Topics:

Version Control

We made full use of version control when accomplishing our project. By learning the basics of gits from the book "Version Control with Git"[1] , we figured out how to cooperate effectively with the software of github desktop, which saved us time from memorizing and using the numerous git commands. The usage of repositories and branches were pretty fundamental and crucial in developing our game, as it allowed us to separate our work in different branches and then merge them together in the main branch, tremendously improving our efficiency. Certainly we came across some difficulties when merging as many conflicts arose, after referring to books and articles[2], we managed to settle them and figured out ways to avoid conflicts. Furthermore, we also made great use of tag release. By releasing our stable versions on github, we recorded our milestone in developing our game and made sure it was easily accessible (seen as in screenshot 1). Bug fixes and game refining were also made easier since they were more trackable with the tags released.
All the books and articles we cited were found from google and google scholar.

Game design

We explored to a significant depth on the topic of game design in our game “Legend of the ring”. After thorough research, we decided that the main focus of our topic would be game flow and player choice. Research[3] shows that puzzles serve as structured challenges that engage players, allowing them to experience deep focus and satisfaction upon solving them. We therefore integrated puzzles in the game flow in order to intrigue our player. It should be noted that the basis of our game was interactive storytelling, as a result, our puzzles had a strong connection with the story plot, which serves to boost player experience[4].This can be especially seen from the third puzzle where the npc who gave the puzzle was the friend of the princess who was the motivation of the hero’s adventure.

At the same time, puzzles and story plot together enable player choice which then lead to multiple endings. Multiple endings serves to create a sense of agency in players, which is an effective way to make player choices feel meaningful[5]. In our game, as the player chooses different ways to solve the three puzzles, depending on the essence of the decision, there will be corresponding endings. When the player chooses to follow the rules throughout by solving the puzzles manually, it will lead to a good ending which actually also is a reward for the behavior of the player. In contrast, if the player chooses to use the easier way out which involves killing the npc, such morally unacceptable actions would have severe repercussions— it would lead to an inevitable bad ending. This is eccentrically intuitive and corresponsive to the reward mechanism of player psychology[6].

Moreover, in order to make the entire story holistic, we designed the endings in such a way that there was a preferred sequence which could maximize player experience. It is definitely possible to achieve any of the three endings at the first play, however, we intentionally make certain conditions more easily achievable than others to lead the players to the preferred sequence of endings. For example, the normal ending as the recommended first ending is

the most easily achieved. The second puzzle was deliberately made easy for the player to solve while the third puzzle was made very difficult, tempting the player to use the easily obtainable fire magic from the second puzzle to kill the npc and get the key straight away. This is definitely not a comfortable decision to make, so we give a hint at the end to encourage the player to come back and solve the third puzzle manually without killing the npc, which then leads to a good ending. At last, we give a hint at the good ending to remind the player of the existence of a third ending which reveals the truth. This is to encourage active exploration of the player since the condition for the third ending is not so easily met—a hidden room has to be found.

To conclude, by searching the internet and reading academic sources, we figured out the basic principles of game design and applied them in designing the game flow and realizing multiple endings. Player psychology was fully made use of to enable immersive and interactive story-telling. We have thoroughly explored this topic and achieved our original purpose, applying what we learnt into practice.

Citations:

[1] Loeliger, J., & McCullough, M. (2012). *Version control with Git* (2nd ed.). O'Reilly Media.

[2] Swicegood, T. (2008). *Pragmatic version control using Git*. Pragmatic Bookshelf.

[3] Csikszentmihalyi, M., & Nakamura, J. (2013). Flow and puzzles: How structured challenges enhance immersive experiences in games. *Journal of Game Studies*, 8(2), 45-63.

[4] Bizzocchi, J., & Tanenbaum, J. (2011). Puzzles as narrative devices in adventure games. *Journal of Game Narrative Design*, 3(1), 102-120.

[5] Short, E. (2015). *A player's sense of agency in games with multiple endings*. Self-published.

[6] Nacke, L. E., & Lindley, C. A. (2010). The impact of flow state on player experience in video games. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 311-320).