
Yarn: a Product for Unraveling Stories

Susan Buenafe

Luis Guzman

Namrata Kannan

Kristine Mendoza

HCII – Carnegie Mellon University
and

Madeira-ITI

Polo Científico e Tecnológico da

Madeira, floor -2

Caminho da Penteada

9020-105 Funchal, Portugal

susan.buenafe@gmail.com

luisfgv17@gmail.com

iamnam24@gmail.com

kdmendoza8@gmail.com

Nuno Jardim Nunes

Valentina Nisi

Pedro Campos

Frederica Gonçalves

Madeira-ITI

{njn, valentina,

pcampos}@uma.pt

Miguel Campos

Paulo Freitas

WowSystems, LLC

R. Mary Jane Wilson, 21 G

9000

{miguel.campos,

paulo.freitas@wowsystems.pt}

Abstract

Writing is one of the oldest human activities, dating back as far as 3200 BCE. This paper provides an industrial case study about understanding the creative writing process using interviews and directed storytelling on aspiring and established writers and educators, performed during a one year capstone project, where teams of HCI students pair up with industrial designers and developers in order to solve a real world design problem. After 26 interviews and 55 hours of analysis, four concepts were used as dimensions to analyse creative writing applications: serendipity, haven, evolution and shuffle.

Based on these ideas, we developed a series of prototypes by gradually increasing the fidelity of each successive prototype and making changes elicited from user feedback. The culmination of our process is Yarn, a new writing application. Yarn helps writers “unravel their story.” With Yarn, a writer can (i) Play with structure; (ii) Easily move chunks of writing; (ii) Create alternatives of sections, and (iv) Write in a beautiful distraction-free way.

Author Keywords

Creative writing tools; creativity support tools; user interface design.

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author.

Copyright is held by the owner/author(s).

NordiCHI '14, Oct 26-30 2014, Helsinki, Finland ACM 978-1-4503-2542-4/14/10.

<http://dx.doi.org/10.1145/2639189.2670284>

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

The rise of digital computing has popularized writing in all its forms, and people in today's society have even easier access to reading and writing. Some of the writing tools that are currently available attempt to initiate the creative process, for example by providing story prompts, while others focus on creating a distraction-free interface where writers can focus solely on their craft.

The Yarn project proposed to address the study, design and evaluation of novel user interfaces for supporting creative writing. The goals included: (a) To understand the creative writing process using interviews and directed storytelling with aspiring and established writers and educators, and (b) To design and evaluate an innovative application, which supports creative writers by helping them shape and articulate their thoughts, review texts and become more creative and productive, as compared to using the currently available tools.

In this industry experience, we describe the process and real life implementation of a fun product specifically aimed at unblocking writers' block, supporting creative writers and their work as well as supporting any user interested in good writing. Going from concept to a real product is always an interesting HCI industrial challenge. In this context, the pairing of student teams (from Carnegie-Mellon's dual-degree program in Human-Computer Interaction) with industrial designers (from WowSystems, a renowned tech company based in Funchal, Portugal) reveals itself as being very relevant for both practitioners and

researchers interested in translating HCI approaches into practice.

User Research

The target audience for this project was, broadly speaking, amateur and professional creative writers. During the user research phase, we ended up talking to poets, novelists, editors, bloggers, cartoonists, screenwriters, teachers and songwriters.

The user research activities included:

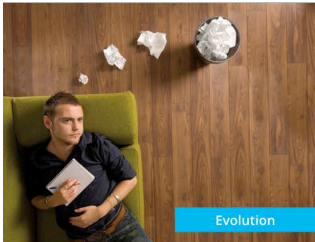
- Competitive analysis, a list of applications we evaluated as part of our market research, looking at their best performing features and their drawbacks;
- Interviews, using questions as prompts for gaining a shared understanding of what writing entails and how the current tools meet the needs of the users;
- Directed storytelling, where a participant relates a past experience in detail, while an inter-viewer probes for underlying motivations and breakdowns;

During 26 interviews and 55 hours of analysis, we learned significant aspects of what makes a good writer and what do writers need to do in order to unblock their ideas and produce creative pieces.

Writers need to be observant and empathetic. "As a writer your characters have to strike a chord and you have to be able to think from that person's point of view. These characters can't feel clichéd. Their journey must feel real." (U22, screenwriter). Writers need to be tenacious. "Writing is very much trial and error. When



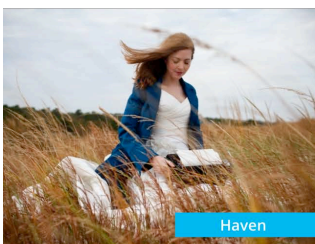
Serendipity



Evolution



Shuffle



Haven

Dimensions for creative writing tools: Serendipity, Evolution, Shuffle and Haven.

writers first start out they don't have patterns. Writers actually sit at their desk for hours on end." (U20, creative writing professor and writer). Finally, writers need to be inquisitive. "I started thinking about something that had happened in college. I started thinking 'what if we had actually done this? What if we followed through on our insane plans?' At the end of the day, while lying there on my back, I had my plot." (U19, novelist).

