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# Social Cataloguing Sites: Features and Implications for Cataloguing Practice and the Public Library Catalogue

**Abstract:** International Standard Bibliographic Description elements were used to evaluate the contents of 16 social cataloguing sites' records. The heuristics Communication, Identity, and Perception were applied to the sites' social features. While record content was poor, the social features create a community of interest where people can share their reading interests with one another.

**Résumé:**

## 1. Introduction

The phenomenon of web-based social communities, such as Facebook and MySpace, and social bookmarking sites, such as Delicious and Flickr, has increased greatly in popularity. Wikipedia, for example, lists 20 popular bookmarking sites, as of July 2008 (Wikipedia, 2008), and this number may likely continue to grow. More recently, we have seen the growth in popularity of social cataloguing communities, whose aims and objectives are to allow members to catalogue and share with each other items that they own, such as books, DVDs, audio CDs, and so forth, as well as to note items on their wish lists (i.e., what they would like to purchase or borrow, view, or read). These sites allow members to not only share publicly their catalogued inventories, but to post reviews and commentaries on the items posted, create and participate in discussion groups, and tag or classify the items catalogued. In other words, these sites serve as a user-designed, interactive, and shared catalogue.

In contrast to social cataloguing sites, the aims and objectives of the library catalogue, as established by Charles Ammi Cutter (1904), are to:

- (a) Enable a person to find an of which either the author, the title, or the subject is known;
- (b) Show what the library has by a given author, on a given subject, or in a given kind of literature;  
and
- (c) Assist in the choice of an item as to its edition or as to its character (literary or topical).

In other words, the primary function of the library catalogue is to serve as a searchable inventory of the holdings of an institution that allows clients to identify what a library has, to collocate similar items, and to distinguish and evaluate amongst similar items. Social cataloguing sites provide us with an opportunity to examine how catalogue records can go beyond the inventory-based aims and objectives established by Cutter and act as interactive devices to not only inventory holdings, but to also exchange ideas, interests pertaining to items they have read, watched. In other words, we can examine fully interactive, user-generated and moderated catalogues that encourage members to use the catalogues to

not only inventory holdings, but to also exchange ideas, interests pertaining to items they have read, watched, or listened to. Abram suggests that we should study social communities such as MySpace to understand what makes them so successful and what they are doing to encourage knowledge sharing. Specifically, Abram (2006) asks: “What role do these sites play in creating engaging environments? ... Why do people share so much in these spaces through blogging, events, and even their own personal content creations?” The purpose of this paper is to compare, contrast, and evaluate the cataloguing and social (or interactive) features of a selection of popular social cataloguing web sites in order to determine the potential such features may have upon the design of public library catalogues.

## **2. Social online communities: Literature review**

Social cataloguing sites exist for a variety of media; some specialize in only one medium, such as books or DVDs, for example, while others allow members to catalogue items in a variety of media. Most studies of social online communities have focused upon the structure and use of the tags assigned by the members of these communities, as well as the tagging behaviour of these members. Catutto, Loreto, and Pietronero (2006) used data from Delicious and Connotea to investigate the statistical properties of tag association and found that users tend to share universal behaviours in the ways in which they tag the same resources. Michlmayr and Cayzer (2007) looked at the co-occurrence of individual user tags as a way to construct profiles of individual users' bookmark collections. Social Network Analysis theory was used, whereby if two tags are used in combination (co-occur) by a certain user to annotate a certain bookmark, there is some kind of semantic relationship between them. Users were generally pleased with the possibility of viewing aggregated information about their bookmark collection.

The potential use of social bookmarking tags in business enterprises is a growing area of interest. Farrell and Lau (2006) examined how tags may be used to characterize people in an enterprise. Using a system called Fringe Contacts, the authors tracked the tags that people in an enterprise used to tag the colleagues in their contacts list. The authors suggest that tagging is not only an effective way to manage contacts, but to provide also information about individuals (e.g., their skills and interests) and their relationships to others inside the enterprise. John and Seligmann (2006) examined whether tags could be used to ascertain the topic expertise of people in an enterprise by studying the tags and tag clouds assigned to bookmarks. The authors suggest that users are likely to read content tagged by people with particular skill profiles and that the social networks around tags facilitate the sharing of tagged content within an enterprise. Millen and Feinberg (2006) used the Dogear social bookmarking system designed for enterprises to examine how co-workers share information. The authors found that users prefer to look at another person's entire bookmark collection than browse collections, and that almost every user clicked through someone else's bookmark to look at the original document source on the internet or intranet.

