

Book++ The Digital Book As A Social Stage

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Abstract

The evolution of digital technology has led to the rise of new forms of literacy. This research aims to explore the synergy between old and new literacy practices by creating a digital literary playground in which young readers can interact with the written word and with each other. Through this interactive environment we hope to explore the emergent patterns of social behaviour and cultural artefacts that will materialize and thereby gain a better insight into the future of literacy practices in a digital world.

Introduction

The pixel has abilities which the page knows nothing of

Stories form the corner stone of our civilization. In the words of the philosopher Pierre Lévy we do not live within a niche, as a dog does, but among our signs and our tales. (Lévy, 1999, p. 132) Stories either told to us or told by us are the means through which we define our self image, construct our image of society and the world we live in, and the means through which we explore new horizons and imaginary worlds or, to paraphrase Lévy, the means through which we exceed our niche.

The invention of written language may have domesticated the savage mind (Goody, 1997) and encased our stories and heritage in physical artefacts such as the clay tablets of yesteryear and the printed books and e-books of today; however, it has not untangled them from their cultural roots and social associations. The shift from orality to literacy has done wonders to the preservation and dissemination of ideas but has barely changed the framework in which they are consumed.

The act of reading is not merely the decoding of text, for when we read we bring the story to life in our minds. In the moment of reading we create a unique space out of thousands of possible spaces in which the story told by the text unfolds right behind our eyes. The text, as de Certeau noted, "has meaning only through its readers; it changes along with them; it is ordered in accordance with codes of perception that it does not control. It becomes a text only in its relation to the exteriority of the reader, by an interplay of implications and ruses between two sorts of 'expectation' in combination: the expectation that organizes a readable space (a literality), and one that organizes a procedure necessary for the actualization of the work (a reading)" (de Certeau, 2002, p 170-1).

Readers, and for that matter the authors of the books they read, are shaped by their environment and their social interactions; so literary artefacts, such as books, are in fact cultural artefacts, (Akrich and Latour, 1994, Bateson, 2000) and the experience of literacy, although often practiced in solitude (Birkerts, 2000), is indeed highly social both in the way we perceive and share our ideas, and in our desire to communicate and

share the experience of reading with others. In addition, where younger readers or adult readers venturing into a new language are concerned, there is the additional need to support and encourage the reading activity as the reader develops both technical and critical reading skills. (Cairney, 2003)

The evolution of literacy like all evolutions has been gradual. The shift from orality to literacy occurred in stages beginning with hand writing and progressing through the production of manuscripts to the printed book and beyond. "Manuscripts, with their glosses or marginal comments (which often got worked into the text in subsequent copies) were in dialog with the world outside their own borders. The readers of manuscripts are less closed off...less absent, than are the readers of those writing for print." (Ong, 2003, p.130)

The introduction of the printed press and the public library both fostered and clashed with the capacity of stories to engage us. On the one hand, the wide availability of books has had a tremendous impact on the level of literacy and the engagement of people with all sorts of literary materials. On the other it pitted our reflective nature against the disengaged nature of the printed form. Manuscripts were able to entertain a dialog with their readers because they were exposed to a small number of them. Conversely the printed book in the modern public library maybe exposed to numerous readers while the same book in a private collection may only be exposed to one or two individuals, making it difficult in either case to sustain a dialog, let alone a conversation.

In other words, books in the library became usufruct, artefacts one is given permission to use, provided they are not damaged or altered in anyway, while those hidden away in private collections became practically mute. With the exception of the occasional surfacing of annotated volumes in used book stores, the dialogue that occurs between a book and its reader is often lost and what a reader sees in between the lines of text remains hidden in the vast emptiness that separates the words yet unites the text.

We are now at the dawn of a new stage in the evolution of literacy, the dawn of the digital age. While there are those (Gioia, 2004) who fear that the

dual marvels of the digital screen and the boundless communication of the Internet will spell doom to the art of reading as more and more young minds are sucked into the virtual worlds of online games, we see new forms of literacy and a revival of the emergent dialogs of the manuscript as players in multi-media online role playing games (MMORPG) are shaping the narrative of the game and the nature of the virtual world through interactions supported by digital displays and internet connectivity.

Alte(rnative) Books And New Media

Figure 1
This is Not a Book



In the realm of the printed book there exists a conflict between the needs of the reader as a social actor, the constraints of the physical artefact, and the preservation needs of the library. The library may offer the reader a chance to read the work of an author, but both the book and the reader will remain in effect islands in and of themselves, connected yet disconnected at one and the same time. But what if the book, like Brecht's vision of the radio "knew how to receive as well as to transmit, how to let the listener speak as well as hear, how to bring him into a relationship instead of isolating him". (Brecht, 1932)

The new literary forms of the digital domain and the connectivity of the Internet offer us an opportunity to create such a book, a book that will be able to encapsulate not only the thoughts and ideas of the author but also the experiences of the *readers*, note the emphasis on readers, as opposed to a single reader. By combining elements of the old and the new, we can turn the book from an artefact into what de Certeau referred to as a practiced place (de Certeau, 2002), a place that is defined as much by the social interactions that occur within it as by its physical structure or, to use game parlance, turn the book into a massively single player game, an environment in which the actions of single players (readers) acting in solitude enable the rest through the sharing of ideas and experiences.

