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Social information behaviour in bookshops: implications for digital libraries

Sally Jo Cunningham¹, Nicholas Vanderschantz¹, Claire Timpany¹, Annika Hinze¹,
George Buchanan²

¹University of Waikato, New Zealand, sallyjo,vtwoz,ctimpany,hinze}@waikato.ac.nz

²City University London, United Kingdom, george.buchanan.1@city.ac.uk

Abstract. We discuss here our observations of the interaction of bookshop customers with the books and with each other. Contrary to our initial expectations, customers do not necessarily engage in focused, joint information search, as observed in libraries, but rather the bookshop is treated as a social space similar to a cafe. Our results extend the known repertoire of collaborative behaviours, supporting further development of models of user tasks and goals. We compare our findings with previous work and discuss possible implications of our observations for the design of digital libraries as places of both information access and social interaction.

Keywords: participant observation, social space, collaborative information behaviour, book-based social networking

1 Introduction

Investigations of human behaviour in physical bookshops and libraries have resulted in valuable insights into user needs and tasks in digital libraries [6,8]. Most previous work focused on academic libraries, where the library users are likely to be engaged in information searches to support specific tasks. This paper looks instead at information behaviour in commercial bookshops, to extend our understanding of physically sited information behaviour beyond academic collections. We focused on the non-fiction sections of the bookshops to create a level of comparability to behaviours identified in academic libraries.

A bookstore is, of course, a store. Stores are understood to be a social places frequented in the company of friends and family. Consequently, the difference between patrons visiting academic libraries and customers shopping bookstores is that the former tend to engage with the collection on their own, while the latter often visit in groups. This paper explores the behaviour of pairs or small groups of bookshop customers by conducting ethnographic participant-observations in five bookshops.

Previous studies in libraries and bookshops observed the social interactions of people searching with others [4] or using the bookshop café as a social space [23]. Other studies analysed collaborative *use* of books [5] and ebooks [15]. However, there is very scant knowledge about book selection undertaken in the context of a group. To

the best of our knowledge no studies have analysed the practical implications of this collaborative behaviour for digital library environments.

Using observation methods similar to those applied in earlier library and bookshop studies [6,22] allows us to compare insights. In this study we found that behaviours of bookshop patrons are identifiably different to those of library patrons. Not all observed customers appeared to have specific information needs, but seemed to treat the bookshop as a physical space for social interactions, often occurring in tandem with book selection. Many book-related group interactions observed within the physical space are currently not supported in digital libraries. The contribution of this paper lies in an analysis of how the observed book and social interactions may be transferred into the digital library environment.

2 Related Work

Collaborative information work has been long established as an area of interest in digital libraries [24]. While the pursuit of individual information needs remains a complex area, fundamental research on information seeking behaviour, reading and group work has repeatedly demonstrated the critical role of the collaborative discovery, selection and reading of texts [15]. Current models of collaborative information behaviour do not explicitly address collaborative document selection (in the virtual or physical environment), [8,20]. As our focus here is on group information behaviour in bookstores, this related work section looks at collaborative information behaviour research as applied in physical document collections, current support for book-based social networking, and issues for group members' maintaining a sense of each other's presence in a physical or digital environment.

2.1 Collaborative information behaviour

Of the few naturalistic studies of behaviour in bookshops and libraries, even fewer address collaboration in browsing and searching for books. For example, Bryant et al. [4] examine collaborative behaviour, but primarily in the use of books rather than their selection. A study of children in bookshops uncovered considerable collaboration in browsing, selection, and reading [7], where the interactions appear to be initiated to enhance enjoyment of the bookshop experience (rather than to achieve greater efficiency or precision in book selection).

The majority of ethnographic, qualitative research on collaboration in a library setting has often focused on interaction between library staff and library patrons [17]. In this work, we focus instead on interactions between bookshop customers primarily with each other, but also at times in their interactions with bookshop assistants. Investigations of collaboration in work teams have been primarily longitudinal and focus on information search, information dissemination within the group, and information use [19,21]. These studies come to a fine-grained understanding of complex behaviour in one specific team. We examine selection and browsing only, over a short time span for each set of collaborators.

