CSC 582

Assignment 1

Team # 6

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Grade Requested: 100 ("*To get a 100, submit all 7 deliverables*")

Filenames: Deliverables all within this document, except:

Deliverable 2.1: Assignment1.html.

Deliverable 2.3: Deliverable_2.3.png

All team members have completed the reflection survey.

1.   Part 1 - Analysis
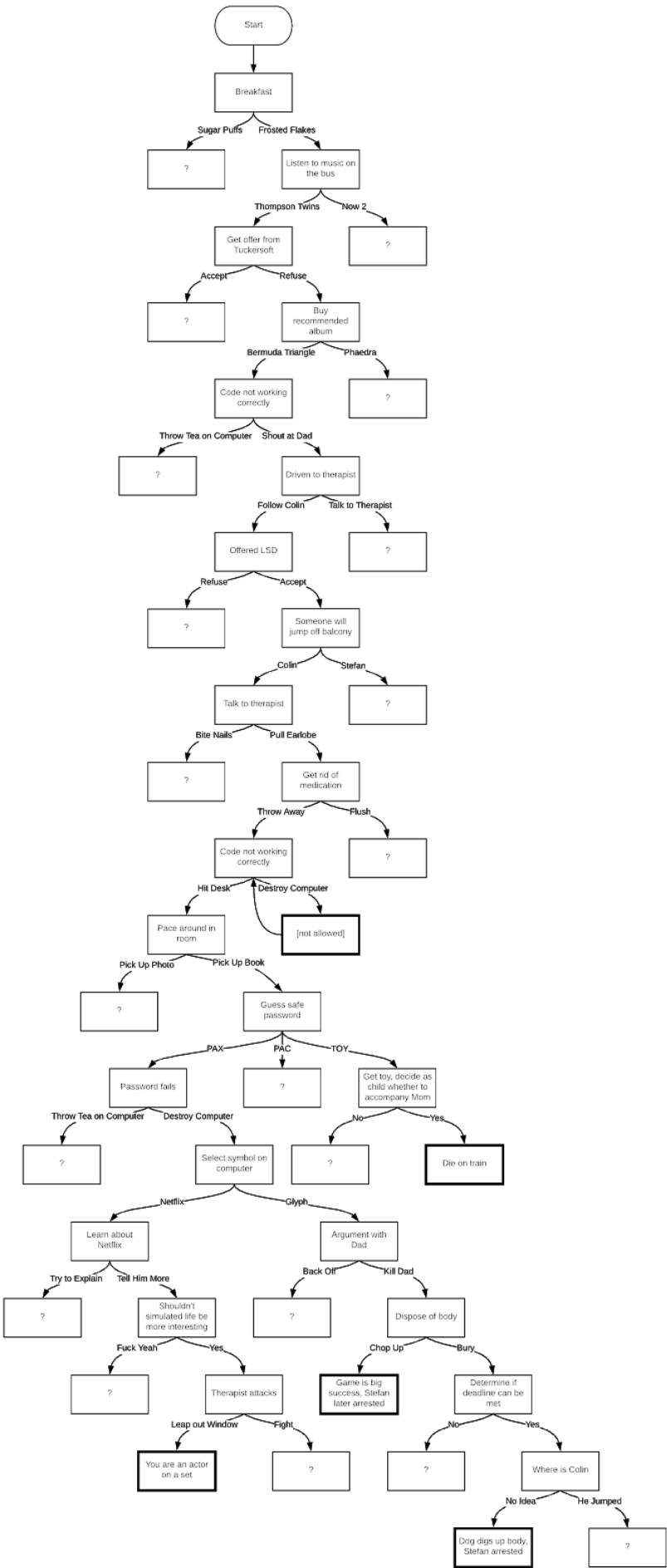

   1.1.   Choice of Game
       Black Mirror: Bandersnatch

       Written by Charlie Brooker, directed by David Slade

       Released 28 December 2018

1.2.   DELIVERABLE 1: Graph of Narrative Structure

Start

Breakfast
- Sugar Puffs → ?
- Frosted Flakes → Listen to music on the bus

Listen to music on the bus
- Thompson Twins → Get offer from Tuckersoft
- Now 2 → ?