The potential for building hierarchical taxonomies via tags was examined by Kome (2005), whose study of 2,000 tags in over 600 individual Delicious entries suggests that it is possible to design retrieval systems that allow for the retrieval of tag lists that are cross linked to information resources so that superordinate and subordinate search terms can be seen and used simultaneously, as in a structured subject heading list. Heymann and Garcia-Molinay (2006) designed an algorithm that builds a hierarchy of tags from the data in a tagging system. The algorithm leverages notions of similarity and generality that are implicitly present in the data generated by users as they annotate objects. This algorithm could help users to find broader or narrower tags that may better represent their interests.

The evolution of tags into a vocabulary has been the focus of a number of studies. Golder and Huberman (2005), who collected 68,668 bookmarks in Delicious tagged by 229 users, found that the combined tags of the users result in a stable pattern: After a relatively small number of bookmarks, a consensus in the tags assigned to those bookmarks appears to form. Santos-Neto, Ripeanu, and Iamnitchi (2007) tracked usage patterns in Cite-U-Like and Bibsonomy: Observed tagging activity included the volume and frequency with which items are added, and the number of tagged items. The authors hypothesized that it is possible to build tag/item recommendation mechanisms that exploit usage patterns, i.e., the shared interests among users. Sen et al. (2006) examined factors that influence both the way people choose tags, and the degree to which community members share a vocabulary. Their examination of the MovieLens social system shows three factors are likely to influence how people apply tags: People's personal tendency to apply tags based on their past tagging behaviours, community influence of the tagging behaviour of other members, and the tag selection algorithm that chooses which tags to display. Chi and Mytkowicz (2007) developed a methodology for understanding how tags in a social tagging system evolve as a vocabulary; their examination of Delicious tags suggests that users find it difficult to assign new tags: A user is more likely to add a tag to Delicious that is already popular in the system, than to add a tag that is relatively obscure. Personal bias is influenced by popular tags in the system, thereby reducing the power of a personal vocabulary. The collective of users on Delicious is finding it increasingly difficult to tag documents; they are less certain what tags should be used to describe documents and, consequently, they are increasing the average number of tags per document, thus serving to lower further the efficiency of Delicious tags.

Gallant, Boone, and Heap (2007) suggest five heuristics for designing and evaluating Web-based communities:

- *Interactive creativity*: Encourages communication and interaction of participants.
- *Selective hierarchy*: Helps develop systematic ways in which users can more easily store, sort, retrieve, ignore or filter information important to them.
- *Identity construction*: Participants may create, manipulate and recast their identity profiles (i.e., biographies).
- *Rewards and costs*: Web-based communities have rewards and costs; these include staying in touch with friends, making social plans, communicating with others and finding out about them.
- *Artistic forms*: Members may individualize their spaces with a variety of features such as sound, movement, design, art, and photos.

O'Murchu, Breslin, and Decker (2004) evaluated a selection of social network sites based upon the following features:

- *Communication and collaboration*: These features allow members to communicate with one another by means of listed e-mail addresses, instant messaging, short message services, or private messaging functions. Secondly, members can create and participate in community discussion groups or forums. Communication may occur between a member and the entire community, or between individual members.
- *Perceiving other users*: These features allow members to rate other members' personal reputations.

The study of social cataloguing sites has been neither as comprehensive nor as rigorous as that of social bookmarking sites. Most of the literature on social cataloguing sites only describes the main cataloguing and social features of the sites (with a heavy emphasis on LibraryThing) in very brief

articles, but provides little critical evaluation of these features. Examples of such brief surveys of social cataloguing sites include Bates (2006), Bisson (2007), Ishikuza (2006), Librarytwopointzero (2006), O'Neill (2007), Rethlefsen (2007), and Starr (2007). The contributions of social cataloguing sites, and LibraryThing in particular, to professional library catalogues have been noted by Bisson (2007). Cohen (2006) notes that the real value of Library Thing is its inherent social aspects: The more books that users add to their personal catalogues, the better the social aspects stand out, such as user ratings, who has added an item to their collection, book recommendations, and similarly-tagged books. Chudnov (2007) addresses the potential privacy concerns posed by sites such as LibraryThing, whereby people leave very clear trails pointing to their reading, watching, and viewing interests.