2.2 Book-based social networking

At present, shared experience of reading in the digital environment is often typified by book-based social networking sites such as librarything.com, goodreads.com and shelfari.com. These systems are web applications that focus on cataloguing one's own personal digital library. All have forums, the ability to rate, recommend or review the books, and make use of social networking tools like Facebook, Twitter, and email.

Existing ebook reading software (e.g., Kindle, Kobo and Inkling) offer similar social networking links to share and comment on the content of a book. These comments are open to all readers (i.e., owners) of the ebook and are proprietary to a specific software publisher. Online book clubs are found on a mixture of dedicated sites (e.g., socialbooks.com) and private blogs (e.g., www.cornflowerbooks.co.uk) that provide meeting places to discuss books. The book-based social networking activities focus on post-purchase or post-loan group activities. Academic research on these tools is limited. However, there is an equal need to understand reading outside of the digital fold, and we focus particularly on pre-purchase activities in bookshops.

2.3 Social presence

Social presence refers to the sense of 'being with' other individuals: the "sense of shared space, shared engagement and shared (inter)activity" [3] as two or more people occupy the same physical or virtual environment. Social presence exists on a continuum, with the affordances of that environment determining the degree of each individual's potential for awareness of others. Face-to-face physical interaction is assumed to be the gold standard for supporting social presence, as that mode encompasses the full bandwidth of verbal and non-verbal (e.g., gesture, body language, facial expression) communication.

When people are together physically, they often maintain a sense of awareness of each other even though they are not in direct line of sight. Given that one of the goals of this paper is to investigate how to transfer the behaviour from the physical to the digital world, we will also consider techniques for maintaining awareness for other people in the digital world: specifically, ambient awareness. Baharin & Mühlberger [2] describe "Atomic Interaction" as "the creation and maintenance of contact without the creation and transfer of content." In the physical world we do this when visiting a café or shop, and in the digital world when using video conferencing (ie. Skype) and instant messaging (ie. Twitter, Facebook).

3 Study Method

3.1 Observation Methodology

To investigate customer behaviour in bookshops, we conducted anonymous observations at five bookshops. We observed the activities of groups of two or more customers as they interacted with each other and the store's books. Where possible, each group was followed from entry to exit, for a full picture of each visit. The criterion for

selecting a group for observation was that one or more member actively browsed the shelves (not socializing, drinking coffee etc.). To avoid too wide a spread of genre, the observations focused on non-fiction reading, as it is best covered in existing literature. Manual notes were taken in situ, and later transcribed for analysis.

3.2 Participant Sample

Forty two observations were taken at five bookshops that represented different sizes, specialisations and locations. Four stores were in New Zealand and one in the USA. Of the four New Zealand bookstores, shop A is an upscale second-hand bookshop in an urban centre location (18 observations), shop B the bookshop of a research university (4 obs.), shop C is a large chain bookshop in a central business district (3 obs.), and D is a specialist art and architecture bookshop (1 observation). Shop E is a large chain bookshop located in a popular mall in a mid-sized city in the USA (16 obs.). Observations were conducted separately by three of the researchers; they occurred both on weekends and working days, and in the evenings and the afternoons.

The 42 observed groups included a total of 94 people (56 female, 38 male). These groups, hereafter referred to as G1 to G42, comprised of 9 groups of female customers, 24 groups of male & female customers, 2 groups of male customers and one group with a male customer with unknown associates. There were six parent/child groups, and a total of nine children. No children were observed without adults. Group size ranged from two to five people (35 in groups of two, 3 of three, 1 of four and 2 of five, and 1 group of unknown size). The duration of the observations varied from 1 to 64 minutes, with a mean of 11 minutes. The estimated age of customers included thirty-seven 18-29 year olds, nineteen 30-39 year olds, nineteen 40-49 year olds, eight 50-59 year olds. No data was recorded for two customers.

4 Results

4.1 Observed patterns of bookshop visits

We identified three main patterns of interaction that occurred within the groups over the observed duration of their visit to the bookshops.

Social interaction (24 instances): Customers were observed engaging predominantly in social interactions such as chatting, waiting for a friend, passing time and dating, while browsing for and sampling books.

