

Good Game Design: A Case Study of ‘Bookworm Adventures Deluxe’ By Anuja Parikh

‘Bookworm Adventures Deluxe’ is an extremely popular casual puzzle game. The core game mechanic is extremely simple. There is a four-by-four grid, containing sixteen letter tiles. The player must form words using those letters, and the longer the word is, the more points they will receive. The creators of the game could have stopped designing this game at this point and it still would have been fun, but they wanted to be unique, so they added elements of traditional RPG’s along with a heavy narrative to the game. Adding this extra step took the developers two and a half years of work to complete the game, along with \$700,000, an extremely high amount for making a casual game¹. While this was a bold move for the developers, I believe taking the time and effort to make sure the end product was good is what made this game so successful. Whether the game designers realized it or not, the principles they followed were very much in line with many of the good game design principles we learned about in class. They include using the Hero’s Journey for story, Jesse’s Ten Puzzle Principles, having a good interest curve, and interesting game play. In this paper, I plan to look those four aspects of design, and use them as metrics of success for the game ‘Bookworm Adventures’.

The basic plot of ‘Bookworm Adventures’ is that Lex, a bookworm, is on a quest to save the oracle, Cassandra, who is currently locked in a tower far away. Magically transported by Professor Codex, Lex must travel through three different books, fighting monsters from different classics such as Greek Mythology or the Arabian Nights. Unlike a typical casual game, ‘Bookworm Adventures’ also incorporates many characteristics from traditional role playing games, such as having hit points, leveling up, attack points, and turn-based combat. Several word-based mini-games are also interspersed within the different chapters of each book to add variety, and can be played separately once the player beats the first two books.

I felt that one of the best elements of the game was the storyline. I believe the reason for this was because ‘Bookworm Adventures’ closely followed the timeless structure of ‘The Hero’s Journey’. ‘Bookworm Adventures’ started in *The Ordinary World*, an uneventful library. There was an extremely quick foreshadowing in the very first few seconds of the game, when Professor Codex showed Lex a mysterious passage in an old Greek mythology book. The player could feel that something more exciting was about to happen in those stacks of books. *The Call to Adventure* was quickly realized when the words, “Somebody, Please help me! -Cassandra”, mysteriously appeared out of nowhere in that book. Professor Codex appointed Lex as the savior, and asked him to go save Cassandra. Lex never outrightly expressed a *Refusal of the Call*, but definitely expressed hesitation in starting on the journey.

Professor Codex: It’s a message from the oracle, Cassandra. You must help her Lex!

Lex: Me? Help? How?

Professor Codex: My magic pen will transport you into the necessary book.

¹ Tysen Henderson, Tyson & Weinstein, Jeff. (Jan 2007) “Bookworm Adventures Postmortem: The Good, The Not Bad & The Ugly”. From IGDA Casual Games Quarterly.

Lex: Uhhhh....

ZAP! [Professor Codex sends Lex off without a full acceptance.]

With some guidance from Cassandra, Lex was slowly able to beat the monsters in the book. During this time, there was a *Meeting with the Mentor*, where Cassandra replaced Professor Codex as the main mentor in the game. Throughout the entire game, she gave Lex advice about the monsters that were lurking about, suggestions about weapons he should use, general advice about what he should do, and positive reinforcement for when he did well. Once Lex met Cassandra, and defeated some easy to beat enemies, he then *Crossed the Threshold*, or was ready to start the adventure on his own. Some may argue that the threshold was crossed when Lex entered the book into the first place, but I disagree, mostly because of what Cassandra told Lex after the first chapter. After the first boss battle, she told him, “Your quest has begun”, and after that point, while Lex was still given advice, he stopped being handheld through each of the fights.

The next several chapters in the game were devoted to the *Tests, Allies, and Enemies*. Lex went on to fight tens of monsters, met enemy bosses that he had to kill, as well as allies, such as Roxy, who helped him gain life elixirs, weapons, and power-ups through the mini-games. Unlike other stories that followed the structure of the Hero’s Journey, ‘Bookworm Adventures’ didn’t specifically have a *Meeting with the Goddess*, or *Atonement with the Father*. I think that it was okay that these were not included, because it would have made the story more complex than was necessary.