Get offer from Tuckersoft
- Accept → ?
- Refuse → Buy recommended album

Buy recommended album
- Bermuda Triangle → Code not working correctly
- Phaedra → ?

Code not working correctly
- Throw Tea on Computer → ?
- Shout at Dad → Driven to therapist

Driven to therapist
- Follow Colin → Offered LSD
- Talk to Therapist → ?

Offered LSD
- Refuse → ?
- Accept → Someone will jump off balcony

Someone will jump off balcony
- Colin → Talk to therapist
- Stefan → ?

Talk to therapist
- Bite Nails → ?
- Pull Earlobe → Get rid of medication

Get rid of medication
- Throw Away → Code not working correctly
- Flush → ?

Code not working correctly
- Hit Desk → Pace around in room
- Destroy Computer → [not allowed]

Pace around in room
- Pick Up Photo → ?
- Pick Up Book → Guess safe password

Guess safe password
- PAX → Password fails
- PAC → ?
- TOY → Get toy, decide as child whether to accompany Mom

Password fails
- Throw Tea on Computer → ?
- Destroy Computer → Select symbol on computer

Get toy, decide as child whether to accompany Mom
- No → ?
- Yes → Die on train

Select symbol on computer
- Netflix → Learn about Netflix
- Glyph → Argument with Dad

Learn about Netflix
- Try to Explain → ?
- Tell Him More → Shouldn't simulated life be more interesting

Argument with Dad
- Back Off → ?
- Kill Dad → Dispose of body

Shouldn't simulated life be more interesting
- Fuck Yeah → ?
- Yes → Therapist attacks

Dispose of body
- Chop Up → Game is big success, Stefan later arrested
- Bury → Determine if deadline can be met

Therapist attacks
- Leap out Window → You are an actor on a set
- Fight → ?

Determine if deadline can be met
- No → ?
- Yes → Where is Colin

Where is Colin
- No Idea → Dog digs up body, Stefan arrested
- He Jumped → ?

1.3.   DELIVERABLE 2: Reflection on the Game

Bandersnatch is a choose-your-own-adventure movie. The main character, for whom you make decisions, is Stefan, a mentally ill game developer in the 1980's. He has a strained relationship with his father, with whom he lives, and is attempting to develop a choose-your-own-adventure game called Bandersnatch.

Choices in the game range from the trivial (what kind of cereal to eat) to the profound (whether to murder your father). I decided what to do based on what mode of engagement I was using at the time. My mode of engagement changed several times during the experience.

At first, I didn't have a good sense of my character Stefan, so was not inclined to use **Role Play**. I didn't have a strong understanding of what constituted a "win", so was not inclined to use **Power Play**. I was just getting started and everything was an exploration, so was not inclined to explicitly use **Exploratory Play**. I had not yet formed explicit questions about the game world, so was not inclined to use **Analytical Play**. I did not have a good sense of where the story was going and what would make it compelling, so was not inclined to use **Critical Play**. Therefore, as a default, I started with **Avatar Play** (making choices for Stefan that I would make if I were in his shoes). This informed the first several choices that I made (I like Frosted Flakes and the Thompson Twins, and would likely reject a predatory-seeming offer from an employer). The next choice was between two unknown albums that Stefan could purchase, so I basically chose randomly.

By the time I had made these choices, I was starting to get more of a feel for the character, story, and game mechanics. However, I was also starting to get bored and annoyed. For me, the frequent need to make choices distracted from the storytelling (reduced **Transportation Dimension**). I also found the time limit of 10 seconds to make a choice to be stressful. Because of my emotional state, I switched to **Critical Play** (making choices for Stefan that I thought might lead to a more compelling plot evolution). This informed the next several choices I made (shouting at my dad, following Colin rather than talking to my therapist, accepting Colin's offer of LSD).