Example of Social interaction (G4). A couple in their early 20's in the Graphic Novel section. This pair had a large format (bigger than A4) book "The Batman Films" which was on display. He flipped through the book as they both looked. After 5min he sat down on a sofa and she stood beside him and looked while he flipped. She then crouched next to sofa. Their interaction involved pointing to images as they turned page-by-page, exploring together, though not reading the text. He reads aloud, following the lines with his finger then explained some backstory to her. She goes away, he

stays and keeps looking page-by-page. She comes back and sits next to him, it appears she had bought a book. He reads, and explains more background, she asks questions while they flip. After about 5min they put the book away and left the shop.

This social interaction between the couple seemed to be a means of him introducing her to an interest of his (Batman movies). In another instance of a social interaction (G7), two customers told each other about their countries of origin using travel books as props. Here the interactions appeared to be more about getting to know each other, with the books as tools to facilitate the conversation.

Collaborative search (8 instances): The conventional conception of collaborative information seeking is a group of people engaging in a search to accomplish a shared task. The behaviour of some observed groups seemed to fit into this pattern: we observed indications of shared information need. We observed customers engaging in shared search for books where only one of the party seemed to have an information need and the others were helping in the search for a book.

Example of Collaborative search (G6). A man and a woman in their 20s searched together for books. She began in the 'Top 100' section of the shop: she picks up a book and looks at the back and front, then flips through and returns it. She walks along the shelf looking until she gets to Travel Guides where she stops next to him. They talk about the books, he holds one and flips through, she turns pages of a second book. They compare the indexes, searching for information on a specific location. They laugh. She grabs a third book, he points to the content and reads out parts. They look at the backs of the books, then walk away without any books.

As with other groups, this pair appeared to have a shared goal for searching for specific information. Groups accomplished collaboration in search by different means. Typically, group members stayed near each other, browsing the same section. Potentially relevant books were examined and either handed to the other person (G9), or examined together, side by side (G6). In other instances of collaborative search, we noted groups referring to bibliographic data for comparison, such as table of contents, front matter and covers. The physical act of pointing, flipping and turning the book synchronously so that both partners may review the material visually in real time appears to be an important aspect of this type of interaction.

Independent search (11 instances): Each customer in these groups seemed to follow individual motivations for browsing in the bookshop. They searched independently, occasionally sharing their finds.

Example of Independent Search (G8). Two women in their 20s visiting multiple sections of the store. Despite seeming to have independent search goals, they repeatedly interacted. 1st woman "I'm gonna run around this corner and try to find the book I want, it's a book about cooking for a baby" and while she scans the shelves, the 2nd woman reads text messages. The 1st woman gave a running commentary of her search to the 2nd woman, who continues to text. She half-pulls several books before moving to find another section. Failing to find the section she wants, she asks a shop assistant

who takes her to the section and helps her find the book. She explains her choice of which book to get saying "this one is bigger, I get more". The 2nd woman now has a book and reads it to the first. The 1st woman pulls a book, showing it to the 2nd; they laugh, return the book and leave. The 1st woman buys 2 books, the 2nd one.

Each of these individuals were searching for different books, yet both shared their discoveries and spoke with each other about the process. This type of shared experience seemed have the purpose of a social gathering as well as searching for specific material. This was seen with groups and pairs of adults as well as with groups of mixed age visitors, i.e. families or adults and children. We observed both verbal and nonverbal communication with synchronous and asynchronous interactions.

4.2 Observed sharing behaviours

We also observed the following sharing behaviours between customers, which occurred within the patterns described above. Patterns of bookshop visits describe at a macro level the overall type of interaction between the individuals within the group. The observed sharing behaviours below occur at the micro level.

One customer reads aloud to another one as the second one continues their activity, e.g., he reads to her while they are comparing the books (G6 as described above); she scans display books, he is reading and shuffling near her. He reads a passage to her, she keeps scanning books, (G11, couple with child).

Customer shows or points to a part of a book that one of the customers is holding. G11: after reading aloud, he shows her the book content; G14 is in the gardening section, she reads and shows him a page: "I like how they do this..."

Customers talk about a topic inspired by the books around them: Couple G15 standing back in aisle and scan and talk, don't pull or touch; two women (G39) stand in Philosophy section, they look at the titles and discuss several concepts in philosophy.

