BEOWULF WORKSHOP:

A MissionMaker Case Study

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Abstract

This is a case study of an adventure created in MissionMaker, a videogame authoring tool for creative learning. The game was created in the context of the Beowulf Workshop, which aimed to explore this epic poem via creative exercises in a variety of languages and mediums, including digital media. This text is based on an analysis of the game and its creative process, as well as a conversation with its creator. The objective is to bring new insights about the MissionMaker software and its applications in education and research.

The Beowulf Workshop

The Beowulf Workshop was held at the Institute of Education (IOE) in October 27th and 28th, 2014. The participants, 26 students, mostly from the English and Drama programmes, were encouraged to explore the epic English poem Beowulf, analyzing and discussing its language, narrative structure and themes, as well as the way the characters, locations and situations are represented in the story.

The process included many creative exercises in a variety of different languages and mediums, such as drama, improvisational theater, creative writing, drawing, animation, film and, finally, videogames.

Even though the students had very little time to work on each one of these exercises, the process was very engaging, and led to a rich and interesting scope of creative productions. In the end, they had experienced in a practical manner how different languages and mediums may allow for different - and sometimes unique - perspectives and approaches to representation or expression.

In this document the focus is on the videogame development exercise, which happened on the second day of the workshop, using MissionMaker.

Figure 1: Workshop: improvisational drama exercises.

MissionMaker

MissionMaker is a game authoring tool for creative learning, currently in development at the London Knowledge Lab. It allows the creation of games composed of different locations, objects and characters, as well as the definition of rules, behaviors and properties for these elements. The tool distinguishes itself from most game authoring software because of its particular workflow, which allows even new users to have a simple, but fully playable, environment almost immediately. It is

then possible to customize and add new elements gradually, as the program's interface and features are explored by the user.

This approach makes MissionMaker particularly suitable for educational purposes.

For the Beowulf Workshop, each participant (or group) was instructed to use MissionMaker to create a game based on a particular section or situation from Beowulf. The objective was to explore game mechanics as a representational medium in itself, through its own unique logic, grammar and expressive strategies.

Figure 2: Workshop: game development in MissionMaker.

The Game

This particular analysis was done with the game created by Andrew Smith, a student in the English and Drama programme. Like most of the other participants, he also works as a teacher, for teenage students. Andrew has a significant experience with games, which helped him in the game creation process.[1]

In this game the player adopts the role of Beowulf, the title character of the poem. In the beginning of the game the player encounters the king, who requests him to kill Grendel's mother and find his crown (Fig. 3:5). The game ends in victory for the player if the beast is killed.[2]

Most of the other games created during the workshop follow a relatively linear progression, with a series of tasks and actions that must be completed in order to advance and reach the ending. Although Andrew's game follows a similar pattern, he also included several elements which are optional to the main plot.

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[1]Most of Andrew's experience playing games is with strategy franchises such as Command & Conquer (Electronic Arts, 1995-) and Civilization (MicroProse, 1991-), but also other genres such as action games. One of his most recent gaming experience is with Grand Theft Auto V (RockStar Games, 2013), an open-world action title. He also had a brief experience with game creation when he was younger, with the software Klik & Play (Clickteam, 1994).

[2]A video with gameplay is available at the DARE website: `darecollaborative.net/2015/02/04/playing-beowulf-gaming-the-library` (Access: Feb 2015)

Figure 3: Interacting with the King character.

These elements include environmental narrative devices, such as a book, containing a passage warning the player to be careful; a medicine pack, that if picked up activates a message from the narrator explaining that Beowulf is too strong to need it; and a couple of dead rats (Fig. 4:5), that when examined prompt a message representing the thoughts of the player's character about the beast's lair.

Some of these optional elements were made to hinder the player's progression, such as a poisoned bottle of wine that lowers the player's health (Fig. 5:5), as well as paths that lead nowhere.

Figure 4: Dead rats.

Figure 5: Poisoned wine.