Comprehensive and critical analyses of social cataloguing sites have yet to be developed satisfactorily. As has been shown, several rigorous studies of the structure of tags and tagging behaviour have been conducted. These studies, however, have limited use in an analysis of social cataloguing sites since they focus on only social bookmarking sites, whose scope, purpose, and structure differ significantly from those of social cataloguing sites. Secondly, tagging is only one of many features available in many social cataloguing sites. Those works that have examined social cataloguing sites are limited because they provide only surveys or overviews of the features of the sites and, with few exceptions, their focus is on only one site, namely LibraryThing. While the potential contributions of LibraryThing to public library catalogues have received some attention, without an in-depth and critical analysis of the features of social cataloguing sites, the specific nature of these contributions cannot be determined easily. LibraryThing is only one of many social cataloguing sites; while its popularity and size makes LibraryThing a natural focus of study, examining only one site does not provide a sufficient understanding of the nature of social cataloguing sites as a whole. Furthermore, such a focus may lead to a potentially faulty assumption that LibraryThing is the *sine qua non* of social cataloguing sites and may thus overlook important features that other sites may have to contribute to our understanding of these tools.

### **3. Methodology**

The specific research questions of this study are:

- (a) What are the cataloguing features used in popular social cataloguing sites? Specifically, how are catalogue records structured in these sites, i.e., what metadata elements (e.g., title, author, publication date, and so forth) are used to describe the units of interest (e.g., book, DVD, audio CD, and so forth)? For the purpose of this paper, it was decided to examine the catalogue records used to describe only books.
- (b) How comprehensive are the catalogue records in popular social cataloguing sites? In other words, how detailed a description of the units of interest is provided in the catalogue records?
- (c) How well do the catalogue records in popular social cataloguing sites compare to catalogue records created according to established professional cataloguing standards used within Library and Information Science?
- (d) What are the social features used in popular social cataloguing sites?
- (e) What, if any, of the catalogue or social features of social cataloguing sites could be incorporated into the design of library catalogue records?

For the purpose of consistency, the catalogue records for one monograph were evaluated and compared across a selection of social cataloguing sites; the decision to examine only one monograph was taken to judge the ability of the sites to distinguish this one item among the multiple manifestations of the novel. The catalogue records of the social cataloguing sites were examined between May and June, 2008. The specific edition examined was:

Austen, J. (1981). *Pride and prejudice*. New York: Bantam. ISBN: 0553213105

The social cataloguing sites examined were derived from two avenues: (a) a list of social cataloguing applications found in Wikipedia (2008); and (b) a search for such sites in Google, Metacrawler, and Ixquick. All social cataloguing sites obtained from these two avenues were selected, with the condition that they allow for the cataloguing of books. A total of 16 qualifying sites was chosen:

Bibliophil	Listal
ChainReading	MediaChest
ConnectViaBooks	Reader <sup>2</sup>
Douban	Shelfari
GuruLib	Squirrel
Junklog	Stashmatic
Lib.rario.us	Stuffopolis
LibraryThing	U.[lik]

The contents of the catalogue records for the monograph in the 16 sites were evaluated based on the standard International Standard for Bibliographic Description (ISBD) elements (IFLA, 2007) used for monographs in the Anglo American Cataloguing Rules (AACR) standard used by professional cataloguers in public and academic libraries in North America, namely:

- Title and statement of responsibility
- Edition
- Imprint (city, place, and date of publication)
- Physical description
- Series
- Notes
- Standard number

It should be noted that emphasis was placed on only the physical description of the monograph, rather than any subject descriptions, since the latter would require an analysis of tagging that extends beyond the scope of this paper. The ISBD elements were broken down into their individual constituent parts, as follows:

- (a) Title
- (b) Author: Since the statement of responsibility for this work relates specifically to a personal author (versus an editor or illustrator, for example), it was thought more useful to use the term *author*.
- (c) Edition: This monograph is the Bantam Classics Edition.
- (d) Place of publication
- (e) Publisher
- (f) Date of publication
- (g) Extent: Number of pages contained in the book.
- (h) Dimensions: Measured typically as the height of the book.
- (i) Series: In this case, this work is identified as belonging to “Bantam Classics.”
- (j) ISBN: Used to refer to the standard number by which the book is identified.

- (k) Icon: It is increasingly common for catalogues, both commercial and non commercial, to include an icon that shows the cover image of the monograph. This icon can serve as a useful and important means of distinguishing different editions of the same book, and was thus used as an additional element by which to evaluate the contents of the 16 sites.
- (l) Language: There is no separate ISBD element for the language of an item, as this information is provided, if necessary, in the Notes element. Since this book has been published in several languages, it was thought important to include this element separately especially since, as is explained below, the Notes element was not used.

