

Understand Older Adults Search Habits: A Pilot Study

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ABSTRACT

This paper introduces a pilot study looking at how older adults interact with search engines to find information online. The purpose of this research is to look at the various problems that occur when users are searching for information and the relationship that this has with their created path through the internet. The first iteration of this study is introduced and discussion of the results obtained from participants is presented.

It is hoped that by further gathering and analysing this information, a set of tools can be created that will both assist users in browsing and aid their understanding of how search engines can help with data gathering.

Categories and Subject Descriptors

H.5.4 [Information Systems]: Information Interfaces and Presentation (I.7) – hypertext/hypermedia – navigation and user issues.

General Terms

Measurement, Documentation, Design, Experimentation, Human Factors.

Keywords

User Search Paths, Search Engine Organisation, Older Adults.

1. INTRODUCTION

As the internet grows, generations of older adults that previously did not have access to the technology, now find themselves in a situation where there is a ‘world of information’ yet the unfamiliarity of this new environment can lead many to become socially excluded [1]. This can be further hindered by a feeling of ‘lostness’ that can occur when searching for information and navigating through complex websites where users may not know where to go next, or may know where they wish to go, but not how to get there [3]. Work done on adapting both the content and flow of specific web pages, based on search strings proved to help benefit users searching in the short term [6], however as this is only a session based solution, it may have a detrimental effect on users searching for the same information over a prolonged period.

Previous work, based on user mental models, show that one of the main problems that exists for novice users is to identify keywords to use in order to get the correct information [1], although as this was only done with younger participants, the results for older adults may be different. As well as this, work has been done looking at the different aspects of a search engine that users pay the most attention to [2], and the amount of trust that a user has

with the results given [4]. Both of these studies showed that users are likely to only visit websites that are within the first two pages of search results, and more often only the top five results.

This study aims to look at how novice and intermediate older adult users interact with search engines. In particular, the decisions that a user makes before they decide to go to a website, and the consequent paths that are created between search engine and websites. It is hoped that by looking at this area and developing an understanding of some of the problems that users face and the tactics that they adopt to deal with these, it will be possible to develop a set of tools that can aid within the web searching process.

2. METHOD

Three participants were recruited for a pilot study and were briefed that they would be searching for information on the internet. The participants were then given a holiday scenario where they had to search for five different sets of information that were related to tasks that may be done in order to research and book a holiday. These five tasks, related to booking a holiday, were designed so that the participants could demonstrate their ability at web based common tasks that may be carried out online through a search engine. The five tasks set out are explained in brief below.

2.1 Comparison between sites

Participants were first asked to search for information regarding flights and accommodation for their holiday. This task was chosen to represent how a user may use a search engine to find information that can be used to compare between different sets of data.

2.2 Non-Comparison Data

Participants were then asked to find information regarding the weather in the holiday area that they were visiting. Participants were told that they could only visit a maximum of two different web sites for this and were asked to explain both their choice in search terms and in the sites that they visited. This allowed for analysis of search engine information that users pay attention to in order to decide on suitable websites to visit

2.3 Analysis of User Search Path

Once the users had completed the first two parts of booking their holiday, they were asked to find information on activities/attractions that they could visit. This gave participants an opportunity to visit multiple sites while relying on the one search term, giving an opportunity to analyse a users path between separate internet sites and the search engine itself.

2.4 Searching for Media Through Metadata

After using the standard search engine interface that is used for finding generic data, users were asked to find images of their hotel and the surrounding area. They were given the choice of doing this through the search engine itself, or through the more specific 'image search' options that are available. By doing this task, it was possible to look more closely at the meta data that participants used when searching for specific images

2.5 Searching within an Unfamiliar Environment

Finally, participants were asked to search for a digital camera while using the shopping channel that is available within google. All users had confirmed that they had not used this feature within google before and would allow for an analysis of an unfamiliar search environment

3. DISCUSSION

3.1 Analysis of Search Paths

Although the five tasks chosen within this pilot study were intended to be viewed as separate analysis points, there appeared to be a large amount of overlap appearing as the study progressed. This overlap occurred mostly through the search path that the users were taking to return to their previous results.

Within users paths, two actions became clear as the preferred methods that participants used to return to their previous search results:

1. The participant would repeatedly press the back button (sometimes for several minutes) until they arrived at the page that they were looking for
2. The participant would press the home button and attempt to enter the same result again.

While both of these options would eventually get back to similar, if not the same search results, they both have their faults and have the potential to be investigated further in future research.

3.2 Trust in Search Engines

As stated earlier, work has previously been done by Pan et al. [4] into the trust that users place with google search results and how users only visit the first two pages in search results and more often than not visit only pages in the top five results. This was confirmed, and perhaps built upon, as two participants would only select results from the 'Suggested Results', believing that these would give better web pages than if the entire search string was entered.

3.3 Other Search Problems

During the study, other problems arose with both the sites that the users were searching for and the terms that they used. While these occurred as individual occurrences, they provided a small insight

into some of the problems that novice and intermediate users might face when searching for information.

When one user was searching for the current weather conditions in Italy, the search term used was "weather -Italy". To the user, this was a perfectly acceptable search query, however as the minus character is reserved to notate words to be excluded, the search returned no relevant information at all.

4. CONCLUSION AND FURTHER WORK

As this study is only a small pilot, it is very hard to draw solid conclusions from the work done so far. However, the results have been interesting, in that all users have used the same methods of returning to search sites while still looking for further information. As well as this, indications of participants not understanding the full system model used by search engines to classify results will help to focus the full research study.

The research will now continue with further participants going through a more refined version of this study. By adapting the study so focus is towards the paths that users create going through websites, a greater understanding of how novice and intermediate web users both interact with and understand search engines. It is also hoped that by altering the study so that users go through two separate scenarios (the original holiday plus one other), a better baseline of results can be created that will aid the research going forward.

5. ACKNOWLEDGMENTS

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