Extending CRPGs as an Interactive Storytelling Form

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Abstract. Computer role-playing games (CRPGs) have strong narratives, but in general lack a density of interesting and meaningful choices for the player within the story. We have identified two main components of player interaction within the story—quests and character interaction—to address in a new playable experience, *Mismanor*. In this paper we focus on the character interaction aspect. In particular, it describes how we use the Comme il Faut system to support emergent social interactions between the player and the game characters based on player's traits and the social state of the game world. We discuss the design and creation of the game as well as the modifications to the systems required to support this new CRPG experience.

Keywords: character interaction, game design, role-playing games, storytelling

1 Introduction

Computer Role-Playing Games (CRPGs) are known for their strong narrative structure, often involving carefully crafted stories for the player to experience. These games also often have complex character creation systems, giving the player hundreds of options for the type of character they want to play, and the way they look. However, this personalization has little to no effect on the story in the game beyond a few word replacements. Additionally, the narrative is often on a pre-set path; the player moves through the experience, fulfilling checkpoints to advance the story. The player may have some choices along the way during pre-determined branch points within the narrative; however these choices generally have localized impact, with the overall story arc remaining the same—or at most leading to alternate endings.

CRPG combat systems, however, are often complex and robust, allowing for many interesting and meaningful choices through player-crafted strategies. The personalization of the character has strong implications in what actions are available within combat. For instance, a rogue can stealth and backstab, while a mage can cast spells. This imbalance is in large part due to highly formalized and structured combat models found in table-top role-playing games, the predecessor to CRPGs. However, story flexibility is created by a human game master (GM) adapting and responding to each player's actions, with no formalized system to govern the adaptations.

While combat systems have become core elements in many CRPGs, we are interested in extending the genre to introduce playable story structures, which can begin capturing the complex player-influenced narrative available in table-top

counterparts. Our work examines the two primary methods for offering players RPG stories: character interaction and quests–this paper focuses on the former.

Interaction with game characters in many CRPGs is limited to the player choosing a line of dialog from a list to speak to the non-player character (NPC). Some games such as *Dragon Age 2* [1] introduce the ability for the player to choose the emotion they want to convey during dialog, which gives the player additional expressivity. However, this is still an indirect form of choosing a line of dialog from a limited list (which is itself part of a directed graph). These dialog options may have an effect on the story, though they usually have localized effects with no lasting impact on story.

To address these issues and learn from the design of a particular alternative, we are creating a playable experience entitled *Mismanor*, a non-combat CRPG with a focus on emergent character interactions and dynamic quest selection. The available actions within the social space are dependent on the player character's traits, a player's past actions, and the current social state. We present *Mismanor* as a step towards an experience that supports playable character interactions, giving the player the ability to create their own narrative path through the socially-oriented game world. In the rest of this paper, we will present details about *Mismanor* and the underlying system created to support this new style of play.

2 Related Works

There are many systems of social simulation. However, we know of only a few fully playable games that have been created with similar goals to those of *Mismanor. Prom Week* [5] was created as an example of the capabilities of the Comme il Faut (CiF) system. The game features the week leading up to a high school prom, where the player controls the relationships and interactions between the various characters. *Prom Week* does not have a specific player character; rather the game allows the player to choose which characters interact with each other. There are a set of author-specified goals for the player to achieve, which present an overarching narrative. While we are also interested in exploring the space of complex social interactions, we are interested in how a player character—personalized based on the user's preferences—can influence and interact with an integrated social simulation, along with dynamic quest selection.

Pataphysic Institute (PI) [6] is a multiplayer role-playing game that deeply connects a player's character with the game world. The player's traits and abilities are based on their personality and state of mind, tracked by the *Mind Module* [7]. A player can create new enemies to defeat based on their actions within the game. Similarly, we also have an interest in deeply tying the player's character and choices to the story and available actions. However, in *Mismanor* we are focused on non-combat interactions, and the narrative built through the quest structure.