As Lex beat all of these enemy bosses, he was simultaneously preparing for *Approaching the Cave*. The “cave” happened to be a building that looked like the Roman Pantheon, also sometimes known as the “Temple of the Gods”, and this was where Cassandra was being held. On the main map, this building was prominently displayed because of a large blinking speech bubble stating “Help Me!” coming from the inside of it. As Lex began approaching this building, the game began getting harder, and I began saving all of my power-ups because I knew *The Ordeal* would be a tough fight. Beating the very last level was similar to playing the previous levels, except it was much more difficult to beat the enemies. This level was all bosses, and each of them was extremely strong. I fortunately was able to make powerful words, and thus Lex received *The Reward* of saving Cassandra. Unfortunately as soon as Lex rescued her, she was quickly kidnapped again. In *The Road Back*, Lex was sent back to the Ordinary World, or the library, where he had to re-strategize his next moves to figure out how to save her again. The next two books in ‘Bookworm Adventures’ went through this same pattern of the ‘Hero’s Journey’ again, and the very last two steps, *Resurrection* and *Returning with the Elixir*, didn’t occur until the very end of book three, during which time Lex finally saved Cassandra and returned home.

Along with the storyline, I felt the main puzzle mechanic in the game was the other strong point of ‘Bookworm Adventures’. Jesse’s Ten Puzzle Principles that we learned about in class was an excellent way to judge if the puzzles were well made, and in fact, ‘Bookworm Adventures’ followed almost all ten of the principles. The *goal of the puzzle was easily understood* from the get go, and the designers made the game *easy to get*

started. As soon as the player entered the puzzle mode of the game, the very first line that came out of Lex's mouth told the player the goal of the game.

Whoa! Where am I? That guy certainly looks ugly. I'd better do what I do best and defeat him by spelling out words."

This statement alone automatically let the player know that they were supposed to take the letters in the four-by-four grid and spell out a word. Four arrows also pointed to four letters in the grid, "P-L-A-Y". A popup bubble next to the grid asked the player to click on those letters to form a word. The player could not move onto the next puzzle without following these simple but extremely important instructions. Following the directions meant the player understood the mechanics of solving the puzzle. While reading the postmortem written by the creators of 'Bookworm Adventures', I was glad to find out the designers did this on purpose¹.

"Introducing each layer of gameplay was also done with care. The most potent portions of that process were a succinct integrated tutorial, carefully-revealed interface and reiterative arrow tips. The first several chapters of Lex's adventure guise the tutorial in layers of fun and humorous banter. As new gameplay is introduced the tutorial wording is succinct and spoken as character dialog. In tandem, the corresponding bits of interface are gradually revealed, so the player only sees the Level Up Bar after it is taught to them and needs not worry about it until Level Up points can even be gained. Finally, detailed arrow tips pop up pointing directly at UI elements and punctuate each lesson with expandable detailed descriptions."

'Bookworm Adventures' was also very good at giving a *sense of progress* and *solvability*. When the player formed a word that was acceptable, Lex would respond by saying, "Good". The longer the word a player spelled out, the better the feedback from Lex would be. For example, a very short word like "D-O-G", might receive no feedback, "D-O-O-G-S" might receive a "Good!", and the much longer "D-O-G-G-E-D" may get a "WOW!". To let the player know they had solved the puzzle, the game had an "ATTACK" button below the puzzle. Once the player had created a real word, the "ATTACK" button would blink, letting the player know that their word was an okay answer. This was also the game's way of *giving the answer*.

I was glad that *difficulty was introduced gradually* in the game, as I found forming words at first was a very difficult task to perform. At the beginning of 'Bookworm Adventures', it was basically impossible to die, because any word I made and attacked with was always worth a little more than my enemy's attack, even if my word was short. By the end of the game, making only three letter words would kill me quickly, and in fact, I did end up dying once because my words weren't up to standards. The parallelism in the game really helped me make sure I was getting the most points. I never had to worry about trying to figure out one answer. Having multiple letters in the puzzle grid let me form as many words as I wanted. I could work as long as I wanted to, to make a longer word, or if I got frustrated, I could go with the shorter word, or press shuffle to get a completely new set of letters to work with. One downside to this was that sometimes it