By creating such practiced places we hope to shine a light not only on the emergent forms of social interaction that will occur in the digital domain but also on a problem that has eluded libraries from the day the first one was formed, the problem of experience loss. The digits of the digital domain make it possible for the experiences of the readers to become encapsulated within the fabric of the texts, thereby turning the library from a collection of media artefacts into a repository of the totality of the media, the combination of the text and the thoughts, ideas and experiences of those who have read the text.

Introducing Alph

In order to explore the notions of the book as a practiced place, we are developing *Alph*—a web-based client that uses digital copies of physical books as the medium through which readers can read, encapsulate their thoughts, and exchange ideas with others. *Alph* combines a virtual paperspace in the form of the scanned pages of printed books with the virtual network of cyberspace to enable readers to form their own storyspaces within the space of the book. *Alph*'s objective is not to create a virtual reality for the reader, nor to remediate (Bolter & Grusin, 1999) the text, but to remediate the interaction between the reader and the text. By allowing readers to share their consensual ruminations within the pages of a digital book, media become not only the means through which man is extended but also the means through which he is connected.

To arrive at alternative approaches and new media, one needs to seek alternative opinions from new people, and what better place to look than in the minds of the latest generation, those for whom new media is neither new, nor old, but just media, and who will be the ultimate readers of the libraries of the future. To that end we set about an intergenerational design team comprised of young adults ranging in age from 10 to 14, and slightly less young adults nestled within the

20+ to 50+ age cohorts in order to explore the notions of reading using “old” and “new” forms of media.

Following the methods pioneered by Druin (Druin, 1999, Druin, et al 1999, Druin, 2002) The members of our team engaged in contextual interviews and participatory design sessions geared to elicit the notions of reading for young readers in the digital age, which we discuss in greater detail elsewhere (Kaplan, 2004, Knudtzon, 2003) but can be summed up in the words of Idit Harel, that the ones born into the digital age “have an entirely new set of expectations: When they see a screen, they don't just anticipate viewing something; they expect to be able to do something to it. Unlike previous generations who usually played a passive role in their technology and media experiences, the Clickerati see themselves as the designers, the ones who are in charge of the technology, the masters of the medium. They want to leave a stamp that says, ‘This is me!’” (Harel, 1996). For the young adults in our design team as well as the young adults we interviewed, simple information connectivity is no longer sufficient. For them, social connectivity is just as important.

Figure 2
A Typical Participatory Design Session



Creating The Sociable Space

In order to put what we have learned through our intergenerational explorations into actual practice, we have distilled our findings into a set of concepts and objectives for our vision of a sociable book on which we would base our developments efforts:

- The digital application must be easily accessible with configuration issues and download delays kept to the barest minimum, for as eager as young readers are to consume and socialize through the medium of new media, their tolerance for download times and configuration headaches is exceedingly low. This issue is compounded by the uneven

distribution of Internet accessibility, making it impossible to rely on any but the most minimal level of connectivity in any one spot.

- Support the interests and needs of specific groups and shield young readers from perceived dangers. The open nature of the internet provides the opportunity for unsavoury activities to take place within its confines; the sociable book should offer readers an environment in which they feel safe and comfortable to interact with one another, otherwise there is little hope for sociability within the book.
- Differentiate between private notions and shared ideas. Although reading is a social activity, the evolution of thought and experience is a private matter and readers should be able to keep private thoughts private.
- Support a range of reading strategies as there is a marked difference in the way one would read a book for pleasure and the way in which one would read it in order to complete a task such as a school assignment.

To achieve these goals we have designed *Alph* as an ecology of singularities in which books, readers, and the various commentaries generated by them co exist and may be related to one another through a variety of semantic, social, spatial, and temporal relationships. The design of the system takes into consideration the emergent nature of media, literacy, and collections and will thus be able to incorporate different readers, different literacy practices, and different forms of media in a library collection, and different libraries and collections as the system and the population it serves evolves over time.