Façade [8] was created to demonstrate an open-ended dramatic scene between the player and two game-controlled characters. The player interacts by using natural language to type lines of dialog, and by interacting with items around the room. The player is able to direct the discussion and the outcome, creating a deeply interactive drama. While this system is very robust, the player does not have the ability to

personalize their own character in any way other than their name. In *Mismanor,* we are interested in giving the player the ability to create a custom character that is deeply represented, dynamic, and has noticeable effects on the game world.

3 Design of *Mismanor*

Creating *Mismanor* was partially motivated by extending the storytelling capabilities of CRPGs through social interactions with the game characters. Many CRPGs use character interaction as a method of delivering story, but the options given to the player as to how they interact, or who they interact with, are very limited. We are interested in giving the player more interesting and meaningful choices in the way they can interact with the other characters. For the choices to be interesting to the player, there must be a way for the player to strategize about them. Similarly, for choices to be meaningful, they must deeply affect the game and its progression.

To highlight the importance of the interactions with the other characters, we chose to create a game with no fighting mechanics. To give the player a number of choices, we needed to design a situation that would have room for a lot of interesting social interactions. When brainstorming ideas, we realized that it was also important that the social interactions involve situations that the player would be able to logically predict in order to fit with our model of interesting choices. Because of this, we veered away from stories that involved psychosis or psychological impairment. While these make for very interesting characters, unpredictable responses to a new style of mechanic can quickly lead to player frustration.

Instead, we chose a historical fantasy setting; it is the 1930s, and the player character (PC) has been invited to a manor in the English countryside. The invitation comes from Violet—the daughter of the family—whom the PC knows only on a superficial level. Through playing the game, the player can find out about the strained relationship between the Colonel and the rest of his family, the secret relationship between Violet and the stable boy, James, and the strange tension between James and the Colonel. As the game progresses, the player learns of the cult (which is known to only a subset of the characters), and their future role in the evening's ritual. Depending on the PC's actions throughout the game, relationships with the different characters will change and lead to different storylines and endings.

4 Social Actions

With the design of *Mismanor* focused so heavily on social interactions, it was important for us to have a system that could richly simulate the social landscape of our game. We chose to use the Comme il Faut (CiF) system as our starting point. We heavily modified and expanded the system to create a new social framework.

CiF includes first-class models of multi-character social interactions—modeling relationships, traits, statuses, social history (in the social facts database, or SFDB), and culture, along with a library of social interactions or moves. The rules about how these models affect social interactions are represented as *micro-theories*. The micro-

theories represent social knowledge outside of the context of specific social moves, supporting their reuse. The micro-theories are used to modify the saliency of each social action—adding a positive or negative weight to whether a character is likely to want to engage in a specific social action.

For our use, one of the most important aspects of CiF is the character representation. Each character within CiF is described by a set of traits and statuses. Traits are static character descriptors such as "sentimental," "unforgiving," or "defensive." Statuses are transitory, representing temporary character states such as "AngryAt," "depressed," or "heartbroken."

Another key component to our design is CiF's model of relationships. CiF maintains multiple dynamic relationship spectrums between characters which are bi-directional, but not necessarily reciprocal; that is, while Jane and Bob both have a value representing their level of friendship with one another, Bob may have stronger feelings of friendship for Jane than vice versa. Since inter-personal feelings are multi-dimensional, CiF supports a number of different relationships such as friendship and romance. Traits, statuses, and relationships all have an impact on what social actions are available to the player or game characters in a given situation.

4.1 Player Interaction

CiF was originally intended for a simulation game, and a number of modifications and extensions were required for the system to work with *Mismanor,* which we describe in more detail in this section.

Instead of a simulation in which the player can directly choose any two characters to interact with one another, the player instead controls their own avatar (the PC) and interacts with game characters through that avatar.

