Becoming an Expert Boardgamer: A Quantitative Exploration

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Abstract: Strategic board games can be the site of complex computational thinking, but little is known about how expert boardgamers develop expertise. In this paper, we investigate expert boardgamers by mining public data from BoardGameGeek to see how buying patterns change over time. We then explore the implications for learning complex content.

Introduction

Strategic board games (or "eurogames") have been growing steadily as a game genre in both Europe and North America recently. Where these games were vanishingly rare only ten years ago, now they are regularly featured in the New York Times (Irfan, 2011). These games have a couple of interesting and distinctive features that video games generally lack: they require precision and careful planning on the part of the players, they often require collaborative or cooperative strategizing, and they force the players themselves to act as the "Game manager" which can require complex logic. Indeed, Berland & Lee (2011) showed that strategic board games can be the site of complex computational thinking. However, board games are a niche hobby, and, as such, there have not been many recent studies on board gamers as a group. In this paper, we investigate expert boardgamers by mining public data from BoardGameGeek ("BGG", n.d.) to see how buying patterns change over time. We then explore the implications for learning complex content.

Methods

Data collection

The sample consisted of 90 (ninety) expert boardgamers' public profiles on BGG. The sample was selected randomly, consisting of the first 90 usernames (sorted alphabetically) that showed 'ownership' of most popular 'hardcore board game' as selected by the BGG community at the time of submission; the game (*Twilight Struggle*) requires 3 hours to play and prior expertise with strategic board games. The usernames in the sample averaged more than 100 strategic board games owned. The first ninety usernames did not appear to show any obvious bias, as most of the usernames were clearly pseudonymous (e.g., alakazam). Each username was associated with a profile showing both a list of games owned and the date on which each game was marked as owned. Although this is not necessarily equivalent to date of purchase for each game by that username, it provides a rough estimate of that date, as the BGG community rewards keeping collections current with badges and other incentives (BGG, n.d.).

Measures

Total games owned is a count of the number of games marked as 'owned' in a username's profile. *Date marked* is the date that each game in a username's profile was marked as owned. *Game rating* is the rating of that game as a weighted mean of the hundreds of thousands of raters in the BGG community. This information is provided along with each games' description in each username's profile. The *mean game rating* for a username is the average rating of all of the games marked as owned. *Game number* describes the order in which the games were marked as owned for each username. For example, the first game added would be 1, the second game added would be marked as 2, and so on.
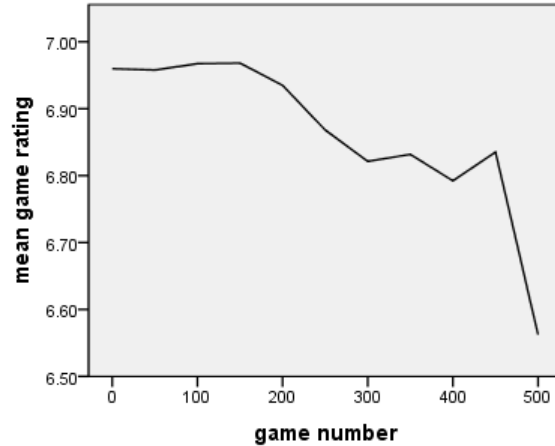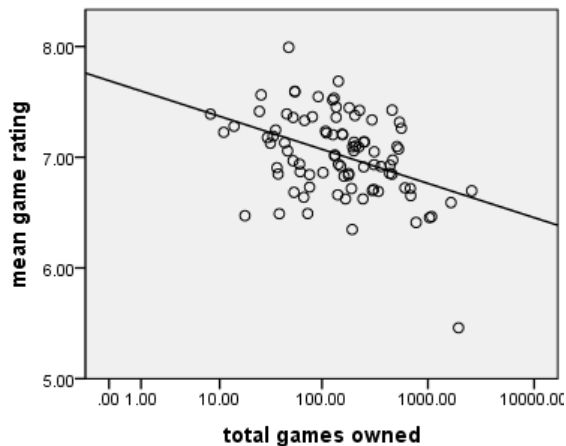
Results