Other elements that contributed to the world building were the messages from the narrator commenting on the events, as well as thoughts from the player character's point of view. This was done in an effective manner, enhancing the narrative and making it clear to the player what was happening and what could (or should) be done next.

Andrew also chose to include a character in his game that is not present in the original story: a minion that protects the mother if the player attacks her.

Beowulf With Lasers

MissionMaker offers a rich selection of assets from which the user can choose from (characters, places and objects). Several of these assets fit well in the world described in Beowulf, such as the wooden and stone textures and the crown object. On the other hand, elements such as swords and other medieval weapons are missing, as well as the appropriate character models to represent the king, the beast and her minion.

This required great creativity from the students in the workshop, who had to employ certain strategies in order to properly build the world in which Beowulf's narrative takes place.

In Andrew's game, for example, the king's characterization was achieved solely through his dialogue. Grendel's mother was represented using a grotesque mix between the torso of a female character's model and the legs of what looks like an alien chicken.

On the other hand, the exercise allowed for a reinterpretation of the story, and the possibility to translate it to a different setting, such as a space adventure or a story taking place in a modern city.

Unfortunately, since the main weapon currently available in MissionMaker is the laser gun, all the students had to exercise at least some artistic license in their games.[3]

Figure 6: Red book and visual effect.

Figure 7: Grendel's mother and crown.

[3]A new assets library for MissionMaker based on Beowulf is currently in development at the London Knowledge Lab.

The Creative Process

According to Andrew, he didn't have many difficulties in creating his game using MissionMaker. His experience and familiarity with games, as well as his understanding of game logic, helped him in the process of creating this adaptation of Beowulf through game mechanics.

For example, he used simple conditional rules for pacing and dramatic effect, such as having the beast attack the player only if he picks up the crown (Fig. 7:6), having her minion attack only if she is hurt or triggering a door to open in a previous section of the level, changing the topology of the map and thus requiring the player to adapt his strategy.

In the beginning of the development of his game, Andrew had a more linear structure in mind for the narrative. As he explored the tools and features available in the software, he realized the potential for environmental storytelling, and included additional elements and parts (such as the ones described previously).

The final version of the game still reveals some aspects of this initial, more linear and static structure. The king's dialogue at the beginning, for example, presents a series of tasks to be completed, namely to kill Grendel's mother and find the king's crown. In the game itself, there are several optional paths and elements to explore outside of these "tasks". The player doesn't even have to pick up the crown in order to complete the game.

It is interesting to note that some of these secondary elements don't even have an actual effect on the game system itself, although they have the potential to inform and influence the players actions. This is the case of the dead rats, for example - examining them doesn't affect the outcome of the game directly, but they are very effective in building the atmosphere of the beast's lair.

This type of passive environmental storytelling is the basis for games, such as Gone Home (The Fullbright Company, 2013; Fig. 8:7) and Dear Esther (The Chinese Room, 2012; Fig. 9:7). In these games, the player's role is mostly to explore the virtual world, rather than to affect it.[4]

Figure 8: Gone Home (2013).

Figure 9: Dear Esther (2012).

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[4]In a way, the language (or expressiveness) of this kind of approach has less in common with videogames and digital media, and more with installation art or sculpture. That is, even if the chosen medium for the delivery of this content is a videogame, the language (or art form) being employed is essentially of a traditional nature.

Andrew also described how the previous workshop exercises helped him in the design of his game. Activities such as the creative writing and improvisational theater required students to think and act like the character would in specific situations. This allowed them to better understand the scenes and the characters in the story, as well as their motivations and behavior.

Because of this process, when it came to design and develop the game, Andrew said that the character's language and way of thinking were almost second nature to him. It was easy to write text for their dialogue and thoughts, as well as the voice of the narrator.

Work in Progress

Since none of the participants in the wokshop had worked with MissionMaker before, it took most of them at least a couple of tries before getting things to work as intended (another factor was the software itself, which has some bugs and usability issues). During the game testing, in which students would play each other games, it was common to find broken rules, lost objects and strange character behavior.