Customer passes a book to another: in three groups with children (G11,G16,G9) a book was passed between parent and child: one finds a book and passes it to the other for inspection; G36: Girl to Dad: "Can you pass down The Naughtiest Girl?".

Customer looks over the shoulder of another customer: typically the first person is reading, while a second person is busy otherwise (e.g. reading, browsing, texting), the second person finishes their activity to see what the first person is focussing on, e.g., G37: woman leafs through book, man looks over her shoulder. This interaction is more passive than "showing" or "pointing"; it is initiated by the observer.

Customers point to books on shelves during a discussion, e.g., she shows him a book in her hand and points out one on a shelf: "This whole stand and only one book on Corgi's!" (G18); a man takes another couple to corner of the store, explains that he knew that these books were there because he saw them the last time he visited.

Customers text or talk on the phone, sometimes seems to be related to books, sometimes not, e.g., G16: a woman on phone went outside (we assume conversation was not related to books); G12: found a book and phoned to talk about that book.

Questions about process: group members ask how the other's search is proceeding; G11: woman: "Did you find anything?".

Customers told each other what they were doing, sometimes in reaction to a question, but often unprompted, e.g., G29: "Well, I'm going to get [this book]!"

Reading together: father and son (G13) are sitting on the floor, father opens the book to the middle, looks at photos, leafs forward. Son: "What's that?" father: "A creature" Son: "What?" Father: "A gross Alien".

Searching together: couple G23 in the diet section, she: "There's gotta be another one here; mamma has one that's blue".

Customers chatted while standing between the bookshelves. Conversation might or might not be related to books, e.g. G35 (Mother, Granddaughter family group) Girl looks for books, they all talk about her reading those books when she was younger.

Verbal versus non-verbal interactions

The observed shared behaviours can be distinguished into verbal (e.g. read aloud) and non-verbal interactions (e.g., pointing). The focus of an interaction was observed to revolve around a shared book (e.g. when reading together), be about different books (e.g., when comparing books) or not be related to any particular book (e.g., chatting). Non-book interactions were verbal in all observed instances (11). When behaviours revolved around the same book the interactions were close to evenly divided between verbal (19) and non-verbal (17). When involving different book, interactions were predominantly verbal (21) rather than non-verbal (3).

Group members usually enter the shop together and frequently go together to a specific set of shelves. They rarely explicitly directed each other to another area of the shop. Instead one person would "drift" to a near-by section of shelves, while the other continued browsing and then caught up after a short while. There are subtle physical cues in facial expression and body language that people can interpret subconsciously to understand the mood and the level of engagement of the other people in the group.

Bookshop as a social space

Bookshops are locations for people to enjoy each other's company and to socialise, as well as being used for locating information. Bookshops share aspects of both libraries and stores. At the same time, people behave more freely than they would in a library. For example, in a mother-daughter group G34, Mum starts dancing to the music and gets Daughter to dance as well, and they dance to the middle of the shop. Bookshops can be a backdrop for talking about personal matters. At times the books serve as props to further the conversation. For example, a pair in group G7 introduced themselves to each other using books of their home countries, New Zealand and Thailand ("this is called 90 mile beach", "So here is the central part of Bangkok").

Here and in Section 4.1 we have noted that interactions within the bookshop environment may not be directly related to searching for books, or indeed the bookshop was used as a means to pass time. If digital libraries successfully serviced this social activity around reading, then we may be likely to see a similar kind of incidental social activity that is not directly book related. This aspect will be expanded in the next section.

5 Discussion

We now demonstrate how our findings lead to new requirements for the further development of digital libraries. This idea that collaborative practices in DLs require investigation is not new: Twidale et al. [24] stated that “although the digital library threatens collaborative activities, it also opens up new opportunities that are presently prevented by the physical constraints of digital libraries”. That research was executed in the context of a library rather than a bookshop. Consequently, many of the participants in that study exhibited clear information needs, which this was not apparent in our observations. This suggests that digital libraries need to cater for both task-oriented and ‘serendipitous’ information searching behaviours.