Based on the user research, we realized that the activity of creative writing was based on several different aspects. We found six key insights:

1. Writers draw inspiration from anywhere and everywhere.
2. Community is integral for feedback and moral support.
3. Successful writers write daily and develop a routine.
4. Iteration helps improve the quality of writing.
5. The writing process is nonlinear and writers frequently have to reorganize their thoughts and written texts.
6. Writers find their best ideas and inspiration when they are unhindered and undisturbed.

From an industrial point of view, the design opportunity exists for a tool that can support exploration, encourage iteration and balance between freedom and structure. The writing tools market size is very large and competitive tools already exist. However, from the

user research we performed, there is a clear appetite for new tools that adapt better to the creative writing process. This was, in fact, the premise of our industry approach. Taking into consideration that digital tools for creative writing should help users produce more, some researchers note that the productivity expectations towards writers are higher than ever [2]. Therefore, there is a need for tools that can promote not just the writers' creativity but also their productivity levels.

Dimensions for Creative Writing Tools

In this industrial-academic collaboration, we found the need to frame the results from the user research into a solid framework that could be used to enhance cooperation and act as a common basis for communication. We ended up identifying a set of design dimensions for creative writing tools: serendipity, evolution, shuffle and haven.

Serendipity

Serendipity, the first dimension in our model, explores the notion that creativity can come at any place and at any time. This concept tries to capture rushes of inspiration then and there. We found out that there is a community aspect involved in the creative process; writers take ideas and inspiration from their friends, family, and their own peers.

With those two ideas in mind we came up with Serendipity. The concept can become materialized in a mobile application where the writer could capture bursts of inspiration in audio, video or picture form and leave them in the geographical location. Other users of the application could also use the application to find these thoughts other writers have left behind, and use them as a way to inspire their own work.

Writers find inspiration everywhere and tie places and people to their work. Therefore, this dimension involves mobility, geo-location, tagging of stories and other inspiration sources, and also an unpredictability factor that promotes discovery and ultimately creativity.

Evolution

Our user research proved that writers confront and evaluate multiple alternatives while writing. Most of the work that successful writers perform (up to 90% of their work) does not make it to the final version [1].

Yarn as a product had to support the generation of new ideas (and elimination of old ideas), the comparison and evaluation of different ideas and alternatives, and provide writers with a sense of progression. We call this dimension “Evolution”, as any tool should support the brainstorming, revision, progress and individuality of different writing pieces.

Shuffle

Writers should be able to write and see their ideas in a non-linear fashion. This is an essential dimension for our approach. The final solution should allow writers the freedom to move ideas around, be flexible, shuffle and mix. Tools should adapt to the writer and not the other way around.

Supporting the Shuffle dimension also implies being able to improve focus, supporting alternative plot writing, supporting both major and minor changes to manuscripts and a good degree of flexibility, in general.

Haven

Our final dimension is coined “Haven”. We know writing is hard work, and writers often need a few conditions,

their “sweet spot”, in order to do their best work. For some, it might be at home in complete silence, others at a coffee shop during peak business time.

Haven, as a design dimension, implies immersion, relaxation, imagination, finding that “sweet spot” and the right conditions for creative writing.

Design Process

We started out with ideation of four concepts, all based on the design dimensions mentioned before. For instance, for Shuffle (giving users the freedom to move ideas and experiment) we handled over 60 design concepts and therefore had to conduct narrow down sessions.



Figure 1. One of the many collaborative design sessions.

Figure 1 shows one of these sessions, involving the industrial sponsor, designers, HCI experts and target users. The first round of low fidelity prototyping involving the design and evaluation of three ideas that rose from the narrowing down process: lens cap (for character development), story arc (for story management) and sliding doors (for exploration of alternatives. Figure 2 shows the story arc feature as a

design example. After evaluation, we learned: (i) organization and movement of writing was appreciated; (ii) character development varies from user to user; (iii) the shape of the “story arc” provided too much structure.

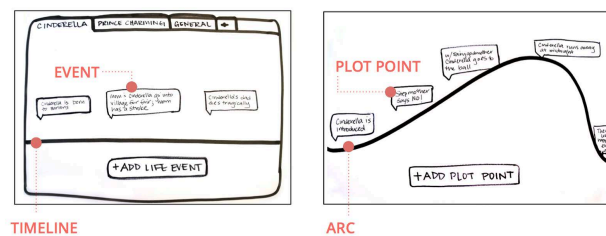


Figure 2. Insert

In the second round of low-fidelity prototyping, we learned good ways to incorporate alternates, taking into consideration platform and technical issues, and validated the concept.