Andrew decided to redo his game over from scratch at least twice, the last time near the end of the workshop. This allowed him to correct or remove most of the bugs and loose ends in his game.

He did wish he had more time in order to include additional elements, fix some minor issues and fine tune some aspects of the gameplay. For example, he said he would have included servants around the king, behaving in a humble or protective way towards his character. This would make it clearer to the player, via the game mechanics, that this particular character was important.

On the other hand, Andrew also noted that, if time wasn't a factor, he would probably keep working on the game indefinitely.

After MissionMaker

Andrew believes that his experience in this workshop, and specifically with creating a game using MissionMaker, could be applied to his work teaching creative writing.

He noted several similarities between game development and creative writing. Both involve building a world or system, populated by elements (physical ones, such as places, characters and objects; or subjective, such as ideas and concepts), which follow a certain set of rules or behaviors. Also, in both cases the creative process consists in creating elements, experimenting with them, putting them in contact with each other in order to observe how they react and interact, and modifying and adapting them accordingly.

The difference would be that, while for the writer this "living" world exists only in his mind, for the game designer it exists as a actual system, with all the characters, rules and behaviors described in the source code. Of course, a static text may come alive in the mind of the reader, but this is his interpretation, based on his particular experience and repertory.

This of course leads to drastically different modes and strategies of reception. In a game the player can experiment with the system, testing different possibilities and combinations of actions, as well as their consequences.

One of the implications of this, Andrew suggests, is that games have the potential to convey an idea more clearly, or in a more complete manner, and thus avoid misinterpretations of the message intended by the author. A film, for example, regardless of how many times it is watched, although the viewer's interpretation may change, always shows the same information - that is, the same frames and sounds. A game, on the other hand, allows for different paths, alternative situations and outcomes, giving the player more information at every replay.

The Analysis

The process of analyzing the games created by the students in MissionMaker allowed for many interesting insights about this software as well as the creative process in general.

Specially considering that, because of how the software is structured, it is possible to obtain a series of relevant information from the game files. This includes information such as the order in which every element and rule was created, the nomenclature used for each one of them and the particular way certain situations were modeled in the authoring system.

This made it apparent, for example, that some of the last elements added to Andrew's game were a couple of vocal interjections - the first is activated when the player interacts with the king, and the second plays when the book is read. Both situations occur in the beginning of the game. From this information it is possible to deduce, for example, that the game's creator was probably satisfied with the finished game, and thus took his time to add additional elements.

The fact that the game's logic is accessible for analysis also helps in the debugging process. For example, one of the rules that Andrew included in his game didn't work. Since it has a very subtle effect in the gameplay, it would be hard to identify it just by testing the game. However, by examining the rules in the game file, the issue was easily detected (and fixed).

Final Touches

Andrew's game, as well as some of the other productions from the workshop, will be presented as case studies associated with the MissionMaker project. Some modifications and corrections will be done to them in order to assure that they are fully playable. This process will be done alongside the students, in order to guarantee that the finished game represents their own work.

The following is a list of the minor modifications that were done specifically to Andrew's game, with his input and approval.

- Some of the text pop-ups didn't stay on screen long enough to be read completely. The duration of these pop-ups was increased.

- There is a text pop-up that is supposed to play when the player enters a certain location. Since the player could enter that same location multiple times, this pop-up became repetitive. An additional rule was included to make it play only the first time.

- Certain objects have visual special effects placed besides them in order to signal their importance to the player. These are the gun and ammunition, and the book (Fig. 6:6). However, these effects persisted even after these objects were picked up. A rule was included to remove the effects after the objects were gone.

- Two changes were made to the king's dialogue in order to account for changes made in the game after the text was written. The first version of the dialogue mentioned the beast's "kin" (Grendel), but since later in the development of the game this character was changed to represent a minion, the word was changed to "flunky" (the term used by the student to identify this character in MissionMaker). Also, initially the king requested the player to bring his crown back, but since this is not actually possible in the final game, the line was changed to only ask him to "find" the crown.