Figure 15: **Collection size and game quality**   *Figure 16*: **Average game ratings over time**

Figure 1 shows the relationship between *total games owned* and *mean game rating* of the users' game collection. The relationship shows a strong and significant negative correlation (n=90, p<0.01). Figure 2 shows the relationship between *game number* and *mean game rating* over time of the users' game collection. This trends significantly negative (n=90, p<0.01), as well. Note that the Figure 2 is cut off at 500, as the data become significantly sparser (as can be seen in Figure 1).

Discussion

The data show that, as gamers owned more games, the games that they bought decreased in 'quality' as judged by the community rating. This could variously imply:

1. *The shame hypothesis*: The players were so ashamed of the terrible games that they had purchased that they waited until recently to add them.
2. *The game addict hypothesis*: The players could find no more 'good games' to buy and wished to keep buying games.
3. *The acquired taste hypothesis*: The players' interests became more specific over time, finding value in specific facets of otherwise low quality games. The players had learned enough to be able to play games that other players found difficult.

The 'shame' hypothesis is included to illustrate that these data are purely self-report and, as such, relatively unreliable. The findings of this study should not be considered broadly generalizable; they are preliminary and exploratory. The 'game addict' hypothesis illustrates, in part, the real issue of sampling bias. Indeed, there are only a finite number of extremely well reviewed games, and owners of 1000 or more games will necessarily include many games that are of low rating. It is also likely that people with a very large number of games will have purchased the most popular ones early. That said, it seems unlikely that the sample usernames buy games simply for the thrill of buying games, though that might represent a dream of the publishers. This possibility provides some information, but it is mostly unhelpful. The 'acquired taste' hypothesis seems the most plausible overall. At one level, it appears obvious: niche products are often an acquired taste (e.g., Marmite). However, it implies both that one can learn to enjoy playing very hard, generally un-fun games and that the people who enjoy those games did not start out that way.

This study suggests that even the most expert boardgamers took thousands of hours of training to enjoy the most difficult games, and that the kept on buying more and more unpopular, difficult games over time. In short: expert board gaming takes work.

References

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Game Design and Computer Programming in the General Education Classroom

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Abstract: In Fall 2011, we taught a course entitled "Writing and the Electronic Literary," an English course that fulfills a University of Wisconsin-Madison general education requirement. The course included a project in which students, most of whom had never written a computer program, used the Inform7 design system to build works of Interactive Fiction (IF). In this presentation, we briefly describe our approach to teaching the course and make a two-fold argument: 1) the general education classroom offers a useful space in which students can connect the practice of writing with the practice of computer programming; 2) games are the ideal medium by which we can help students to make that connection.

Introduction

In Fall 2011, we taught a course entitled "Writing and the Electronic Literary" in the English department at the University of Wisconsin-Madison in which students interacted with and created digital objects. We relied upon Katherine Hayles' argument that the term "electronic literature" was too narrow and that "the literary" offers a more expansive container for discussing a broad range of related artifacts such as digital art, games, digital poetry, and hypertext fiction (2008). This was a writing class designed to fulfill a general education communications requirement, and this meant that students arrived in the class from a number of different backgrounds. Such a diverse population—students in our class came from seven different colleges—is the norm in general education writing classes, and it presents various challenges.

Students arrive in such classrooms with varying sets of skills and expectations, and these challenges become even more pronounced when teaching computer programming in a writing classroom. However, we see the general education writing classrooms as a key space of opportunity for those of us trying to bring programming and software design to broader audiences. Further, we see game design as a particularly useful way to link together the concerns of computer programming and writing studies.