Research in digital libraries and human-computer interaction has investigated the design of collaborative reading systems. Raffle et al [18] investigated collaborative reading between an adult and child in different locations, while Pearson et al. [15], studied co-located users with individual devices reading a single document. Some of Pearson’s co-located behaviours mirror ours, with readers physically pointing out specific passages to another. In the case of co-located users this sort of interaction is easily supported by natural gesture. When readers remotely collaborate, the challenge is to design for equally intuitive and light-weight sharing.

5.1 Affordances of digital book sharing environments

Sharing between people in a physical bookshop is typically synchronous while book sharing in a digital environment may more likely be asynchronous (cf. [24]). Fig. 2 compares the support for the sharing behaviours we observed in physical stores (see Sect. 4.2), in different digital environments. In the figure, + indicates full support for the observed social behaviours, o indicates partial support, and – no support. Note that partial support may indicate that a behaviour that would be synchronous in the bookshop may be supported only asynchronously in the system. We make the assumption that system users are not co-located (i.e., each is using a computer).

As indicated by Fig. 2, traditional digital libraries and ereaders, on the whole, do barely support collaborative book search/interaction. In particular, it is difficult with these technologies to pass a book, point to a set of books, show or point to content, read out loud, or “look over a shoulder.” Dedicated systems such as cloudbooks, family story play, merely address singular aspects of a shared bookshop experience. Shared wishlists (e.g. as offered by Amazon) have a different focus (information instead of shared experience) and fall short of many of the criteria.

Many of the social networks and web applications in the lower part of Figure 2 are not inherently book-focussed. However, many of the users of these latter digital tools use them to discuss books they have read, are reading, or intend to read.

The purpose of the systems in the upper part of Figure 1 is to support an individual in locating interesting documents, and possibly managing that relevant subset of the larger collection. The systems at the bottom part, typified by message and voice services like Skype, or social networks like Facebook or LibraryThing, could support discussion or sharing of material. At present, DL systems provide a limited awareness

both of an immediate social circle and of the wider environment. These two factors were a continual feature of group dynamics in the physical bookshop.

		read aloud	show content	talk about books	pass books	look over shoulder	point to shelved item	text/talk on phone	question about process	tell what they are doing	reading together	searching together	chatting
book focus	digital library	-	-	-	-	-	-	-	-	-	-	-	-
	ebook reader	-	-	+	-	-	-	-	-	o	o	-	o
	cloudBooks	-	+	-	-	+	-	-	-	-	+	-	-
	family story play	+	-	o	-	-	-	-	-	-	+	-	o
	shared wishlist	-	-	-	-	-	o	-	-	-	-	-	-
social focus	video/audio messaging	+	+	+	+	+	-	+	+	+	+	+	+
	text-based messaging	-	-	+	-	-	-	o	+	+	-	+	+
	social networks	-	-	+	-	-	-	-	o	o	-	o	o
	book-based social networking	-	-	+	-	-	-	-	o	o	-	o	o
	blogs	-	-	+	-	-	-	-	o	o	-	o	o

Fig. 1. Support for social book interactions (+ strong support, o partial support, - no support)

No single system currently supports the user in both sets of behaviours. A ‘complete’ solution could be created by ‘gluing’ together individual systems that support selected features. However, this would have significant engineering problems, and would likely be brittle, inefficient and not transferable between different DL systems. In terms of engineering, and interaction quality, a single intentionally-designed system is much more likely to provide an optimal solution. The optimal framework for this is a fruitful line for future research. A further constraint is that an effective design will, likely, use nearly subliminal, ambient feedback, rather than explicitly depict social information.

While the sharing of books and shared review of books in a physical environment is tactile and natural, in a digital environment, where two readers may not be co-located, the interaction is not as intuitive. Insights gained in this study into patterns of engagement with physical book collections may be transferable to e-books to create more effective display and search systems and how sharing books is conducted within these digital spaces. Digital libraries, ebook collections and digital search systems only seem to support asynchronous collaboration methods (e.g., email or social bookmarking). Support for synchronous collaboration will need to be investigated.