Not used:

- (a) Illustrative materials: This monograph contains no illustrations.
- (b) Notes: The notes field can contain any number of items of information pertaining to the work, such as publication history, detailed listings of contents, and so forth. Given the lack of consistency in the contents of the notes field, and the possible variance that could exist across the 16 sites, this element was not used.

Since the purpose of this paper was to examine the catalogue features used by 16 social cataloguing sites, emphasis was placed only on which of the elements identified above were contained in the records, rather than on the accuracy of the information contained in the records.

Criteria by which to evaluate the social features of the 16 social cataloguing sites were modified from the heuristics suggested above by Gallant, Boon, and Heap (2007) and O’Murchu, Breslin, and Decker (2004), as shown in Table 1. The Perception heuristic was modified to allow for members to input their perceptions not of other members, but of the items in their collections.

<i>Communication</i>	<i>Identity Construction</i>	<i>Perception</i>
Can you see the catalogues of other members?	Can you create customized folders to help you organize the items in your collection?	Can you assign tags to items in your collection?
Can you browse or search for members?	Can you create a personalized profile page for other members to view?	Can you assign a rating (e.g. 1- 5 stars) to items in your collection?
Can you contact a member privately?		Can you post reviews for items in your collection?
Can you create “buddy” lists?		
Can you create or participate in discussion groups?		
Can you see who else owns an item in your collection?		

*Table 1. Matrix of social features criteria*

The social features observed in the social cataloguing sites were compared to those found in a typical public library catalogue record for a monograph found in the major public library systems of the 10

provinces and 3 territories of Canada in June 2008. In the case of Newfoundland and Labrador, Prince Edward Island (PEI), the Yukon, the North West Territories (NWT), and Nunavut, one common catalogue interface is used for all library branches. In the case of the remaining provinces, the catalogues of the largest library systems per province were examined (e.g., Toronto Public Libraries in Ontario). While no claim is made about the comprehensiveness of this survey, it serves to highlight ways in which the features of social cataloguing web sites may be useful additions to public library catalogues.

#### 4. Findings

Adding a catalogue record to one's personal library is accomplished in the 16 cataloguing sites examined in one of two ways: (a) by entering a ISBN number and accessing an already-existing record; or (b) if no record is found via the ISBN number, by creating your own record. Option (b) appears to be available in only four sites, however, namely LibraryThing (LT), Squirrel, Stashmatic, and GuruLib, of which the first three provide you with a template of elements (such as title, author, and ISBN) which you are to fill manually. Bibliophil, Reader<sup>2</sup>, and Junklog use the equivalent Amazon.com record for any successful ISBN search. LT allows you to download the catalogue record from a selection of 75AACR-compliant catalogues (mostly academic libraries), Library of Congress, or Amazon.com. ChainReading (CR), ConnectViaBooks (CVB), Douban, GuruLib, Librarious, Listal, Squirrel, and Stuffopolis provide external links to the equivalent Amazon.com record, but each of these sites provides its own internal catalogue record. The following sites provide no explanation of how their internal catalogue records are created or derived: Douban, CR, CVB, GuruLib, Mediachest, Lib.rario.us, Listal, U[lik], and Stuffopolis.

Tables 2(a) and 2(b) show which of the 11 identified ISBN elements for the monograph record occur in each of the 16 sites. It should be noted that henceforth, the sites Lib.rario.us and U.[lik] are spelled Librarious and Ulik for the sake of convenience.

	<i>Bibliophil</i>	<i>CR</i>	<i>CVB</i>	<i>Douban</i>	<i>GuruLib</i>	<i>Junklog</i>	<i>Librarious</i>	<i>LT</i>	<i>Listal</i>
<i>Title</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓
<i>Author</i>	✓	✓	✓	X	✓	✓	✓	✓	✓
<i>Edition</i>	✓	✓	✓	✓	X	✓	X	✓	X
<i>Place</i>	X	X	X	X	X	X	X	✓	X
<i>Publisher</i>	✓	X	X	✓	✓	✓	X	✓	✓
<i>Date</i>	✓	X	X	✓	✓	✓	X	✓	✓
<i>Extent</i>	✓	X	X	X	X	✓	X	✓	X
<i>Dimensions</i>	✓	X	X	X	X	✓	X	✓	X
<i>ISBN</i>	✓	✓	X	✓	✓	✓	X	✓	✓
<i>Language</i>	✓	X	X	X	X	✓	X	✓	X
<i>Icon</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2(a). Occurrence of Monograph ISBD elements