A key aspect of the gameplay within *Mismanor* is that the player needs to actively strategize to mold their character and the social situation to manipulate what actions are available. Because the set of interactions available to the player need to be from the player character's perspective, this meant we needed some way to model the PC such that we could calculate the current weight for each action, based on which social action the player would likely perform given their character makeup. We chose to model the player the same way NPCs are modeled, so that we could use the strengths of the CiF system. Using the player model and social state of the world, we can then calculate the most salient moves for the player to choose from.

When choosing the moves available to the player, the traits of the player's character have a large impact on the weighting of each move, which in turn impacts the development of the story. We therefore want to give players control over their traits during character creation. We use a character creation process similar to Hero System [9] and GURPS table-top role-playing systems [10]. These systems support creating complex characters by choosing from a large set of abilities and traits, as opposed to assigning strengths to a small list of attributes (e.g., *strength, charisma*). In *Mismanor,* we have a large set of traits from which the player can choose. The player starts out with 100 points, and each trait costs between 10 and 50 points. Traits that are considered negative (e.g. *selfish*, *unforgiving*) add points to the player's pool instead of subtracting from it. This adds an incentive for the player to create an

interesting character with both strengths and flaws. Some traits are mutually exclusive, such that the player cannot have them both (e.g. *forgiving* and *unforgiving*).

Initial statuses and relationships are set according to the author's wishes. For *Mismanor* the player starts with no statuses set, and their starting relationships depend on the gender of the character and the back story. Once the game begins, the relationships and statuses change based on player social actions, and whether the characters choose to accept or reject the chosen action.

Additionally, characters respond to the player by initiating actions of their own. After the player's chosen social action is resolved, any NPC in the same room as the player may then initiate a responding action, with the player getting a chance to accept or reject. The responding action is chosen based on the highest positively weighted social action for any NPC in the room, with the player as the recipient.

The weighting takes into account keeping the same context as the previous move by the player as well as character urges. To keep the same context, if a move is tagged with a specific item or piece of knowledge, a reacting move that also involves the knowledge or item is weighted much higher. Character urges are used to encode game character moves that have stronger weighting over time. This allows a character to interrupt with important information or offer a quest if the player has not spoken to them in some time.

4.2 Knowledge Representation

In addition to altering the function of CiF characters, it was necessary to add two new game object representations to the system: Items and Knowledge.

Items are game objects that can be interacted with similar to game characters, but cannot autonomously choose reactions in our story, although we left the system flexible to having magical items that are able to react to the player. Knowledge can only be referenced in social moves by the player and other characters. Like characters, items and knowledge have a set of traits and statuses associated with them, and new and existing social moves were created and modified to work with these new objects.

Having traits and statuses on all game objects gives the system the ability to reason about social moves in a flexible way. For instance, if the player picks up a dagger which has the *cult item* trait, any game character that is in the cult will have a high weight to talk to the player about that item.

We use the knowledge object to encode the plot points in the story. Each knowledge object has a set of traits which lets the system know which storyline it is a part of and whether it is necessary for game completion. Additionally, some of the plot points can become false based on which actions the player takes – truth or falsehood is stored as a status. Unlike CiF, which assumes that all characters know all facts, *Mismanor* does not assume universal knowledge by storing fact knowers as statuses. These traits and statuses are also useful for story construction, though this is beyond the scope of this paper.

5 Conclusion

We have discussed the character-focused steps we have taken in creating a new type of role-playing game which emphasizes giving the player interesting and meaningful choices within social interactions. To accomplish this, we began with the *Comme il Faut* (CiF) system and extended it to become a new framework for our game, *Mismanor*. We first modified the system to work with a player character, allowing the player to create their own character as well as adding some autonomy to the game characters. Additionally, we added support for two new game objects, items and knowledge, expanding the system to be able to represent and reason about these objects as deeply as it could initially reason about characters. This ontological work supports the creation of role-playing games with deep and interesting social actions.

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