



The Myth of Find: User Behaviour & Attitudes to Within-Document Search

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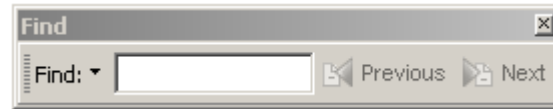
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Motivation



- **Simple, predictable tool**
- **Users report a high use of the within-document search features of Acrobat**
- **Also listed as a key advantage of working digitally**



Motivation

- **The tool is also naïve**
 - Literal matching
 - Matches made (and navigated through) in document order
 - Doesn't work on (many) scanned documents
- **Users actually don't use it often!**
 - And use it naively (often first hit only)



Agenda

- **Three User Studies**
 - 3 x 10 users in a laboratory setting
 - Diary study of 8 information intensive users
 - Expert review, by 8 HCI/IR experts
- **Findings**
- **Future Work**
- **Conclusions**



User Study #1: Laboratory

- **Set of 20 documents**
- **Three conditions (Paper based, Electronic folder, Results list)**
- **Post-experiment interview for qualitative feedback**
- **Observation via screen capturing software and video camera**



User Study #2: Diary

- **8 participants (multiple disciplines)**
- **Initial semi-structured interview, with some directed questions**
- **User recorded actions for a period of one to 4 weeks.**
- **Intermediate interview.**
- **Final interview**
- **Total of 35 searches performed.**



Study #3: Expert Review

- 8 experts in computer science.
- Presented with the limitations of Ctrl-f and given a prototype replacement to try.
- Asked to perform searches with both systems to establish preference and performance.



Findings

- **41/46 consider Ctrl-F a ‘key advantage’ in electronic searching and claim to use it.**
- **Only 4/20 used Ctrl-F in Study #1.**
- **Every participant in the diary study commented of the advantages of Ctrl-F**
 - **But only after a direct questioning.**



Findings

- **No diary study participant reported using Ctrl-F**
- **After specific questioning:**
 - 2 mentioned using it but not sure when
 - 1 said he may have used it
 - 5 said they did not use it at all
- **One participant noted that they had never used Ctrl-F before.**



Wider Findings

- **Behaviour seems very similar to naïve web tactics**
- **Overwhelming reliance on using the internet to search (high trust of search engine)**
- **Few pages opened and seldom thoroughly scrolled.**



SmartFind

- **Simulates sections slightly bigger than paragraphs.**
- **Allows for the searching of individual queries rather than exact matching.**
- **Uses stemming**
- **TF x IDF scoring gives most relevant section first.**
- **Highlights results.**



Expert Review

- **Positive responses to new features**
 - 7/8 giving consistently higher ratings
- **More similarity to traditional Ctrl-F interface required (by 4/8)**
- **Use of a separate (within-doc) results area recommended**



Future Work

- **Advanced within-document searching prototype introduced**
- **Develop SmartFind further**
- **Strong need for further investigation of user and attitudes in document triage**



Conclusions

- **Discrepancy between self-reported and actual behavior.**
 - 3 different user studies
- **Ctrl-f considered ‘key advantage’**
- **Rarely used and with little success**
- **Limitations and shortcomings manifest**
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Questions?

Thank you

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