After these decisions, I could see that Stefan was in real trouble and making some really poor choices because of me (strong **Responsibility Dimension** and **Regret Dimension**). For example, taking LSD with someone you don't know or trust, in a strange environment, is certainly not a good choice. I found myself wanting to help him. In other words, I switched over to **Power Play** (making choices for Stefan that I thought would maximize positive outcomes for him). This informed several of my choices (urging Colin to commit suicide rather than doing it myself, throwing out my medication where it could possibly be later retrieved rather than flushing it down the toilet, destroying my computer in the hopes that I could find less stressful pursuits).

I found that at this point in the game, destroying my computer was a false choice. I was forced to revisit this choice and instead hit the desk. This was the first choice that I revisited. I found this false choice very frustrating, and as a result, I felt myself disengage from the experience mentally (reduced **Absorption Dimension** caused by reduced **Agency Dimension**). After this, my mode of engagement was **Exploratory Play**, and I made semi-random choices just to see what might happen and whether there were other dead ends / false choices. This is the mode that I stayed in for the remainder of the experience. I revisited several choices, such as the password to guess on the safe, and how to dispose of my father's body after murdering him. I did not exhaust all possible choices, but after playing for a long time, did not see any possibility of a positive outcome for any character. I eventually got tired of gruesome scenes and emotionally tortured characters, and stopped playing.

I found several aspects of the game intriguing, such as the "meta" option of communicating to Stefan that he was being controlled by "Netflix", and attempting to explain to him what this meant. The choose-your-own-adventure style is intriguing as well. However, the frequency of choices, the time limit on making choices, and the presence of false choices all worked together to make this mechanic into a source of frustration rather than joy. Another viewer / player may well have responded enthusiastically to these challenges. Furthermore, I'm not a big fan of gore, so some of the story elements were off-putting rather than exciting to me. Overall, I would not recommend Bandersnatch.

2. Part 2 - Development

    2.1.   DELIVERABLE 3: HTML Game File

Online Demo:

https://feelbergood.github.io/Assignment1.html

Source Code:

https://github.com/feelbergood/feelbergood.github.io/blob/master/Assignment1.html

    2.2.   DELIVERABLE 4: Playtest Results

I conducted two playtests. The first one is with Ameya, who doesn't play many games. The second is with my roommate, who has more game playing history.

I estimated around 20 minutes for the gameplay, but it took a total of 30 minutes for Ameya to play and discover before she thought she has found all the routes of the game. She recorded the routes very carefully in a paper during the process. But she missed one result where "I" saved the human race and became a hero. I believe that she enjoyed the game as she appeared to be enthusiastic and curious during the gameplay.

For my roommate, he finished gameplay in 10 minutes. As he has played many interactive narrative games before, he played really fast. He seemed to get surprised by the idea as he began the gameplay. But he soon got unsatisfied after getting all the routes in 10 minutes. This game's structure seems to be too basic.

I asked the following questions to get feedback:

1) How do you like the number of choices offered, do you feel that you are actively interacting with the narration?
2) How many endings have you encountered? Do you think it's too many or too few?
3) How do you like the pace of the game, too slow or too fast?
4) Any other suggestions?

Based on the feedback, I made one change. When there are several choices leading to the same point, my original design was to use the same textual description. I changed my design so that although the plot will be the same, the textual descriptions will change according to different choices by adding more state variables. This is because my roommate said that he could not feel that his choices made any difference when you will go to jail in the middle of the game. And this leads to decrease in the feeling of interaction with narration. So I made changes and now there will different textual descriptions when you get in the jail during the game under different circumstances.

The playtest results seems to be pretty good and I believe that despite its simplicity, this game succeeds as a first-time product.