	<i>Mediachest</i>	<i>Reader<sup>2</sup></i>	<i>Shelfari</i>	<i>Squirrel</i>	<i>Stashmatic</i>	<i>Stuffopolis</i>	<i>Ulik</i>
<i>Title</i>	✓	✓	✓	✓	✓	✓	✓
<i>Author</i>	✓	✓	✓	✓	✓	✓	X
<i>Edition</i>	X	✓	✓	X	✓	X	X
<i>Place</i>	X	X	X	X	X	X	X
<i>Publisher</i>	✓	✓	✓	X	✓	X	X
<i>Date</i>	✓	✓	X	X	✓	✓	X
<i>Extent</i>	X	✓	✓	X	X	✓	X
<i>Dimensions</i>	X	✓	X	X	X	X	X
<i>ISBN</i>	✓	✓	✓	✓	✓	✓	X
<i>Language</i>	X	✓	X	X	X	X	✓
<i>Icon</i>	✓	✓	✓	✓	✓	✓	✓

*Table 2(b). Occurrence of Monograph ISBD elements*

Title and icon are the only two elements of information that are common to all 16 sites. It is rather surprising that Author appears in only 87.5% of the sites, since it is common to equate authors closely to their books. Given that book titles are not necessarily unique, without the appearance of the author element, it may be difficult to distinguish between the work written by Austen, and works written about this book by different authors. If the author is not included in the record, one cannot access easily other works written by the author – via hyperlinks – which is one of the functions of a catalogue.

The fact that the ISBN appears in only 81.30% of the records is a significant omission, given that the ISBN is the single most uniquely-identifying element of a book, and can thus aid in efficient retrieval of this particular edition. Publisher and Date appear in 68.80%, Place in 6.3%, and Edition in only 56.25% of the sites. This particular title has appeared in numerous editions over the years, so it is particularly important to provide identifying information, such as publication information and edition statement, as further means of identifying this edition from others. The elements Extent (37.50%) and Dimensions (25%) are clearly not given much priority in the majority of the social cataloguing sites. These elements may be important to people who are concerned about whether a book will fit into their book shelves, or who may wish to read, or avoid, the full or abridged version of a book. Since these sites cater mostly to people who already own the book, however, these two elements may be less significant than those that serve to distinguish the particular edition. The occurrence of the Language element (31.30%) may not be necessarily important for this work, since it can be inferred from the title that this work is in English. AACR certainly does not include a specific element for language, and leaves it up to the cataloguer to include a note about the language of a work if it is not clear from the rest of the description.

LibraryThing is the only site that contains all the required elements, which is perhaps not surprising, given that this site allows you to select a monograph record from a variety of AACR-compliant academic catalogues. The Bibliophil, Junklog, and Reader<sup>2</sup> records contain 10 elements (90.9%) and are all derived from Amazon.com; they lack only the Publication element. Each record in Stashmatic (63.64% of the elements) has a template of bibliographic elements that corresponds to the required 11. This template is not filled completely for all records, however; for example, some records include all the elements, while others contain only the title, author, and publisher. Stashmatic differs from the other sites in that there is no centralized control over the records contained in the database: Members are provided with a template, but they choose to fill the record as they see fit. Shelfari (63.64% of the elements) is particularly unique in that the brief bibliographic citation that you get on



the results page is actually more detailed than the full record, as the latter shows only the title, edition, and author of the work.

GuruLib, Listal, Mediachest, Stuffopolis, and Douban all contain 54.55% of the elements. The Douban record shows the author in only the brief citation that you get on the results page; the full record does not contain this element. You have to assume that the named person in the brief citation is the author, however, as this is not specified. The exclusion of such a fundamental piece of bibliographic information is a serious oversight; it means also that you cannot hyperlink to other works by an author via the catalogue record. GuruLib allows you to access a fuller record via Amazon.com, or to over 500 public library records via the Z39.50 protocol, but the record examined for this study was not that used by Amazon or by any standard AACR-compliant catalogue. At the lower end of the rankings are ChainReading (45.45%), ConnectViaBooks and Squirrel (36.36%), and Librarious and Ulik (27.27%). These sites allow for very limited to no identification of the item at hand; none supply any publication information, but at least ChainReading and ConnectViaBooks provide the edition statement. Librarious and Ulik do not provide even an ISBN number, which means that the client can have little confidence in the record's ability to identify the unique title.

Tables 3(a) and 3(b) show the occurrence of the 11 chosen social features in the 16 social cataloguing sites examined.