Inform7

We broke the course into three units: electronic literature, interactive fiction, and videogames. The first unit focused on hypertext fiction and other genres of electronic literature, and the third unit asked students to conduct a close analysis of a videogame while reading Ian Bogost's *How To Do Things With Videogames* (2011). It is the second unit on interactive fiction (IF) that we'd like to focus on in this micropresentation. During that unit, we read Nick Montfort's *Twisty Little Passages* (2005), a book that offers both a history of IF and a theoretical account of it, and played through some text adventure games (*Adventure* and *Zork*, for instance) in order to gain appreciation for the genre and its conventions. Our hope was that playing and reading about IF would give students ideas for their own games, and we encouraged students to make references to other works of IF in their games (a common practice in the IF community). In encouraging this practice, we were teaching students the same citational practices that they learn in other writing courses.

Students authored works of IF using Inform7, a language and development platform created by Graham Nelson specifically for writing IF. It is well designed overall and has many useful features. For our purposes, its most interesting characteristic is that programs are written almost entirely in natural language. For example, if the programmer wants to create a room called "Kitchen" which contains two objects, a stove and a refrigerator, s/he need only write:

> *The Kitchen is a room. A stove and a refrigerator are in the Kitchen.*

The programmer's job is simply to describe the setting, characters, and interactions using English sentences. Once the stage has been set, an interpreter spits out a fully functional piece of interactive fiction at the click of a button. The greatest strength of this approach is that it is completely unintimidating to a casual observer. The immediate reaction to reading a program written in Inform is

usually: "I could write that." Students quickly realize it might not be so simple; users of Inform7 still need to learn rules and syntax. Still, Inform carves a middle ground between writing English sentences and having to learn programming syntax. The result is a platform that looks like English (which avoids intimidating and alienating novice programmers), but is robust enough to allow for complex works of IF.

We tasked the students in our class with creating works of IF that used the unique features of the medium to communicate an idea and with constructing a meaningful experience for the interactor. This required them to understand that IF offers different affordances than traditional writing. The students created a number of interesting games; one particularly strong project was a game called *Bully Be Gone*, created by Chelsie Zitzlsperger and Michael Hagerty (1). In this game, the player must navigate through a school in search of a bully. As the player goes about performing various actions typically associated with adventure games—picking up items that might not belong to the player, attacking various NPCs—s/he gradually begins to realize that s/he is, in fact, the bully. From this realization, the player must retrace steps through the school, righting the various wrongs s/he perpetrated earlier in the game.

The game's real strength is that it implicates the player in the process of bullying, forcing the player into the role of aggressor. This makes the player reflect on their own actions rather than those of some hypothetical third party. As Ian Bogost argues in *Persuasive Games* (2007), this is a powerful rhetorical technique. While a good writer, speaker, or filmmaker can make the audience feel some of a character's emotions, the procedural rhetorics of a videogame allow an author to put the audience into a character's shoes.

In learning to use Inform7, students learn many skills that would be important in a computer science classroom, from if-statements, to the process of developing and debugging, to beginning to "think" like the computer. Most importantly for the purposes of this presentation, students are afforded the opportunity to create games that sit somewhere in between the texts that they are accustomed to reading or writing in a general education communications course and the computer programs that they would author in a computer science course. Game design bridges these two forms of writing, offering students a framework for understanding how computer programs can be used to communicate ideas in novel ways.

Conclusions

General education continues the tradition of a liberal arts education within institutions of higher education that are fragmented into specialized fields and majors. One hope is that general education courses provide students with the opportunity to step outside the narrow focus of their degree program. Students in classes like ours are asked to learn communication skills in various genres— they produce a great deal of writing and do oral presentations. However, our course conceived of communication even more broadly by teaching computer programming alongside other modes of communication.

As we have argued, game design is an ideal way to expand students' definition of communication. Our course offered game design as a way for students to think of the ways in which computer programming and writing are similar. Beyond this, we hope that such a course makes a grand gesture by considering computer programming as part of a liberal arts education. The fields of game studies and game design can and should be a part of this grand gesture.

Endnotes

(1) All the games created by students in this class, including *Bully Be Gone*, are available at: http://courses.jamesjbrownjr.net/interactive_fiction

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