2.3. DELIVERABLE 5: Image of Twine Game Branching Structure
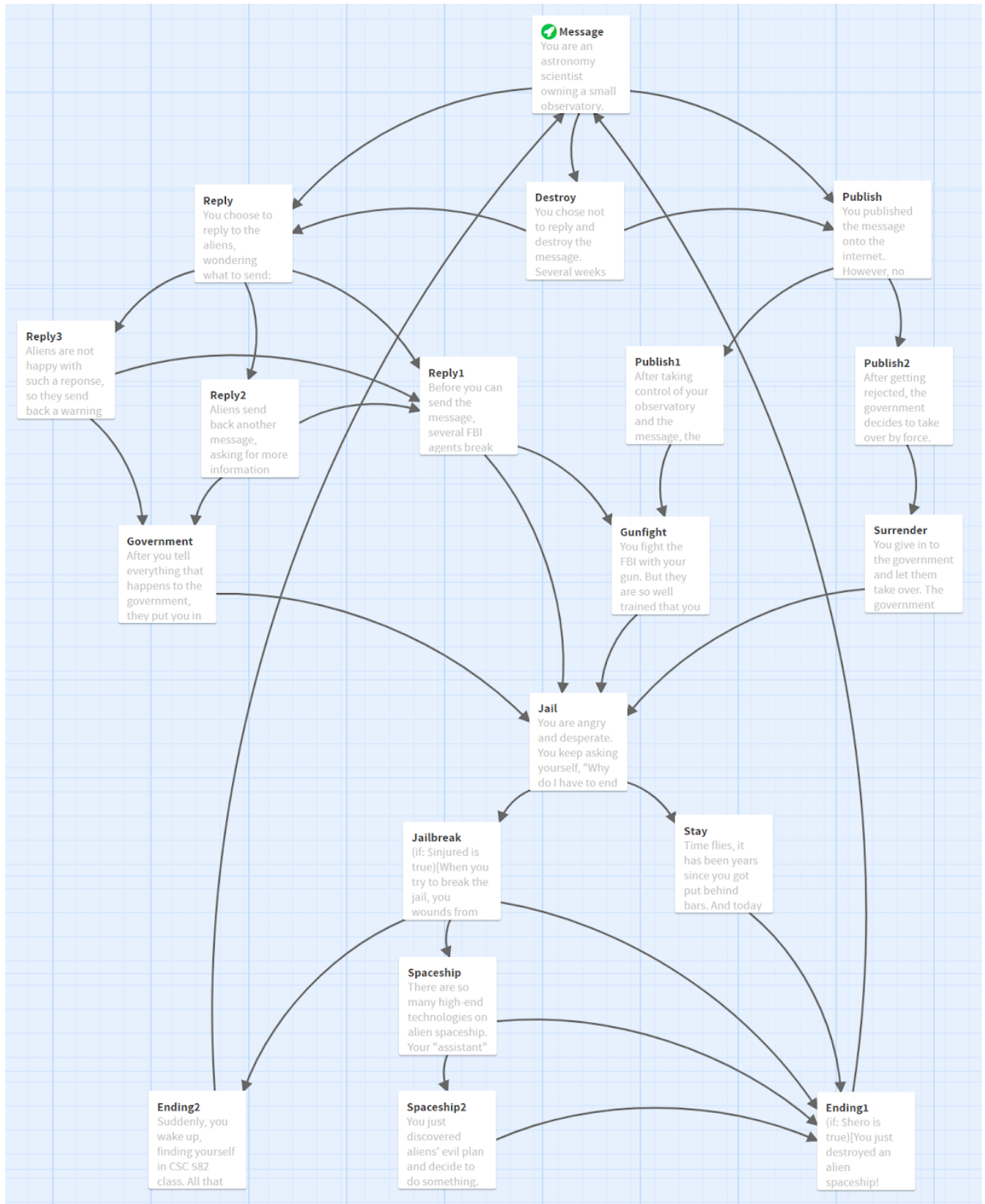
Also available at:

https://github.com/feelbergood/feelbergood.github.io/blob/master/Deliverable_2.3.png

3. Part 3 - Research

   3.1. DELIVERABLE 6: Paper Summaries

      3.1.1. Untangling Twine: A Platform Study

In this paper, Jane Friedhoff introduced a new trend in video-game design: to make the game design easier so that an non-expert designer can author a game. Twine is one of the interactive narrative authoring tools developed for this move. In this platform review, the author described the history of uses of Twine. Twine is created by a famous interactive fiction (IF) author named Chris Klimas for creating interactive narrative games. It didn't immediately gets popular, until a game designer named Anna Anthropy recommended this platform to readers of her book. Its popularity increased when Anthropy published an official tutorial of this tool.

