

Designing a Gameful System to Support the Collection, Curation, Exploration, and Sharing of Sports Memorabilia

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ABSTRACT

Collectors often attach memories and stories to the objects they collect. These stories can be lost over time, and particularly when the collections are digitized. In this paper, we present semi-structured interviews with collectors of hockey memorabilia to inform a set of design guidelines for creating games and playful interfaces that support collectors. Our interviews highlighted the importance of narrative, organization, and authenticity to collection, and identified the need to support emergent behaviour. Our work provides an example of gameful design principles that could motivate collectors to digitize and share their collections.

INTRODUCTION

Artifacts play a significant role in the sharing of memories between people, across cultures, and throughout time. At a personal level, people assign meaning to objects, such as rocks from a beach in a faraway land, or a gift given to symbolize relationships (e.g., wedding rings, friendship bracelets). At a cultural or historical level, people associate artifacts with ancestry or heritage, such as totem poles (Native Americans), clogs (Dutch), or more specific historical artifacts, such as King Tut's tomb or the Crown of Napoleon [2]. However, with the shift to digital records, such as photographs and 3D scans, it is not clear if the stories associated with these artifacts will be maintained the same way.

The digitization of collections allows collectors to easily share memories and stories about the artifacts with a wide audience, and also allows non-collectors to access information about these collections that might otherwise be inaccessible. In addition, the creation, curation, and exploration of digital collections of artifacts are activities that would benefit from interfaces that employ gameful design—designing for the experiential and behavioural quality of games, typically by using game design elements [3]. However, there is little guidance on how to design gameful systems that support the behaviours collectors engage in.

In this paper, we investigate the possibility of allowing the sharing of memories and the assignment of meaning to digital contents and records. In particular, we focus on collec-

tors of sports (hockey) memorabilia and develop a set of design guidelines to encourage collectors to share stories and memories about their digitized collections.

We have two main contributions: First, we present empirical data from semi-structured interviews with collectors. Second, we create design guidelines for supporting collection, with narrative as a central part of this process.

SPORTS MEMORABILIA COLLECTOR INTERVIEWS

While other researchers have discussed collectors and reasons for collecting, the intent of previous studies was not focused on how to design technology to support collection, but rather to investigate the psychology of collection [4].

Participants & Methods

We recruited 4 participants (male) who met the following criteria: collect hockey memorabilia, have at least 500 items on display, and have 10+ years of experience as a collector.

We used affinity diagramming [1] to determine themes for the interviews. The audio of the interviews was then coded. Frequency counts and quotations for each theme were extracted and used to inform our design guidelines.

ANALYSIS & DESIGN GUIDELINES

Our analysis revealed several themes that evolved from the interviews and coding process. In this section, we describe the results of our study in terms of the design guidelines that emerged from this analysis.

Stories Must Be Shared

Narrative became an important theme throughout the interviews. The stories about an item often added to the intrinsic value. These could be stories about the original function, event, location, athlete, or stories that were created post-acquisition, such as getting the item signed by the athlete.

P2: "I won't buy anything off anybody if there's no story. If there's no story to it, I don't want it. Because the most important thing about it is the history of the piece, where it's come from, the route it's travelled."

The design of gameful systems for collecting should focus on the importance of stories, both in the past and in the present. Often an item will collect multiple stories as it passes between collectors, and these stories should be preserved.

Organization is Key

Photos of the collections showed that physical organization of the collection is important as those with large collections like to "show and tell". Objects were organized spatially

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CHI PLAY '14, Oct 19-22 2014, Toronto, ON, Canada

ACM 978-1-4503-3014-5/14/10.

<http://dx.doi.org/10.1145/2658537.2661322>



Figure 1. Highly organized display of memorabilia (left) and a display created with our game prototype (right).

(Figure 1), and lighting of the collection was used as a visual hint of importance (e.g., a spotlight).

The careful organization of items (Figure 1) suggested that developers should allow for the organization of items in the collections. Video content was also very important, with collectors using televisions to display pre-recorded content or live games. Audio from radio broadcasts had also been recorded and played in some spaces.

Authenticity Should Be Supported

The authenticity of objects is valued by collectors. Physical signatures add to their authenticity, creating a physical connection and official recognition between athletes and the item (i.e., the athlete had to physically sign the item).

P4: "I remember thinking: I don't know what either of these things is worth, but I do know that something is out of whack. There's no way that an original document signed by Hap Day is only worth three times what a card is."

While digital copies may not be viewed as being as authentic as their physical counterparts, developers should ensure that when procuring digital copies of items, the resolution is sufficient to maintain signature integrity.

Collecting Behaviours are Emergent

There are few agreed-upon rules around when a collector can acquire an item, what items are considered collectable, and how stories may be created. The items that are desirable vary vastly from person to person, and often items are destroyed or discarded by someone who does not value them or who is unaware of the item's value.

P4: "There are many [athletes] whose contracts have never seen the light of day. What happened was those documents didn't get pulled out of the garbage, so they just got destroyed. It's very sad."

Designers should create a system that does not restrict collectors or narrative, as narrative may grow with time.

Future Work

We are actively developing a prototype game (Figure 1) based on these design guidelines and past research on sandbox games [1], which will allow players to build trophy rooms, similar to the way collectors do with their physical collections. We plan to deploy the game to obtain feedback

on the experience and on how the sandbox game motivates people to create, curate, and explore digital collections.

While players may come into the game with existing narratives about the items that they collect, it is our hope that the game itself helps to create new narratives. For example, the trophy rooms themselves could have a story associated with the room (e.g., a specific athlete or game). We also hope that items will collect narratives from players other than the one who submitted the item, or will have new stories over time as the physical copy of the item trades hands or is signed by an athlete, for example.

Research Enabled by a Digital Archive of Memorabilia

Collecting a digital archive of memorabilia that has not lost its connection to the original narrative is important. Other than the social value it provides to the public, there are several research questions that will be able to be addressed. Researchers will be able to look at the difference between physical and digital trophy rooms, which may inform designers about the differences between physical and virtual play. Also, narrative has not been extensively explored in the collecting literature, and our game will enable us to investigate how and when artifacts become associated with a narrative, and how these narratives change over time.

ACKNOWLEDGEMENTS

We thank the Tom Jenkins Foundation, Natural Sciences & Engineering Council of Canada (NSERC), Social Sciences & Humanities Research Council of Canada (SSHRC), Graphics Animation & New Media (GRAND) NCE, University of Waterloo Games Institute, Neil Randall, Kent Aardse, Jason Hawreliak, Ian Milligan, Michael Hancock, Kirk Goodlet, and members of the Hockey History Team.

REFERENCES

1. Babbar, S., Behara, R., & White, E. Mapping product usability. *International Journal of Operations & Production Management*, 22(10), pp. 1071-1089, 2002.
2. Danet, B. & Katriel, T. No two alike: Play and aesthetics in collecting. In S. M. Pearce (Ed.), *Interpreting objects and collections*, (pp. 220-239), 1994.
3. Deterding, S., Dixon, D., Khaled, R., & Nacke, L. From game design elements to gamefulness: defining gamification. In *Proc. MindTrek: Envisioning Future Media Environments* (pp. 9-15), 2011.
4. McIntosh, W. D., & Schmeichel, B. Collectors and collecting: a social psychological perspective. *Leisure Sciences*, 2004, 26(1), 85-97.
5. Squire, K. 2008. Open-ended video games: A model for developing learning for the interactive age. In *The Ecology of Games: Connecting Youth, Games, and Learning*, K. Salen (ed.), MIT Press, Cambridge, MA, 167-198