	<i>Bibliophil</i>	<i>CR</i>	<i>CVB</i>	<i>Douban</i>	<i>GuruLib</i>	<i>Junklog</i>	<i>Librarious</i>	<i>LT</i>
<i>Access to members' catalogues</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>Search for members</i>	✓	✓	✓	X	✓	X	✓	✓
<i>Private contact</i>	✓	X	✓	✓	X	X	✓	✓
<i>"Buddy" lists</i>	✓	X	X	✓	✓	X	X	✓
<i>Profile page</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>Tagging</i>	X	X	X	✓	X	✓	✓	✓
<i>Ratings</i>	✓	X	✓	✓	✓	✓	✓	✓
<i>Reviews</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>Custom folders</i>	✓	X	✓	X	✓	X	X	X
<i>Discussion groups</i>	✓	X	✓	✓	✓	✓	X	✓
<i>Who owns item</i>	✓	X	✓	✓	✓	✓	✓	✓

Table 3a. Occurrence of social features

	<i>Listal</i>	<i>Media Chest</i>	<i>Reader<sup>2</sup></i>	<i>Shelfari</i>	<i>Squirrel</i>	<i>Stashmatic</i>	<i>Stuffopolis</i>	<i>Ulik</i>
<i>Access to members' catalogues</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>Search for members</i>	✓	X	X	✓	✓	✓	X	✓
<i>Private contact</i>	X	✓	X	X	✓	✓	✓	X
<i>"Buddy" lists</i>	✓	✓	X	✓	✓	✓	✓	✓
<i>Profile page</i>	✓	✓	X	✓	✓	✓	✓	✓
<i>Tagging</i>	✓	X	✓	X	X	✓	✓	✓
<i>Ratings</i>	✓	X	✓	✓	X	✓	X	✓
<i>Reviews</i>	✓	✓	X	✓	✓	✓	✓	✓
<i>Custom folders</i>	X	X	✓	X	X	X	✓	X
<i>Discussion groups</i>	✓	✓	✓	✓	✓	✓	✓	X
<i>Who owns item</i>	✓	✓	✓	✓	X	X	✓	✓

Table 3b. Occurrence of social features

The Communication heuristic is represented quite well in the social cataloguing sites; all the sites allow members to view each others' catalogues. There appears to be an understanding in all the sites that if you use these sites, you must be prepared to have your collection made available to any and sundry. Closely related to this feature is the ability to see which other members have a particular title in their collection (81.25%). This feature can give a bird's eye view of the popularity of an item, based on the number of members associated with it, and help a member to isolate other members who may have similar reading tastes and to see their collections.

Discussion groups or forums (81.25%) are probably the best examples of social interaction amongst members, as they allow members to share their ideas and opinions about a variety of topics related to items they have read, watched, listened to, and so forth. Finding other members (68.75%) can be done via internal general search engines, which allow you to search for individual members (e.g., Stashmatic, Bibliophil, and ChainReading); this feature may have limited value, however, since it requires you to know the user names of members. More effective are the search engines of ConnectViaBooks and Listal, which allow you to search for members according to certain facets, such as age, gender, geographic location, or reading interest. Other sites provide only browsable lists of user names; in the case of a large site such as LibraryThing, this search method is inefficient, as it requires scrolling through hundreds of pages.

The creation of buddy lists (68.75%) is used to establish and maintain contact lists of members with whom you share an interest, and to track their catalogues. None of the sites that include this feature explains whether you can opt out of someone's buddy list or whether you have any control over who selects you to be his or her buddy. Ranked at the same level is the ability to contact members privately; for those sites that do this via an internal e-mail function (Bibliophil, Douban, and Stashmatic), this means that you may not have any control over how often you are contacted or by whom. GuruLib, Squirrel, and Ulik allow you to post comments on a member's profile page, but this does not amount to private communication between members, since the comments are posted publicly. The remaining sites with this feature require members to provide an external e-mail address if they wish to be contacted privately.

The Identity Construction heuristic is represented via the creation of personal profile pages (93.75%). The amount of information provided in the profile pages varies considerably, since the 15 sites that provide this feature allow members to control how much personal information they wish to include. The second criterion of this heuristic, however, is poorly represented, since only 31.25% of the sites allow members to create custom folders by which to organize their catalogues (e.g., French Literature, Mysteries); the remaining sites provide only default folders that cannot be modified, e.g., "currently reading," "owned," and so forth, or simply list the titles in alphabetical order. The lack of this feature may affect members' abilities to organize their collection in any systematic way that reflects their interests and collections.