To Jane, the popularity of Twine can be attributed to its following features: accessibility to more general users, writer-friendly UI, Vignette-style content structure, and full freedom of distribution. Firstly, the goal of Twine's tutorial is more provoking than informative: it communicates the importance of interactive narrative and encourages creative artists to create INTERACTIVE stories rather than in the traditional form. As a results, it attracts more creative authors/writers and releases them from the technical burden of coding a game. Secondly, Twine's UI is designed to resemble the UI of the common digital writing tools. With contents organized by passages and connected by directed edges, it allows writers to adapt to this new tool more easily. The branching mechanism keeps them organized and the stories written in this way exhibit a special flavor. Thirdly, the structure of Twine mapped to a certain genre of writing named Vignette, which is usually a smaller and shorter story with more focus on the character (player) and less depiction on the background environment. While it may seem to have a lack of details, this shorter form of story has its own advantage that can enhance player experience with more rapid story progression (an example of this is a game called *Intake*). Lastly, this platform has no constraints either in form of content review or publication fee for content distribution. As a result, more creative works that are not allowed on other platforms can be seen in this one.

3.1.2. Rough Draft: Towards a Theory of Metagaming Mechanics of Rewinding in Interactive Storytelling

In this paper, Erika et al. introduced a framework of a metagaming mechanic called rewinding in the context of interactive storytelling, where they classify the rewinding designs into Restricted Rewind, Unrestricted Rewind and External Rewind. Inspired by their proposed framework, they designed *Rough Draft*, where they utilized the design of Restricted Rewind and Unrestricted Rewind.

The concept of metagaming mechanics, as argued by the authors, is different from that of metagaming, where the latter one denotes a type of player behavior where "players use information not accessible to the player characters in the story world", and the former one is a game design strategy that game designers use to increase the replayability or "full-exploration" of the game by encouraging players to reflect on their past choices and use their experience learned to "beat the game in its entirety". Specifically, the authors focus on one metagaming mechanics called Rewind. The definition of Rewind in the context of interactive storytelling is for player to return to a previous game time and remake choices using their knowledge of the game. The Rewind mechanic is usually designed in a way that without use of it, a game "cannot be fully experienced or understood".

Based on the researchers' observations in existing narrative games that employ rewind mechanics, three design patterns of Rewind are summarized:

Rewind Design	Definition	Example
Restricted Rewind	Player can only go back to the last choice or two they have made. Players are required to use the experience they have learned and make different choices at a single choice point until they have unlocked the correct answer.	Life is Strange
Unrestricted Rewind	Player can go back and remake any choice they have previously made. Players are encouraged to explore the unexplored story branches in order to unlock the correct answer.	Zero Escape
External Rewind	Replaying of the game is a requirement for player to proceed from one iteration of the game to another.	Stanley Parable

Rough Draft is then designed to provide insights of the use of different rewind mechanics for the same game, namely Restricted, Unrestricted and No Rewind. In Rough Draft, the player plays as a children's book author who approaches a deadline for her book. The player can make choices and direct how the story progresses. In order to compare the rewind designs, the authors kept the story content for different versions of the game the same, and created different versions of the game using the above mentioned Rewind mechanics.

In the unrestricted rewind version of the game, they allow player to go back to any previously made choice to look for KEY ITEMS or INFORMATION that will trigger previously unavailable choices. In the Restricted rewind version, player can only return to the last choice. Full exploration is a necessity for them to unlock the correct answer, since the correct answer is hidden in the first trail, and will only be triggered when they have explored all the branches.