5.2 Interaction Constraints

Earlier research in collaborative information behaviour primarily focused on students and academic staff at university libraries, and on formal work groups (e.g., in healthcare [19] or the military [16]). The assumptions for collaborative groups in these domains is that they have specific, often ongoing, information needs, the documents located in the search can be matched to that information need in a relevance

assessment, and the documents used to complete a common group task. These assumptions do not necessarily hold in a commercial bookstore: members of the group might have a common task and information need to fulfil; or only one group member has an identified need that the others are assisting in fulfilling; or each member might have a separate information need that the others might, or might not, assist with as they shop together; or indeed, none of the group members have a specific need but instead look for ‘something interesting’ or simply aim to kill time.

Support for formal work must often necessarily include cognitively and, perhaps, interactively ‘heavy-weight’ actions. This is a consequence of complexity: group members must not only individually locate useful material, but must also disseminate the document through the group and maintain an ‘interwoven situational awareness’ [21] of the other group members’ understanding of the state of the task and information gathered to date. To avoid ambiguity, and costly consequences in long-term activity, an ‘upfront’ cost of attention is worthwhile, even if uncertain factors, like intention, require explicit articulation.

In contrast, support for the informal, transitory and less directed behaviours observed in bookshops must be ‘light-weight’. The individual group members’ understandings of the others’ objectives appear less formed, but also inherently less consequential and across short timespans. Each member’s motivations and goals may change frequently as the brief shopping period progresses. Mutual understanding of each other’s general interests and tastes are grounded in shared social and personal backgrounds, rather than in formal relationships for accomplishing specific tasks. A light-weight approach would build on the shared implicit understandings by not forcing formal recording of inherently fluid personal preferences.

5.3 Bookshops as third places

Oldenburg’s [14] notion of “third places” has been described as “a place of refuge other than the home or workplace where people can regularly visit and commune with friends, neighbours, co-workers, and even strangers” [13]. From our observations, the bookshop constitutes a “third place” which people regularly visit with families and friends: e.g. in family group, when it was time to leave, Dad called out "Come on you lot, we're coming back tomorrow" (G36). The social activity that starts around, but extends beyond, books (see Sec. 4.2) may enable a similar status for digital libraries.

This finding is partially speculative, is supported by research that demonstrates a similar effect when facets of the bookshop environment were brought in to physical libraries [1]. Furthermore, Trager [23] notes that "mega-bookstores" are deliberate, not accidental, social spaces. Such bookshops are designed to be welcoming and comfortable, including sofas, tables to sit and drink coffee and play areas for children. The important social aspect of these reading and purchasing spaces is carefully manufactured. Only one of the five bookstores in our observations was one of these "mega-bookstores" yet similar social interactions were occurring across all five stores despite four not being specifically designed to facilitate this behaviour. We mirror Trager’s finding that customers often do not come with specific information needs, but are happy to browse, or use books to facilitate conversations within a social space.

Current DL systems do not support or achieve the sense of a third place. Social interaction and collaborative functionality are weak or non-existent. The best examples include seeing download rates for books (e.g., in the ACM DL) or the passages of books anonymously highlighted by others (e.g., Kindle reader). There is some evidence that digital library users value these supports, however slight, for creating a sense of the existence of a larger group of readers [25]. However, the primary experience of the digital library is that of an isolated user with only tangential awareness of the activities of others.

6 Conclusions

In this study both observations were conducted of customers and their interactions when selecting books within a physical bookshop. Our most significant insight is that people do more than look for information in bookshops: there is a significant social and recreational aspect to the experience. Engagement with the books themselves seems to be relatively indirect and based more heavily on browsing than on searching.

It appears that the social interactions in which the groups engaged during book selection may be “collaborative grounding” behaviour [9] – i.e., the individuals seeking to reinforce the appropriateness of the book being selected. This however, seems to be conducted in a different manner than that observed in library observations. The “collaborative grounding” in a bookshop seemed to be conducted in a less direct manner, where the interaction appeared to be more social in nature.

Current support for the broad spectrum of activities that support this collaborative grounding in DL systems appears limited, nor is there a ready solution by coopting other technologies from elsewhere. The physical space of the bookshop can help us hypothesise what features may be most appropriate in a digital environment for the collaboration of socially motivated groups of people and their collaborative assessment of books. Further work is needed to consolidate and theorise the current gap in our understanding of, and support for, social activity in and around reading.

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