The Perception criterion with the highest frequency is reviews (93.75%), whereby members may post their reviews or comments about an item they have read or watched. Closely related is the ability to rate an item (75%); the convention amongst the 12 sites with this feature is a starred rating system, normally ranging from one star to up to five stars. None of the sites provides an explanation of the star rating, or the degrees of difference between the various levels of stars. Although these two features are so closely related, not all sites that allow members to post reviews allow them to post also their starred ratings (specifically, Chain Reading, Mediachest, Squirrel, and Stuffopolis). Given the popularity of

tagging in social bookmarking sites such as Delicious, Flickr, and Technorati, it is rather surprising that only 56.25% of the social cataloguing sites have this feature. The lack of tags impedes not only members' ability to organize their collections according to subject, but also to search for items in a particular category.

Bibliophil and Stashmatic contain all the desired 11 features; LibraryThing is a close second and is missing only the custom folders feature. ConnectViaBooks, Douban, GuruLib, Listal, and Stuffopolis have 9 features, with a lack of custom folders common to all but ConnectViaBooks and GuruLib. Listal has the most comprehensive and sophisticated search feature for members: You can browse for members by country, areas of interest (tags), actor, artist, or author. You can limit your member results by: a) gender; b) age; c) relationship interest; d) country; and e) whether or not a member has a posted photograph. Of note also is the ConnectViaBooks search engine that allows you to search for members according to a combination of facets such as age, gender, geographic location, and reading interest.

Libarious, Shelfari, and Ulik contain 9 of the desired social features, with a lack of custom folders common to all. Libarious' member search feature is unique and potentially problematic in that rather than list the members alphabetically, it sorts them in reverse chronological order, based upon when they joined the site. Junklog, Mediachest, and Squirl each have 7 of the desired social features, with a lack of custom folders common to all. Junklog scores particularly low in the Communication heuristic, since there appears to be virtually no way for members to communicate with one another; furthermore, although technically this site does have forums, this page was down consistently during the period of data analysis. Access to member catalogues in Squirl is somewhat limited, as you are allowed to see only the recent items that a member has added to his or her catalogue, rather than the entire catalogue.

At the bottom end of the sites is Reader<sup>2</sup>, with 6 social features; similar to Junklog, the forums page technically exists, but was down consistently during the period of data analysis. ChainReading finishes the set with 4 social features; its member search feature is limited in that you can browse only those members who have joined most recently, with a maximum of 20 members displayed.

## 5. Discussion

By professional cataloguing standards, the majority of the 16 sites examined do not provide sufficiently-detailed catalogue records for the monograph examined, since the average number of ISBD elements used is 6.5, or 59%. The title and statement of responsibility area appears the most frequently in the records, followed by the standard number, the imprint (excluding place) and, at a distant third, the physical description area. The only difference between the Amazon.com record and the AACR-compliant record for this monograph (found in LT) is the appearance of the place of publication. Given the inconsistent nature of the contents of the records examined, and the numerous editions of *Pride and prejudice* that have been published, it was often difficult to determine whether the item at hand was, in fact, the edition required; in many cases, it was only the presence of the ISBN that confirmed definitively the edition at hand.

It is clear that the social cataloguing sites examined are inconsistent in the ways in which they derive catalogue records. Amazon.com is clearly a popular source for records, but its application appears to be limited, since it is used as the actual site record in only three cases (Bibliophil, Junklog, and Reader<sup>2</sup>). Seven other sites allow you to link to Amazon, but it appears that this is for informational purposes only, or, as may be more likely, to encourage people to buy items from Amazon. Only LibraryThing

and GuruLib provide the option to access the catalogue records of AACR-compliant academic or public library catalogues via the Z39.50 protocol.

Given that librarians are likely to be perceived publicly as the experts in the creation of catalogue records, and the ease of access provided by the Z39.50 protocol, why are not more of these social cataloguing sites providing links to professional library catalogues? Is it because the site creators are unaware of the Z39.50 option, or is it because they assume that members will be more familiar with the Amazon records or more likely to use them? The perceived quality - which is certainly confirmed for the monograph examined - of Amazon.com as a source of catalogue records for monographs may be another reason for its popularity amongst the cataloguing sites examined. Without further study, however, one cannot go beyond speculation at this point, but perhaps it should be a concern to professional librarians that their catalogue records do not appear to be the obvious sources of authoritative catalogue data for the majority of the social cataloguing sites examined.

