This is not a test: user-oriented evaluation of the digital academic library

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Abstract. The distinction between digital libraries and traditional academic libraries is becoming increasingly blurred. Users are moving away from library information resources, and toward ubiquitous, usable Internet-based information seeking. User testing is one way to improve library services for users. This paper presents the case for user oriented evaluations of the digital interfaces to academic libraries, and is a position paper for the TDPL 2011 workshop ‘User Oriented Evaluation of Digital Library interfaces’.

Keywords: libraries, digital libraries, user testing, usability, evaluation

1 Introduction

Witten et al. defined a digital library as ‘a focused collection of digital objects…along with methods for access and retrieval…and for collection maintenance’ [1]. Increasingly, this definition can be applied to the materials available from and most supplied by ‘traditional’ bricks and mortar academic libraries: access to online materials is increasing while physical loans decrease [2]; ebooks allow for patron driven purchase of materials [3]; and web-scale search blurs the lines between physical and digital, owned and licensed content [4]. While academic libraries do still supply “books, d’uh” [5], users increasingly demand and expect access to scholarly information where and when it suits them, and in the format of their choice [6].

Even though libraries have embraced digital provision of content, novice students and experienced academics alike begin searching with Google [7-9]; nevertheless users consider library information resources more trustworthy than information found on the broader internet [5]. The key factor in the decision to use Google is convenience: internet searching is easy, library interfaces often make searching difficult [7, 10]; internet searching provides a smooth path from discovery to access, library interfaces often fail at access [9]; the internet is a single mass of information, library databases are silos [10].

The seemingly obvious solution to the problems with library interfaces is to provide a single, Google-like search box; however, this solution is rejected by at least some users [4, 11]. User testing is necessary to determine what users do want from
libraries in a time of increasing online access to a far greater range of materials than ever before; similarly user testing is critical to ensuring users continue to access high-quality library materials. Libraries collect significant data about use from a range of sources [12]; historically, however, this data has not been used to evaluate offerings and services from a user perspective [12]. Similarly, this data has not typically been used to inform more qualitative evaluation of library services [13]. The significant daily usage of digital academic library services and the vast amount of data collected by academic libraries make them ripe for user-oriented evaluation.

Section 2 of this paper will give a brief overview of the data available at Swinburne for user-oriented evaluation; section 3 will give an example of using the range of data available to us for user-oriented evaluation of our offerings.

2 Data available in Swinburne Library

Swinburne Library collects or otherwise has access to a wide range of data that represents user experience in one way or another. Some of this data is continuous, affording the Library a picture of usage over time; some of it is collected at discrete intervals, providing snapshots of user experience and benchmarking data.

The continuous data collected by the Library covers a wide range of user interactions, including use of the Library website, use of the Library search system, book loans, book requests, entrances to and exits from physical library spaces and access and use of licensed online resources such as ebooks and journal articles. Website interactions and use of the library system (including the catalogue and a web-scale discovery layer) are tracked with both server logs and website analytics software. The library system also has its own tracking software which provides reports on various aspects of usage, for example numbers of advanced and simple searches and queries which produced no results; this software can also be customized to provide further user data. Data available from third party content providers varies in richness; one ebook provider collects user session data which shows which books each user examined, and for each book which pages they read; other providers collect only limited usage statistics.

Discretely collected data includes library user surveys (both the biennial client survey, and smaller surveys designed to gather information about a single aspect of the Library); the information enquiries survey (all questions asked of Library staff are collected over a sample period of a week); and occupancy surveys (a count of people physically present in the Library taken at regular intervals every day for a week).

While library data is plentiful, there are some obstacles to using it for user-oriented evaluation of our digital offerings. The library client survey is a benchmarking tool and as such is restricted in the questions it is possible to ask users. The data collected by the library system is relatively basic, and technical expertise and time are required to configure the system to log more useful data. Similarly server log data is available only to a limited number of people within the Library, and technical expertise is required for its interpretation. Data from external sources such
as ebook publishers and journal aggregators is not necessarily comparable across a number of measures (including base usage) and may not include all statistics of interest (a problem noted in the library literature [14]). Finally, as with all usage data, much of the data collected is of only limited value in determining the motivations and satisfaction of users. Nonetheless, by combining data and more traditional user testing methods, comprehensive user evaluation of digital library services is possible: an example of this is given in the next section.

3 An example of user-oriented evaluation

Swinburne Library has recently implemented web-scale library search, a change that allows information seekers to find books, ebooks, DVDs and journal articles from aggregators and open access publishers (among other materials) via a single search box. This change is significant in libraries, and early studies of similar systems have shown some user ambivalence [4, 11]. In light of this resistance we used and are using existing data in conjunction with user testing to evaluate and facilitate user satisfaction with our implementation of web-scale search.

The first stage in this evaluation was a series of focus groups about information seeking, held with different library user groups to gain a broad understanding of our users’ perspectives on different information resources, reported in [9]. This work revealed that academic library users view and use scholarly articles and books differently, and that some of the differences are due to the differences between online and physical items, but some are inherent to the properties of books and articles. The next phase of our evaluation was a comparative log analysis of users’ queries of four information resources via a single interface on the library homepage (see figure 1), reported in the main TPDL conference [15]. This analysis compared search strategies between digital and physical resources, and found that users distinguish between these resources independent of interface. Differences include more frequent known item searching in the catalogue and more frequent natural language searching in online resources. The third part of this work, recently completed, was usability evaluation of three systems, one offering only combined web-scale search (where all resources must be searched from a single search box), one offering only split web-scale search (where owned and licensed content are searched separately) and one offering users the choice of combined and split web-scale search. Users offered the choice appeared to use it intelligently, and appeared to complete tasks more quickly than the other two systems (though definitive analysis of these results is still ongoing). Finally, we are monitoring the number of queries entered into searches of local, licensed and combined content on our live system, and we are collecting data allow us to replicate our earlier query log analysis over these resources in the future.
Individually, these evaluations do not provide a clear picture of user experience of web-scale search: either small sample qualitative experience data, or shallow log-based analysis of user behavior. Taken together, however, these studies have provided clear direction during the implementation of web-scale search, and represent a much more comprehensive user evaluation than the individual studies would suggest.

4 Conclusions

Academic libraries are increasingly digital libraries, and collect a wide range of data about usage that could facilitate wide ranging user-oriented evaluation of digital library services in daily use.

5 References