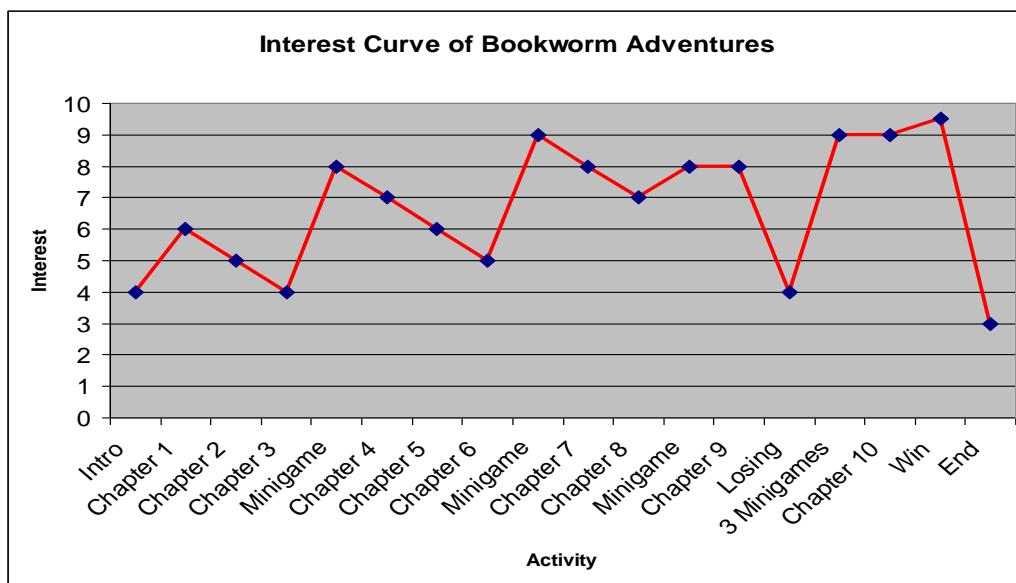
didn't completely force me to think of new words. If I got lazy, I could use the same ones over and over.

'Bookworm Adventures' also didn't offer any *hints*, but I felt like unless the player wasn't a native English speaker, hints on winning the puzzle weren't really necessary. There were enough word choices in the puzzle to be able to solve it without a hint. I do feel that a hint with some sort of message that let the player know if a word worth more points was possible, or if there were any words in the grid could have been useful.

Another principle 'Bookworm Adventures' did not use was the *Pyramid Structure*. A few mini-games were interspersed within the larger game that allowed the player to gain treasures and extra protection, but they weren't necessary to win the game. Including a pyramid structure could have added another dimension to the game that I think would have made it much more fun. Each puzzle in 'Bookworm Adventures' was very linear and self-contained, and never required too much thinking about the big picture. Once I solved each puzzle and beat the monster, I never had to worry about remembering anything from the previous fight.

A third principle that 'Bookworm Adventures' chose not to use was perpetual shifts. As mentioned in class, *perpetual shifts can be a double edged sword*, and in the case of 'Bookworm Adventures', adding it in would have been confusing and would have also unnecessarily changed the game mechanic in a negative way.

The interest curve of 'Bookworm Adventures' was definitely good. The slope started in the middle, and slowly pointed upwards, climaxing right at the end with a win. Since the other two books in the game follow a similar structure to book one, I've decided only to plot the curve of the first book.



I started the intro out as a four, because I was very excited to start, but wasn't really sure what to expect. The movie clip at the beginning of the game was quick, and my interest quickly rose, as I was also very quickly able to start playing the game. As the chapters progressed, my interest slowly began to wane, as there was really no way to lose, and all of the puzzles seemed to easy to solve. Each chapter was set up in the same way. There would be several mini-battles with enemies, and would end in a tougher "Boss Battle" at the end. The Boss Battles were fun, because I could spend more time working on solving word puzzles, but they were also very tough to beat. The reason higher chapters received higher interest scores was because each of the chapters increased in difficulty and also added more features to increase excitement. By the end chapters, I was receiving treasures that let me beat the enemies more speedily. The designers also found ways to break up the monotony of the puzzles by adding bonuses, such as getting extra points for spelling out a color, or using the letter "y" in a word. This definitely made the game more fun, but could have been better if they had also themed the puzzle more. For example, it would have been nice to get extra points for spelling out a Greek god in the Greek Mythology book, rather than getting extra points for spelling out a color.

The mini-games received a high interest score, because they were placed perfectly in the game. Just as I started getting tired of solving the same word puzzle over and over, all of a sudden, I had a new type of game to play. While the mini-games were still word related (i.e. forming as many words as possible from one long word), playing these games gave me a nice break. The only issue with the mini-games was that they were so much fun, I wanted to go back and replay them, but I couldn't until I completed Book 2, which was a minimum of a 10 hour endeavor. My favorite mini-game was after Chapter 8, and the entire experience lasted less than three minutes – an experience that definitely could have been longer. This may have been done as an incentive, so that only players who had bought the full game could only play the mini-games, but I feel that unlocking the mini-games wouldn't decrease the number of buyers.