Providing links to their library catalogues via social cataloguing sites could serve as a useful marketing device for public and academic libraries, since once a record for a particular item is found, people can find related items of interest via the authority files for the author and the assigned subject headings. How or whether such links should be made by public and academic libraries is beyond the scope of this paper, but the opportunity to work collaboratively with social cataloguing sites is certainly available to professional librarians. LibraryThing, for example, provides a widget that can be used by libraries to enable users to roll lists of newly added books or random books to a web page or blog.

It is in their social features that social cataloguing web sites could serve as useful models for making public library catalogues more interactive and dynamic than they currently are. Most public library catalogue records consist of the AACR-compliant record, with some dynamic features, such as hyperlinked names (e.g., authors, actors) and subject headings. Some catalogue records include links to external related web sites e.g., Halifax and Boston public libraries. While these added dynamic features are certainly useful, they remain in the control of library staff; what is often lacking is user input to the catalogue record, or the means by which users of the public library catalogue can interact with one another to share and discuss reading interests, or to connect directly with like-minded users.

In comparison to the 16 social cataloguing sites examined, the typical public catalogue record in Canada offers a limited amount of social features. The library systems of Newfoundland and Labrador, Halifax, Toronto, Winnipeg, Edmonton and Vancouver provide published reviews from professional sources such as *Library Journal* or *Publisher Weekly*. Newfoundland and Labrador, PEI, and Edmonton provide links to external reviews via the records of commercial catalogues such as Amazon.ca and Chapters Indigo. Halifax, Winnipeg, Vancouver, and PEI provide cached searches, conducted by library staff, in Google, on the subject headings used in the record. Edmonton has the largest number of social features, in that it allows clients to post ratings or reviews; they need provide only an alias, with no other identifying information. Edmonton provides also as “personalized list” feature, where library staff can create personalized readings lists for clients who choose to provide their reading interests. Finally, Edmonton has a “people who read this item, read also...” feature, whose data are culled from clients’ personalized lists. While these features are encouraging, in all but one instance, they are all controlled by the library staff.

The three social heuristics, Communication, Identity Construction, and Perception, could certainly be modified to accommodate public library catalogue records as follows:

- Client-posted reviews and/or ratings. These features may serve also as useful means by which users can communicate and share their reading interests and insights in a manner that may appear to be less intimidating, and perhaps more honest, than opinions provided by experts or professional reviewers.
- Client-created discussion boards that focus on topics, individual titles, and so forth. Online book clubs already exist in some library catalogues (e.g., Regina and Winnipeg), but their focus is on a particular title, rather than on more general topics that are moderated by the users themselves.
- Client-posted tags. The inclusion of tags may serve as a useful means to allow clients with shared reading interests to access each others' relevant tags, and hence any resources that have been bookmarked under these tags. Librarians could use the information found under the public tags to help them create reading lists and to inform their collection policies.
- Recommendation features such as “people who borrowed this book borrowed also...,” or inviting users to post their own recommendations for related or further reading. Although the subject headings do provide useful links to related works, these links reflect the choices of librarians, rather than those of the clients. This client-based recommendation feature could serve as another useful collection development tool for librarians.

## 6. Conclusion

Public library catalogues may stand to profit greatly by incorporating a number of features of social cataloguing web sites. While these sites may have little to offer in the area of the bibliographic content of catalogue records, they can certainly provide interesting templates for how to create dynamic, interactive catalogue records that allow for online communities to share their reading interests and insights. Future research could involve a pilot project wherein the recommended features are integrated into an existing catalogue system and subjected to client testing of their usefulness and value.

Admittedly, not all the social features of the sites examined may have a place in the public library catalogue; for example, is it feasible or even advisable for users to create customizable personal pages? Even if privacy features were installed that allowed users to control whether to create such pages and the extent of personal information they provide, should the library catalogue become a pseudo Facebook? The availability of privacy features and policies is not necessarily a guarantee that users will use them, or even be aware of them; librarians may thus be understandably cautious about incorporating client-based personal pages in the catalogue. On the other hand, if users are becoming increasingly used to social network environments such as Facebook, is it unreasonable to consider including more social features in public library catalogues? Not all users may wish to avail themselves of such features, and should have the option to not do so, but is it not better to provide this choice, rather than none? The growing membership of social cataloguing web sites suggests that people are interested in not only cataloguing their personal collections – which is admittedly not the mandate of the public library catalogue – but also in belonging to a dynamic and interactive community in which they can share their reading (or viewing, listening, and so forth) interests. These sites can serve to raise the bar of people's expectations about what a catalogue should be and the types of services it provides.

If the interest in dynamic catalogue sites exists, should we not explore how we can modify library catalogue records to better meet this interest?

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