Final Product

The final prototype was concluded one year after the beginning of the project and is now in beta stage¹. The key features that “survived” to the end product included the support to make changes in story structure, provide an overview, comparison and reflection.

Figure 3 shows the final prototype. One of the essential concepts is the thread. Yarn plays around with the double meaning of yarn as “a long continuous length of

interlocked fibers” and “yarn: a long, often elaborate narrative of real or fictitious adventures or rather entertaining tale.” The “*thread*” is a novel UI component that provides a way to see your story at a glance but also to move pieces easily, by dragging and dropping, as shown in Figure 4. It supports non-linearity, quick changes in structure, planning and organizing, and a fast navigation through the writing piece.

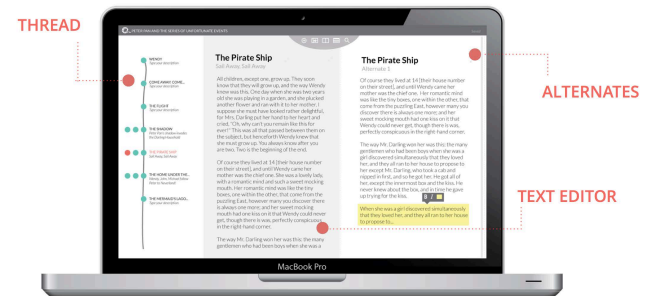


Figure 3. The final prototype.

“*Alternates*”, a double pane view of two possible (and different) writing plots is also a distinctive feature of Yarn. It supports reflection and play, encourages iteration by comparing pieces side by side.

Supporting the Haven dimension is achieved by Yarn’s minimal writing environment. A clean, peaceful interface with intrinsic features for creative writing, which helps writers focus on their stories and provides the essential formatting.

The final product is under beta-testing and evaluations have been carried out informally, using a group of creative writers as well as potential users without much

¹ It is targeted at Web, iOS and Mac OS X platforms. Anyone can sign up for beta testing of the Web version at <http://www.the-yarn-project.com>

writing experience. Different business models are currently being considered, as the tool is multi-platform and could be monetized using *freemium* models [3], subscription-based models or simply in-app purchases.

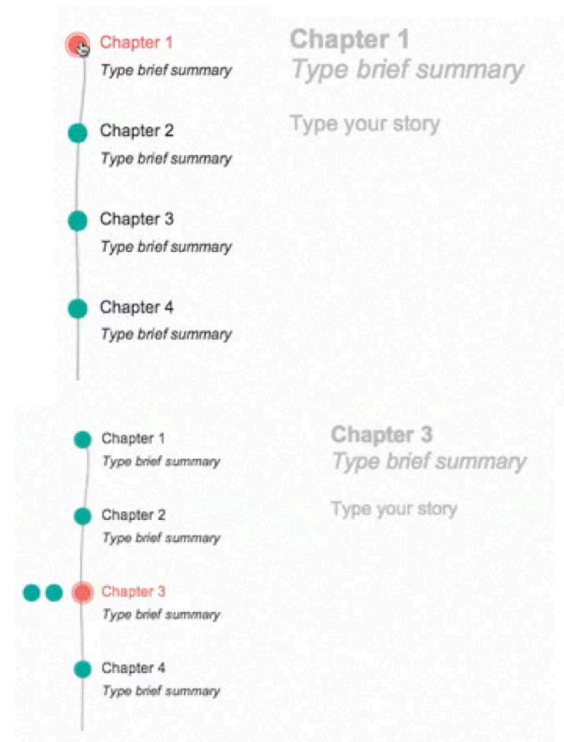


Figure 4. Dragging and dropping chapters of text using Yarn.

Conclusions

Yarn was created in the context of an HCI capstone project, an eight-month long course, which integrates

everything the students have learned in their coursework into one “end-to-end” experience. Students work in interdisciplinary teams with an industry sponsor to produce a working prototype that serves as a proof of concept of a novel service or product idea. In this case, Yarn can be regarded as a great example on how HCI Master-level students can benefit industry partners that sometimes lack the time or human resources that are needed to properly conduct user or market research, as well as creatively designing new product ideas without losing focus. This is especially important in the fast-paced industrial world where competition is fierce and low on time to market. On the other hand, HCI students also benefit from contacting with industrial contexts – in this case the challenge was learning to cope with very broad design spaces and understanding, as well as cooperating, with industry experts and their work styles.

References

- [1] Twyla Tharp (2006). *The Creative Habit: Learn It and Use It for Life*. Simon & Schuster.
- [2] Erin A. Carroll and Celine Latulipe (2012). Triangulating the personal creative experience: self-report, external judgments, and physiology. In *Proceedings of Graphics Interface 2012* (GI '12). Canadian Information Processing Society, Toronto, Ont., Canada, Canada, 53-60.
- [3] Gal Oestreicher-Singer and Lior Zalmanson. 2013. Content or community? a digital business strategy for content providers in the social age. *MIS Q.* 37, 2 (June 2013), 591-616.