My interest dramatically dropped in between Chapter 9 and losing the game. When I had started Chapter 9, my life meter was extremely low, and I had received a set of letters that I had trouble forming large words with. As I started fighting enemies, I knew I was in a losing battle. This gave me the feeling of doom, and made me feel unhappy playing the game, as I felt that I had no control in trying to raise my life meter. I thought losing the game would mean I would have to start over, and once I realized that I was getting a second chance, my interest dramatically increased. The second chance involved restocking my treasures and health potions by playing the three mini-games I had played in between the previous chapters. It was fun to revisit the 3 mini-games again, and I was really happy that I could go back, get health points and power-ups from the mini-games, and then go back to exactly where I had left off.

Winning received one of the highest interest scores, because winning is always fun, and I had completed my quest... or so I thought. Just as I had saved Cassandra, a mysteriously cloaked monster came and re-kidnapped her. It was pretty exciting, and I was ready to go start chapter two as soon as possible to go and save her. The ending was uneventful as I

got sent back to library to find out what my next adventure would be, and thus, my interest dropped.

The best aspects of 'Bookworm Adventure' were that it had such simple game-play and instructions. Learning the game mechanics were extremely easy to pick up and the puzzles were created in a way that made the game re-playable multiple times. I liked that while it was possible to lose, second chances were abound in the game. I also really liked that there was no time limit in the game. It became more of a challenge to take my time, and think about what the best word might be rather than trying to complete the game as fast as possible. This was especially true for later on in the game when the player started to get penalized for spelling short words.

I also liked the use of character in the game. Lex was a nerdy, slightly bookish worm with big glasses covering his eyes. He completely looked out of place in all of the fantastical scenes, but I thought that was okay. I felt it added to his personality, of the underdog fighting to overcome all the odds. The visual style made Lex seem very vulnerable, and that made me feel a strong sense of empathy for him, especially since I was the one responsible for his safety and well-being by choosing the right words. When I did badly, Lex suffered, and when I did well, Lex rejoiced with me. While Lex's character was strong, the other characters in could have been more compelling. I felt more worried for Lex than I did for Cassandra, who was the character in trouble in the game. She seemed to be an authoritative figure, because she was constantly present giving Lex advice and leading him through the books. While I did want to rescue Cassandra, I feel some sort of extra danger in the game could have made me feel stronger about saving her. Lex met many other good and bad NPC's throughout his journey, and I feel those characters could have been made into more compelling characters as well. Their brief presences in the game made them unmemorable, and their presence could have added much more depth to the narrative of the game.

Finally, while it is usually very hard to combine story and puzzle, 'Bookworm Adventures' managed to blend both together in a way in which they never overpowered each other. For example, the stories never had a chance to get boring, because it was told in short bits between the puzzle. It was just enough information for me to remember the storyline and to pique my curiosity of what would happen next. Along the same lines, the puzzles in the chapters were short enough to solve quickly to keep the story moving. Whenever the puzzles would start to all feel the same, the NPC Roxy would turn up with a mini-game.

While overall, 'Bookworm Adventures' was an amusing and well made game, there were several aspects of the game that could have been improved on. The biggest was the potential for learning. I'm sure a lot of time and effort went into theming the story, because I recognized many of the characters from famous mythological stories such as The Odyssey, The Iliad, and the Arabian Nights. Since it has been a long time since I've read those books, I couldn't remember what these tales were about. A refresher about the story, or more role-playing with the dialogue would have been nice.

As I mentioned before, there could have also been more theming in the puzzle area, such as in the example where I suggested that players should get extra points for spelling a word themed with the book I was in, rather than spelling out a word of a random topic. Using themed vocabulary would encourage repetition, and could be a useful in learning and memorizing new vocabulary words. Along the same lines, adding in an optional button to learn the definition of a word would have been helpful too. There were times that I was surprised to learn that a certain combination of letters I had formed was in fact a word. I could have learned a lot from knowing the definition of a word, and not just knowing that it existed. Overall, 'Bookworm Adventures' was an extremely delightful game to play and the design of the puzzles, game play, and storyline is something that any game designer could learn many lessons from.