- There is a rule that only allows the player to teleport to the beast's lair after talking to the king, but it was not working. This rule was fixed. Also, additional elements were added in order to make this rule clearer to the player (this includes an additional corridor, a pop-up message and a couple of rules).

Other Minor Issues

The list bellow contains some other minor issues in Andrew's game, discussed in conversation with him, as well as improvements that could be tackled in a future version of the game.[5]

- As mentioned before, the game can be won even if the player doesn't find or pick up the crown. This can be confusing, since the king clearly mentions the crown in the beginning of the game. A way to solve this would be to show the player that his character is not sure if he wants to fulfill the king's request or not. This could be done with a text message representing Beowulf's thought, sometime after the player talks to the king, for example.

- There are some possible actions and situations in the game that, although very relevant and meaningful to its central premise, are not considered or even acknowledged by the system. For example, the player can harm or even kill the king, with no consequence whatsoever. It is also possible for Grendel's mother and her minion to kill each other by mistake (also, if the mother dies that way, the victory message still appears to the player). The crown too can be destroyed by mistake by either one of them.[6]

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[5]Note that, as mentioned before, this game was well designed and implemented, specially considering the short time the student had for this activity. This list is meant primarily as a way to further understand the creative process behind the game, and the workflow in MissionMaker.

[6]There are also other elements that are not acknowledged in the game, but with less impact to the coherence of its premise. These include some of the information displayed in the bottom of the screen, such the timer, the Strength and Nutrition meters (it is not clear what they mean and how they affect the gameplay), and some of the actions available for the player, such as throwing objects and the use of teleportation.

- The text messages throughout the game sometimes lack coherence, both in form and in content. They alternate between representing a certain character's dialogue, the omniscient narrator and the player character's thoughts. Sometimes this can be confusing, requiring the player some effort to understand which of these voices the text refers to. Besides that, some of the messages seem to contradict the character's personality and actions. For example, when the player tries to pick up the medicine, the game's narrator informs him that he is too strong to need it, as if Beowulf himself was unsure about his own strength (which should not be the case).

- There are some events that happen in the game that are confusing to the player. In these cases, adding a text message or some other kind of clue or clarification could improve the gameplay experience. For example, if the player dies, there is only a "Game Over" message, with no additional information or narrative elements to provide some kind of closure or help to the player. It is also unclear to the player why the game restarts after the player kills the mother and wins the game. A final example would be when the player drinks from the poisoned wine. Doing so lowers the character's health, but this is barely noticeable. A pop-up message or some kind of sound effect could make the situation clearer.

- The sound effect used when the player picks up the gun and ammunition (a short bass riff) seems very out of place and distracting. Something more closely related to the game's themes and atmosphere would be better.

Conclusion

This text briefly described the use of MissionMaker in the Beowulf Workshop, and presented an analysis of a game developed by one of the students.

Similar analysis should follow with some of the other games developed in the workshop.

Hopefully, this investigation will allow for new insights in the use of MissionMaker and its applications in education and research, as well as contribute to the development of the next version of this tool.

References

Beowulf (modern English translation). Translated by Frances B. Grummere.
URL: `www.poetryfoundation.org/poem/180445`

MissionMaker Teacher Support Packs (Immersive Education).
URL: `www.immersiveeducation.eu/index.php/downloadspg/missionmaker-downloads-page/`
`missionmaker-teacher-support-packspg`

Websites
DARE Collaborative: darecollaborative.net
Fullbright Company: fullbright.company/gonehome

Software
Klik & Play (Clickteam, 1994)
MissionMaker (Immersive Education)

Games
Civilization (MicroProse, 1991-)
Command & Conquer (Electronic Arts, 1995-)
Dear Esther (The Chinese Room, 2012)
Gone Home (The Fullbright Company, 2013)
Grand Theft Auto V (RockStar Games, 2013)

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