The *Alph* system is composed of two main elements: a backend database in which information on the collection, the readers, and their assorted musings and conversations are stored, and a web-based application developed using Macromedia Flash through which the reader interacts with the books and other readers. The system provides readers with a simple point of access through a standard web address while keeping the size of the application and the configuration and management overhead to the barest minimum. As the Flash player is the most commonly available rich media platform with over 90% of the web browsers in North America and Europe (Macromedia , 2005) already equipped with the player, no further action on the part of the prospective reader will be required beyond the typing of a web address. In cases where the flash player is not installed on the prospective reader's computer, a simple installation (when compared with alternative technologies) will

suffice, thus minimizing as much as possible the configuration headaches for readers in *Alph*.

Devising Social Boundaries

The need for social boundaries within the system extends beyond the obvious need for peace of mind in a wide open internet filled with real and perceived dangers. The social nature of *Alph* means that it will be used by different groups and types of users and thus, as Bruner puts it, it “must devise means for containing incompatible interests and aspirations.” (Brunner, 2004) In *Alph* we have addressed these issue in the form of Internet Reading Groups (IRGs), within which each group may form its own micro cosmos within the book irrespective of any other group, thereby not impinging on the interests, sensibilities, or privacy of others. IRGs can be used to create private spaces for family groups, book clubs, classes, or any other type of group. Thus, for example, all members of the Goldberg family, be they in Brisbane, Baltimore, or Bangkok, could read and interact within the pages of the gold bug variations (Powers, 1991) without having to worry about the presence of strangers in their midst, while at the same time members of the Harry Potter fan club can be shielded from the irritation of having to read the “ignorant” questions of newbie readers.

The Books

Books in *Alph* are presented to the reader in the form of scanned images from books in the collections of physical libraries. We chose this format instead of the digital text favoured by most e-book implementations for a number of reasons:

First, a large collection of scanned books is currently being built by the Internet archive (www.archive.org) and other organizations, giving us a large base collection from which to start.

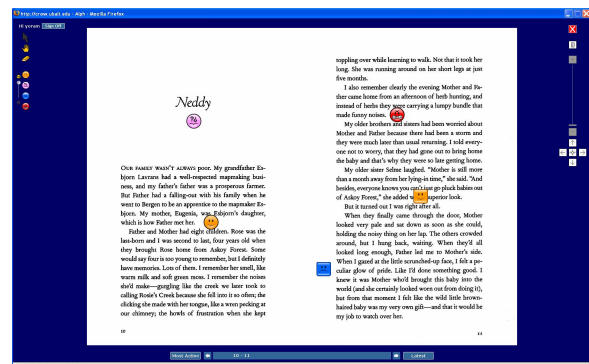
Second, the scanned image of a book reveals all the idiosyncrasies that are the hallmark of the book. Unlike the uniform presentation of digital text, each book is different, whether it is the difference in page size, the choice of typeface, or the discoloration and marks the pages acquire after having been weathered by age and use; each book has a unique character which is reflected in its appearance and becomes a part of the experience of reading the book. The use of scanned books allows us to preserve some of these qualities and provide the reader with the look and “feel” of the physical artefact and not just the text within.

Third, the bounds of the printed page provide a spatial reference and context for the interactions of the reader with the book. For readers to effectively interact within the same space (book), and, therefore, share the same context, the appearance of all environmental signs needs to be the same for all members of any

given IRG. To use de Certeau’s terminology, in order to connect the exteriority of the readers, we must preserve the exteriority of the text. We, therefore, make a mixed use of two medium, the media of the printed book and the media of the screen. The book in the form of scanned images provides us with structural integrity while the screen provides us with digital malleability. Readers are thus guaranteed a common ground on which to form a mental image of the space (book) while at the same time being provided with a boundless space in which to interact with one another.

Although we have chosen to present the reader with the text in the form of a scanned image, we do not reject the use of digital text as exemplified in project Gutenberg (www.gutenberg.org); we see it as an adjunct to the image of the printed page, a resource that can be used as the basis for text searches, web searches, ontological relations, and text to speech applications.

Figure 3
Alph in Action



Reading, Writing, And Being Sociable

We view the reader’s interaction with the book as a series of conversations, of which we identify three main types:

- The conversation between the reader and the text in which the story is constructed.
- A conversation between the reader and his good self as the reader mulls over ideas provoked by the story or when the reader revisits the story at a later date and discovers past thoughts.
- Conversations with other readers about the story or about the thoughts and ideas each reader had when reading the book.

The first conversation, the one between the reader and the story, is supported by the text of the book itself. In order to support the second and third type of conversations we provide the reader with the ability to add notes to the surface of the book. The reader can

create private notes as a means of note taking or conversing with oneself, or he may share any note with members of his group as a means of engaging in discourse with other readers.

Notes are created by affixing an emoticon anywhere on the surface of the page and, if the reader sees fit, adding a textual commentary to the note. The notes thus provide the reader with three means of expression:

1. The type of emoticon used to create the note. Readers can choose an expression from a range of emoticons to reflect the nature of their note, capturing a glimpse of their state of mind before a single word has been exchanged.

