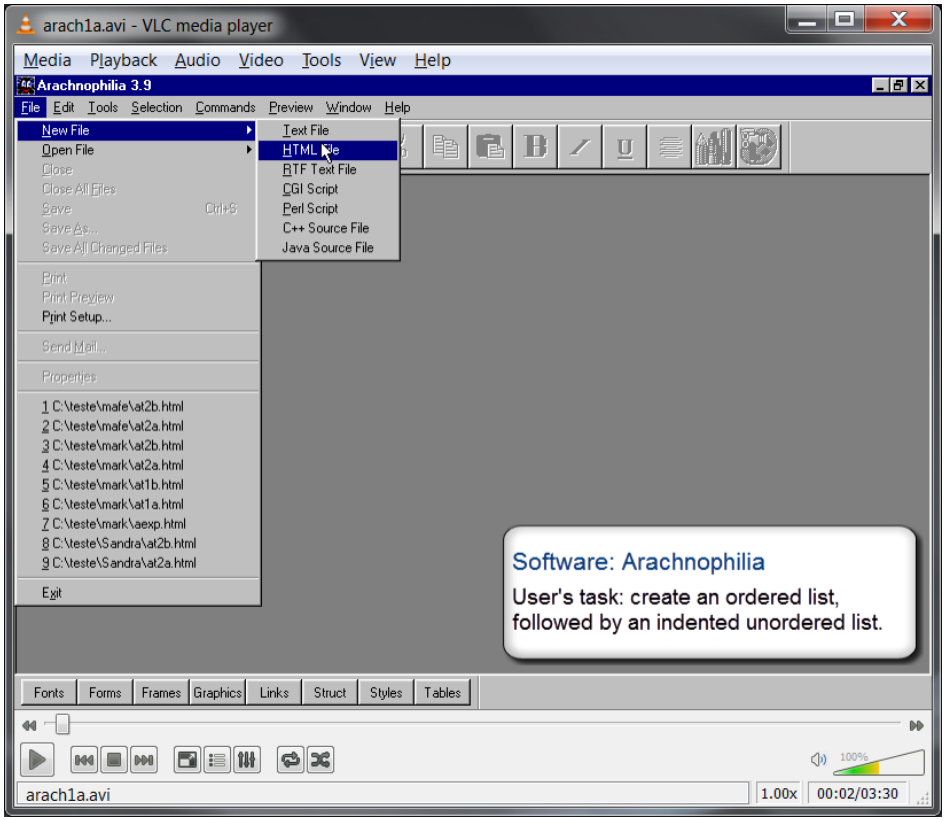
Figure 1: Communicating design through SpiderPad's interface

