Topic driven access to scientific handbooks

Caracciolo, C.

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In this appendix we include the questionnaire used in the user studies on which we report in Chapter 4. The questionnaire is divided into 8 parts: computer literacy; information gathering strategies; browsing the interface; search and read; external links; features of the map; user preferences; wishes.

A.1 Computer Literacy

1. Which operating system do you use the most? One answer.
   - Windows
   - Macintosh/Apple
   - Linux/Unix
   - Other
   - Unsure

2. What is the highest level of formal computing training you have had?
   - none
   - some non university courses
   - college course(s)
   - some undergraduate courses in computer science
   - undergraduate degree with minor in computer science
Appendix A. Questionnaire for the User Studies

- undergraduate degree with major in computer science
- graduate degree in computer science
- other

3. What is your current academic status?

- undergraduate student
- graduate student
- other

4. How long have you been using computers?

- never
- less than one year
- one to three years
- four to six years
- seven to nine years
- ten years or more

5. How long have you been using the Web/Internet?

- never
- less than one year
- one to three years
- four to six years
- seven to nine years
- ten years or more

6. How frequently do you use the Web/Internet?

- never
- once or twice a year
- monthly
- weekly
- daily

7. Mark the three activities that you perform more often on a computer.

- composing a paper
A.2 Information Gathering Strategies

1. How do you normally get an overview of a new field? (More than one answer is possible: order them according to frequency)
   - textbooks
   - search Google
   - search known repositories
   - ask someone (professor, colleague, ...)
   - other

2. How often do you use: glossaries, dictionaries, encyclopedias (on paper)?
   - Glossaries: never, yearly, monthly, weekly, daily
   - Dictionary: never, yearly, monthly, weekly, daily
   - Encyclopedias: never, yearly, monthly, weekly, daily

3. Do you use any of the above in electronic format? How often?
   - Glossaries: never, yearly, monthly, weekly, daily
   - Dictionary: never, yearly, monthly, weekly, daily
   - Encyclopedias: never, yearly, monthly, weekly, daily

4. How do you consult them?
   - on-line
Appendix A. Questionnaire for the User Studies

- CD-ROM

5. When reading on screen, do you take notes? Yes/No.

6. If yes, how?
   - on separate piece of paper
   - on file
   - on the printed version
   - other

7. When studying, do you combine dictionaries and books? Yes/No.

8. If yes, how?

9. Do you study on other types of electronic texts? Yes/No.

10. If yes, what types?

11. If no, why?

A.3 Browsing the Interface

1. Browse until you get the concept recursion theory, knowing that it is a concept in the area of the theory of computation.

2. Write down or draw the fragment of hierarchy visited to get to theory of computation. Add as many details (i.e. concepts seen or visited) as you like.

3. Browse to find the concept semantic ambiguity, knowing that it is a concept in the area of linguistics.

4. Browse to find the concept descriptive set theory, knowing that set theory belongs to the branch of logic.

5. Browse to find the concept Kripke semantics, knowing that it has to do with modal logic.

6. Did you encounter difficulties when performing the tasks of above? If so, mention at least some of them.

7. When you click on a concept, it goes and occupies the center of the screen (the focus area) What do you think of this?
   - I like it. It helps me make a mental picture of the ontology.
• I like it, but it requires me some effort to use it.
• I do not like it but it could be useful after some practice.
• I do not like it. I think is misleading.

8. Do you find the interface clear for browsing?

• very much
• rather so
• more or less
• hardly
• not at all

A.4 Search and Read

1. Find the concept operator and look at its children (i.e. subtopics). On the basis of your previous knowledge, and/or on the basis of the explanation given for those children, do you perceive some differences/similarity among them? Would you be able to draw a connection between the differences you perceive and the relation that the child concept hold with the parent? Please motivate your answer.

2. Take a look at the concepts proof theory, cut elimination and logic: they will appear very close to each other, on the same screen. Explain in a few words what relations you think hold between them.

3. What elements of the interface (or of your previous knowledge) made you think so?

4. By means of the information shown in the interface, mention at least two “parts of” in which logic (as a system of calculus or reasoning) can be divided. Mention some “subfields” (subclass) and a few relevant “mathematical results” in the area of logic.

5. Now think of the concepts you have mentioned and tell us how you selected them. If you were only reading the type of relations that appears below the gloss, take some time to think if what you read make sense to you and comment on that. Specify if you are using previous knowledge of the area.

6. truth function is a subtopic of both truth and semantics. Can you understand why?


A.5 External Links

1. Take a look at the concept **consistency**. It has a link to other sources (a handbook of logic). Take some time to inspect the links, then comment on what you have found, what you expected from the link and possibly what you would like to find instead of what has been presented to you.

2. Can you compare glosses and links to the external source?
   - I prefer glosses because…
   - I prefer links because…
   - I like both: they are useful for different things…
   - I do not know…

3. Please motivate your preference.

A.6 Features of the Map

1. Do you perceive a difference between the relationship between **linguistics** and **syntax** and **logic** and **propositional logic**? Please motivate your answer.

2. While browsing around the hierarchy, you have seen that pairs of concepts are related by one of the following relationships:
   - “is a subclass”
   - “is a part of”
   - “is a notion”
   - “is a mathematical result”
   - “is an instance”
   - “is an historical view”
   - “unspecified subtopic”

3. Do you find the types of relationships understandable?
   - very much
   - rather so
   - more or less
   - hardly
   - not at all
4. Now assign one of those relations to the following pairs of concepts. If none of them make sense to you, explain why and suggest alternatives.

(a) logic - modal logic
(b) computer science - theory of computation
(c) logic - Goedel’s first incompleteness theorem
(d) logic - operator
(e) quantification - Frege on quantification
(f) semantics - formal semantics

5. Look at the concept modal logic. Is it clear to you why it has three parents?

- very much
- rather so
- more or less
- hardly
- not at all

6. Explain in a few words why modal logic has three parents?

7. Put the concept ambiguity in the focus level. Then place the cursor, without clicking, on semantics ambiguity. What does appear in the focus level? Can you explain why?

A.7 User Preferences

1. Did you like browsing the map?

- very much
- rather so
- more or less
- hardly
- not at all

2. Did you like searching the hierarchy?

- very much
- rather so
- more or less
• hardly
• not at all

3. Would you express a preference between browsing and searching?
   • I strongly prefer searching over browsing.
   • I strongly prefer browsing.
   • I like using a mixture of the two.
   • I do not have particular preference/I do not know.

4. Have you found something interesting and not expected while browsing to answer the questions? What? Why did you find it interesting?

A.8 User Wishes

1. Would you like to be able to bookmark particular concepts? **Yes/No.**
   Please motivate your opinion.

2. Would you like to be able to go back and forward through the concepts already visited? **Yes/No.**
   Please motivate your opinion.

3. Would you like to have a way to select children or concepts? **Yes/No.**
   Please motivate your opinion.

4. Would you like to have a more sophisticated search? For example “search for the concept that has X as a child”, or “search for the concepts that have a certain text in the gloss” or “search for all concepts that are mathematical results under logic” and so on. **Yes/No.**
   Please motivate your opinion.

5. Do you have other comments or suggestions to make the interface clearer?