2. The placement on the page of the emoticon. Unlike the majority of annotation systems that restrict the placement of annotations to the margins of the page in emulation of the constraints of the printed page., *Alph* allows readers to affix their notes anywhere on the surface of the page even if that location may obscure the text of the book. Readers can thus place the notes in the most contextually relevant position and not just in a spot where white space is readily available. A visibility slider allows readers to hide the notes in order to concentrate on the text of the book if indeed the location of the notes obscures the text.

3. The text contained within the emoticon. Readers can add textual commentary to their notes in which they can express their thoughts, ask questions or simply comment on a facet of the story. Although readers may affix an emoticon to the page without adding any text to it, such “blank” emoticons act as mnemonics to the reader and can not be shared with others in the group.

The notes are not simple containers of text, each note is a *nanowiki* storing a history of all revisions made to the text during the life of the note. Thus each note represents the evolution of a particular line of thought and not just the end product. A simple click on the share button allows readers to share their notes and thereby engage in conversation with other readers.

To view the text of a note, all a reader has to do is to place the mouse over the emoticon representing the note causing the text to appear.

Although *Alph* is capable of supporting a more complex array of annotations, we have chosen to offer a simple set of tools to encourage sharing and socializing (as explored in Marshall & Bly, 2004) rather than address the plethora of annotation strategies engaged by students, researchers, and the like (see Marshall 1997a, Marshall, 1997b, Marshall & Bernheim Brush, 2004). Our focus at the moment is on exploring the joys of literacy and not necessarily addressing the specific needs of any process-driven activity of which reading may be a part.

Social Navigation

Alph supports reading in the traditional way, i.e., flipping pages back and forth as one progresses through the book. It also supports the new vision of the book as a social place through the addition of *activity hubs* that show locations in the book where social activity in the form of the creation of shared notes currently occurs; activity hubs allow readers to jump directly to the most socially active pages and thereby be at the centre of activity and take part in the latest discussions.

As more and more commentaries accumulate within the pages of the book, one will be able to see the emerging story of the book, in addition to the story contained within the book, as conflagrations of notes begin to appear in the different regions of the book. But that’s not all: *Alph* also captures the sound of silents, those who read but leave no notes, as their page flips are silently recorded in *Alph*’s database. Over time an emergent social landscape will appear within the confines of individual books as well as across collections, allowing individual readers to reflect about their literary history and past experiences and the community overall to gain a new perspective of the media. Notions such as “the story really begins to warm up past page 89” will be vividly illustrated as we see heightened social activity begin at that point or the unflattering fate of a famous best seller which everyone begins to read but no one has yet finished.

Sticking Our Toe In The Pool Of Readers

To test *Alph* and the notion of the sociable book, we have conducted a field test in which six Internet Reading Groups (IRGs), comprised of children in our intergenerational design team, their parents, and friends, read a book using *Alph* for a one month period. The participants were provided with no guidance beyond simple instructions on how to use the system and were then left to their own devices. Our intentions were to simply see how the system would operate in the wild and whether the notion of sociable literacy would appeal to readers, and, if so, in which way, and how would the appeal manifest itself.

The results discussed in detail elsewhere (Kaplan & Chisik, 2005a, Kaplan & Chisik, 2005b) reveal that despite the small size of the IRGs and, therefore, the lack of any critical mass, participants found joy in the ability to affix notes and communicate with others. Several of the notes included a conversation between a mother and her daughter which one can see them revisiting a long time from now as they reminisce over the past and possibly share the book with a new generation. In a meeting with all the participants at the end of the field test, in which the participants were asked to tell us what they thought about *Alph*, one of the children hit the nail right on the head when he said

“Instead of just having ideas in your head while reading, you can share your ideas with others.”

As this paper goes to press *Alph* begins its second field test in two public libraries in Oregon and Arizona, and we await the results from these studies to see if they confirm our prior results.

We The Media

In *Literate Lives in the Information Age*, Selfe and Hawisher note that “Today, personal computers have become embedded so deeply in the landscape that they are disappearing, becoming invisible, much like electricity or cars or ballpoint pens, all emergent technologies from previous periods in U.S. history. When this disappearing act is complete, when the memories of what some have referred to as the computer revolution have faded, these first-hand accounts of people’s lived experiences will help us remember how computers dramatically altered our lives, and literacy, at one particular point in history.” (Selfe & Hawisher, 2004, p. 211) Books have long ago become embedded in our lives and cultural landscape. The object of *Alph* is to make use of computer technology to embed the experiences of how books, and later how other forms of media and narrative, alter our lives on a daily basis into the very fabric of that media, so media will not only be a part of our life, but we will become a part of the life of the media; in short, we, the media.

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