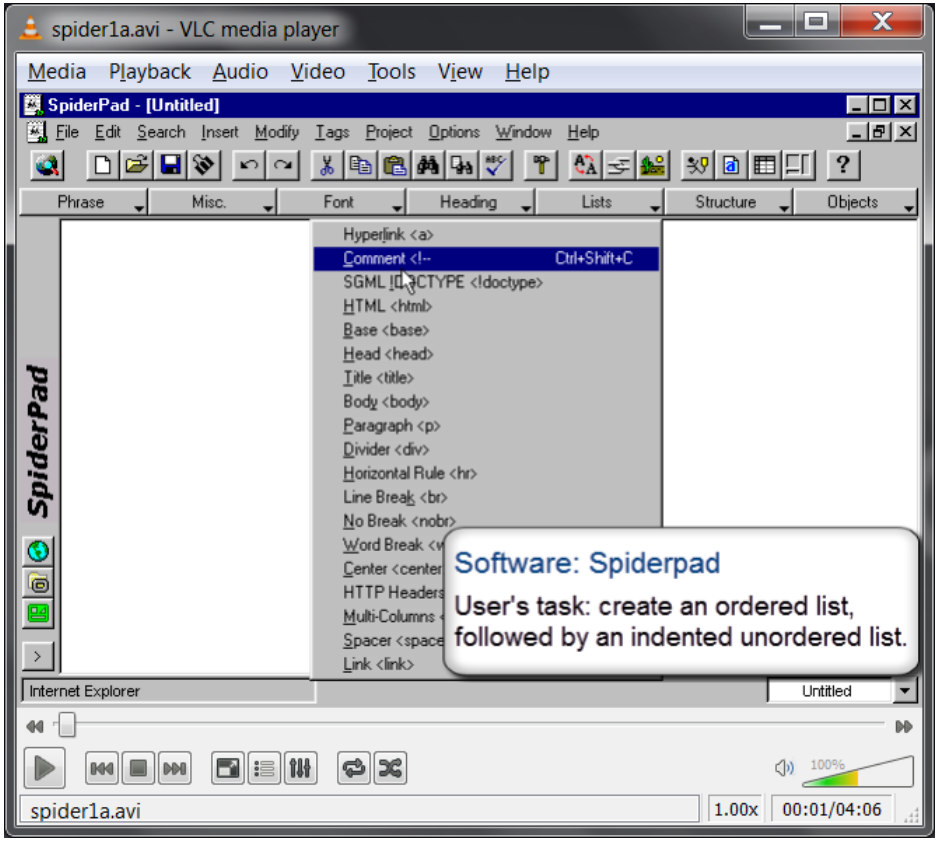
References

De Souza, S.C. (2005) *The Semiotic Engineering of Human–Computer Interaction*. MIT Press

serg

Comunicabilidade de 2 editores de tags HTML





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Informações gerais do estudo

- 10 participantes com diferentes perfis de conhecimento sobre HTML (grupo de alta variação, interessante para estudos exploratórios)
- Atividades de edição:
  - Listas aninhadas de itens (+ fácil)
  - Troca de cor de fundo da página (fácil)
  - Criação de tabela (- fácil)
  - Fusão de 2 células da tabela (difícil)
- 2 sub-grupos
  - Ambos realizaram a tarefa de criar a página NOS 2 EDITORES
  - Um sub-grupo começou pelo Arachnophilia; outro pelo SpiderPad

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Narrativas para 2 “clips” colhidos no estudo

- Atividade: criação de listas aninhadas
- Explicação das etiquestas nos filmes

1. arroz
2. frutas
   - abacaxi
   - uva
   - banana

An example of the Participants' Activities
In the first task, users were asked to create a white page, with two lists: a numbered list with 2 items, and an indented bulleted list of 3 items (all items are words in Portuguese):

1. arroz
2. frutas
   - abacaxi
   - uva
   - banana

Em: http://www.id-book.com/casestudy_14-1_2.htm

Two examples of the test records
The following is a description of movies <MOVIE LINK1> and <MOVIE LINK2>.

User's interaction with Arachnophilia:
The user first creates a new page (File > New file > HTML file). He sets the background and text colors as white and black, respectively. Next, he locates the TITLE tag and types in the title of the web page. He opens the Struct and Styles toolbars, possibly looking for a list wizard. For the numbered list, instead of using specific HTML tags, he types in the numbers, dots, items. For the bulleted list, he browses the toolbar buttons, possibly looking for a list wizard. He shows the “Struct” toolbar and opens the List Wizard dialog box, hesitates hovering between the Create and Hide buttons, and finally dismisses the dialog box by clicking on the “X” close button located at the top-right corner of the box. He then clicks on the LI button on the Struct toolbar, and the application inserts an <LI> tag on the document window. He then types the first item of the bulleted list, followed by carriage return. He types the remaining items without the <LI> tag. He hovers over a few toolbar buttons, and returns to the LI button. He moves the cursor to the beginning of the second list item, and < clicks on LI. The application then inserts the second <LI> tag. The user then moves to the beginning of the third list item, and clicks on LI again, to insert the third <LI> tag. He starts to browse the Struct toolbar buttons again, possibly looking for a way to indent the whole list. He shows the Graphics toolbar, shows and hides the Forms toolbar. He goes back to the LI button, hesitates over it but presses the neighboring Bot button, which inserts an application-specific tag. He deletes the tag, hesitates a little bit, moves the window, scrolls the document up and down, and declares that he has completed the task.

Entrevistas pré-teste e pós-teste + Anotações do observador

- Pré-teste

Pre-Test & Post-Test Interviews

The pre-test interview asked participants about:
1. What kinds of tools did they use to create HTML pages?
2. How did they do it?
3. What tools did they use to modify existing pages?
4. How many HTML pages had they already created?
5. What level of expertise in HTML did they think they had?
6. What was their favorite text editor?
7. What operating system did they use (for web publishing and related activities)?

Entrevistas servem para dar base de interpretação para os avaliadores

- Pós-teste

In addition to disambiguating portions of the observed interaction, in the post-test interview the evaluator asked participants about:

1. What were the perceived differences between Arachnophilia and SpiderPad?
2. Which of the two editors did they prefer and why?
3. What kind of user did they think the HTML editors were designed for? Why?
4. Which frequent tasks did each editor support best? Why?
5. Did they think they were targeted users of Arachnophilia and/or SpiderPad? Why?
6. In which of the two editors is it easier to create a table? Why?
7. In which of the two editors is it easier to modify a table? Why?