There is no user testing and evaluation of the game provided in this paper, but the authors have claimed that these will be included in their future work.

3.1.3. Story Generation with Crowdsourced Plot Graphs

Boyang Li et al. proposed a system called Scheherazade that can handle open story generation, that is to generate a story without priori domain knowledge. Instead of using an predefined domain model, they learn the domain model from crowdsourcing supplied stories.

Once a user requests a story of a certain topic, they first generate a plot graph using several rounds of crowdsourcing, and then select one of the valid stories in the graph and return it to the user. The plot graph learning process includes Corpus collection from crowd workers from Amazon Mechanical Turk (AMT), and then corpus cleaning and event-precedence relationship learning, and finally identifies mutually exclusive events and annotates these events in the plot graph. In the graph selection stage, they use a story generation algorithm to select valid lines of stories that don't constitute mutual exclusion relationships in the graph. To evaluate the quality of the stories they have generated, they recruited 360 AMT crowd workers to edit the machine generated stories. The less number of the edits that the crowd workers perform the better the QUALITY of the story. The result of their evaluation shows there is insignificant difference between the QUALITY of the human generated stories and the computer generated stories and that their system is comparable to the skill of an untrained human story teller.

3.1.4. Compare and Contrast Papers

These three papers are all concerning creating narrative stories. While the first two papers (Twine and Dragon Draft) focus on helping humans to design better narrative games, the third paper (Crowdsourced Plot Graphs) focuses on using a computer generative method to generate massive reasonable stories using crowdsourcing. The narratives generated by the first two papers are in the form of game that is INTERACTIVE and welcome user's choices, while the third one does not accept player input.

CHOOSE YOUR OWN ADVENTURE – THE ABOMINABLE SNOWMAN : REVIEW

Choose Your Own Adventure (CYOA) is a popular 1980s children's adventure book series. CYOA books were first published in 1976 and are considered as one of the best known examples of interactive fiction. The author R. A. Montgomery has been an avid adventurer himself and has found adventure in every aspect of his life whether it is in the mountains, on the sea or in the explorations of the mind. His diverse career shows how he had to face many choices and the outcomes of those. As the author says: "There is never a day in which you are not confronted with choice. Some seemingly small choices can determine the path of the rest of your life. CYOA gave me a vehicle for examining all the impacts of choice."

The Abominable Snowman book was released in 1982 and was extremely successful. In mid-2000s, when CYOA books were relaunched, it was the first title that was chosen. This book also has an interactive DVD version that came out later.

The Abominable Snowman follows the format of the CYOA series where the protagonist (the reader/player: roleplay is introduced) embarks on an adventure. As the storyline develops he is faced with choices on his next move. This being a text-based printed interactive narrative, the player ("you") has (have) to make a choice and depending on the choice turn to the page number mentioned accordingly.

The cover art is very suggestive of the kind of adventure the player/reader will embark on. This sets a great tone for the narrative and is a characteristic of most of the CYOA books.

In this book, the player (you) and his best friend Carlos go to Nepal in search of the fabled "Yeti". The choices given to the player were mostly one or two. You are on your own here to make choices and face the subsequent dangers, adventures and consequences. The wrong choice can lead to a disaster or even death. As a player, I was given a great deal of agency and influence over the choices I make. This goes without saying that I was also responsible for the choices made. Certain endings made me regret some of the choices I made, but overall I was happy with the choices offered to me at each step.

What I liked most about was how the characters of Runal and Sirdar developed. They were extremely well crafted. I like how certain descriptions in the book (eg. Page 57) made me picture the scene in my head and transported me to the Himalayas. The build-up and descriptions were vivid. I was completely absorbed in the plot.

Choose Your Own Adventure books reflect the author's diverse interests and values. Montgomery states, "More than anything else, everyone should have the freedom to express themselves. Second to that, everyone should take risks and be willing to fail. Picking yourself up off the mat is the central business of life.". I completely agree with this line of thinking and how it applies to the world of interactive narratives. This was also applicable to this book and the various endings offered.