Observer's Annotations

Here are two examples of useful annotations made by the observer during the interactive sessions.

"Participant X is typing the HTML tags directly; only uses the editor's tag tools if he is not sure of which tag he should use (+ attributes, etc)." [Notice the observed reason for the participant's not using some of the editor's tag tools. This reason is inferred from various observed signs: the participant's typing speed, body posture, facial expression, etc.] "Because Participant Y has used Arachnophilia first, he is confused with SpiderPad's blank page – is there additional code hiding somewhere? See how he opens the edited page code in Notepad (!) in order to see if there is something else there." [Notice the observer's instant interpretation of what is going on in this participant's mind. This interpretation is supported by the whole context of the text, in which the observer is fully immersed.]

Anotações do observador dão valiosas pistas contextuais

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Tabulação e Interpretação

- Análise qualitativa da frequência e distribuição de etiquetas:
  - No total (todos os participantes, todas as tarefas, todos os editores)
  - Por participante
  - Por tarefa
  - Por editor
  - Por sub-grupo

- O que se pôde concluir?

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Conclusões mais gerais

- **First**, both Arachnophilia and SpiderPad caused considerable problems of navigation for the participants (a high frequency of "Where is it?"). It was also difficult, in both editors, to assign meanings to many interface symbols. But the frequency of meaning-assigning problems with SpiderPad was higher than with Arachnophilia. This is a curious result, given that most participants explicitly said, in the post-test interview, that SpiderPad was easier than Arachnophilia. However, the frequency of communicative breakdowns directly associated to (sub)task failures ("I give up" and "Looks fine to me") was slightly better in SpiderPad (31 hits) than in Arachnophilia (36 hits).

- **Second**, Arachnophilia was somewhat more conversational than SpiderPad, in that it had a smaller number of hits (97) than SpiderPad (108) for tags like "Where is it?", "Oops!", "What's this?", "What happened?" and "Why doesn't it?". This observation is in line with the kind of discourse we find in each editor's help contents. SpiderPad's help is terse and impersonal (e.g. the designer gives the following instruction for adding a row/column to a table: "To add a row or column, select a cell and click the appropriate button. Rows are added above the row of the selected cell, and columns are added to the left of the selected cell."). Arachnophilia's help style, however, is quite the opposite. The designer directly addresses the users and explicitly stands as the first person in discourse (we even know the designer's name), as evidenced by phrases like "I can't know what your background is or how much you know about computers, so you may choose..." (help content for topic How to make your own page). Moreover, in Arachnophilia help is organized in a tutorial way, whereas in SpiderPad it is organized in a functional way.

• O que 'pareceu mais fácil' aos usuários, revelava porém mais questões de comunicabilidade
• Ambos os editores geravam difficuldades na primeira situação de uso
• O estilo de comunicação era muito claramente distinto (+ 'conversacional e informativo' no Arachnophilia; + 'funcional e seco' no SpiderPad)
• Comunicabilidade não é só falar muito ou mais; é falar o necessário, na hora certa, da forma certa.

Interpretation
This step consists of tabulating the gathered data and mapping the utterances onto HCI ontologies of problems or design guidelines. This step must be done by an HCI expert, unless the mapping has been predefined. In this case, designers can benefit from some sort of automatic mapping and obtain a mechanically generated diag-

	Navigation	Meaning Assignment	Task Accomplishment	Declination / Missing of Affordance
I can't do it.			■	
Looks fine to me...			■	
Where is? What now?	■			
What's this? Object or action?		■		
Why doesn't it? What happened?		■		
Oops! I can't do it this way. Where am I?	■	■		
Thanks, but no, thanks. I can do otherwise.				■

Table 1. Mapping conversational categories onto high-level interactive and usability problems.

Referências em língua portuguesa

- Barbosa e Silva (2010) *Interação Humano-Computador*. Capítulo 10, páginas 344-358
- Prates e Barbosa (2007) Introdução Geral à Engenharia Semiótica. In *Jornadas de Atualização em Informática*. CSBC'2007. Disponível online em: http://www.inf.puc-rio.br/~inf1403/docs/JAI2007_PratesBarbosa_EngSem.pdf

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