Verbal Communication of Story Facilitators in Multi-player Role-Playing Games

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Abstract. Multi-player role-playing games form one of the key examples of interactive, emergent and collaborative storytelling systems available. These games and the collaborative stories that they create, are commonly facilitated by a specialized participant, the game master. In the current study, the verbal communication of game masters in a series of role-playing game sessions is categorized and analyzed depending on form and content, using protocol analysis, establishing a model for the verbal communication of game masters.

Keywords: Game Master, Role-Playing Game, emergent narrative.

1   Introduction

Role-Playing Games form one of the major genres of games, represented in non-digital, digital and embodied formats. Depending on the form, role-playing games (RPGs) can be played with a single to thousands of participants interacting simultaneously in physical as well as virtual environments. Several varieties represent examples of collaborative, emergent interactive storytelling systems [2]. This is especially true for the classical expression of RPGs, that of the table-top RPG where a handful of participants partake in a collaboratively generated story framed by rules. No digital systems exist that surpass the flexibility of tabletop RPGs - not even player-controlled modules run with e.g. the *AURORA* and *ELECTRON* game engines for the PC game *Neverwinter Nights* [14], and they therefore form a rare example of a very pure interactive storytelling system. Just like in digital interactive storytelling systems, the players - or users - take on the role of fictional characters, operating in a fictional environment [3]. Inherent in RPGs is the same key problem that are facing designers of character-based, emergent interactive storytelling systems, that of reconciling the need for a coherent plot structure with the freedom of the user to affect the unfolding narrative [9, 10]. Table-top RPGs solve this problem by dividing the authorial control of the collaborative story – there are at least two – unevenly between the participants. Typically one (in some cases more than one) of the participants take

on the mantle of managing the overall flow of the storyline by taking control of the fictional world the player-controlled characters (PCs) operate within and determining how the world and its inhabitants react to the actions of the PCs within it. This concept of story facilitators are common to all RPGs, even live action role-playing games and massively multi-player online RPGs [4], and the functionally is named differently in different games, with the most common term being Game Master (GM) [7]. The operations of GMs form a source of inspiration for the construction of digital storytelling systems, because their function in effect is to reconcile the demands of a pre-authored plot with user influence (as well as user motivation and interest with engaging in the storytelling activity in the first place) [2, 12], in the process utilizing NPCs (autonomous agents). Existing work on GM functionality has addressed the basic processes of non-digital RPGs [8, 14]; the question of division of authorial control, and story planning and updating in runtime [2, 9, 12]. However, while this work has taken initial steps in developing models for the operations of GMs, it does not address the questions of what GMs actually verbally communicate to the players (users) during a multi-player RPG session? [14] presented an initial study of verbal communication in multi-player RPGs across tabletop and digital platforms, however, the focus was on the communication between all the participants; the GM was not considered as a separate entity. In the current study, protocol analysis [6] was applied to transcribed utterances from RPG sessions, which are categorized depending on form and content, and additional context-analysis applied to form an initial model of the verbal communication of GMs.

2   Experimental Setup and Methodology

A series of five PnP game sessions were run with groups of five players and one GM in a laboratory featuring one-way mirrors to permit participant observation without intrusion. Each group played the same RPG module – a form of pre-planned overview of the game story which the GM utilizes to facilitate the collaborative story - and negotiated the premises for the division of authorial control individually. The sessions were recorded, covering approximately 28 hours of game play. The game module utilized in the experiment utilized simple game rules, comparable with the *Dungeons & Dragons* D20-system. The module featured a sci-fi themed story, which pitches the player character in the middle of a war against a race of - alleged - terrible aliens. Characters were pre-defined.

   Verbal communication and participant behavior was subsequently transcribed for approximately 40-60 minutes of playing time from five PnP sessions, distributed over three scenes from the beginning, middle and end of each game session, each with varying game story content (to accommodate variations in communications, as a function of playing time and game-story content). The transcriptions were subsequently subjected to protocol analysis, a method utilized within communications for studying both groups and individuals [6]; and applied in the context of multi-player games by [13,14]. Protocols are in this context recorded behaviour of the study objects, represented by video and audio recordings [1]. Protocol analysis generally produces large sample sizes and numerical data for which standard variations and similar statistical measures can be calculated. The data were analyzed in terms of raw

numbers of different types of categories, based on the concept of **utterances**, defined by [8] to consist of: 1) A subject who performs the communication 2) The content of the communication and 3) An object or objects to whom the communication is addressed. These properties were recorded for each utterance. The coding scheme used was originally developed by [15], and later modified for the current and other studies, using a combination of RPG theory to develop an initial model, followed by iterative development by test-coding digital and non-digital RPG sessions. The use of utterances as the basic unit of the coding hierarchy ensures a measure of degree and precision, however, the context of the communication may be lost. Therefore, more context-sensitive analysis was performed to find patterns in GM communication.

3   Results

The results were averaged across five PnP game sessions. The verbal communication of the GMs comprised a substantial 31.63% of the total communication among the six game participants in each group (standard deviation = 8.05%, range: 24.2%-45.05%).

   GMs appear to communicate to both the entire group of players and one player only with approximately equal intensity: 43.79% (standard variation = 10.65%) of the total number of GM utterances were aimed at the whole group of players, with 56.21% (standard variation = 10.65%) directed at one player only. As indicated by the standard deviations, this was a highly variable pattern across the five PnP sessions examined. In rare cases the GM communicated with more than one player but less than the entire group. This typically happened when the fictional characters controlled by the players were separated within the game world geography. Of the total amount of verbal communication of the GMs, 96.8% was communicated out-of-character, with only 3.20% in-character (e.g. the GM role-playing a NPC) (standard deviation 1.70% in both cases). In the following example the GM is impersonating an army lieutenant: *"Okay everyone, I'm Lieutenant Sam Stone and we've got to go, this whole area is mined, the whole bunker could go up any second now."* In the following, the GM is role-playing a nameless marine: *"Sir. The whole area's mined, there're grenades everywhere. We've got to get the civilians out of here. We'll send the special bomb disposal units in to search for the weapons."*

   The low percentage of In-Character utterances indicates that the majority of the communication of the GM is focused elsewhere than in role-playing NPCs; however, this property of an RPG story is to some extent influenced by the type of RPG module being played. Some modules focus on the player-characters; others involve galleries of NPCs which play active roles in the game story. Furthermore, GMs have different preferences when it comes to communicating in-character vs. out-of-character. The low amount of In-Character utterances recorded in the recorded game sessions can therefore not be taken as indicative of RPGs in general.

   These quotes are however evidence of another typical aspect of verbal communication in RPGs; that of using some degree of **dramatic language**, often combined with gestures such as the [salute] in the first example above. When communicating e.g. the behavior of an opponent or an NPC, a GM can utilize either "functional" language, i.e. describing the behavior without any attempt at dramatizing, or conversely try to use imagery or similar forms of dramatic emphasis,

to add dynamics to the situation. A functional statement could be: *"The bodyguard draws his sword, attacks you, and causes 14 points of damage"*. A more dramatically embellished version of this could be: *"The angered bodyguard draws his sword, roaring in fury as he takes a mighty swipe at you, cutting cleanly through your armor and giving you 14 points of damage"*. In the experiments, 36.90% (standard deviation = 6.25%) of the utterances of the GM's carried some kind of dramatic flourish, with 62.44% (standard deviation = 6.24%) being wholly functional. One percent were purely dramatic, and had no game mechanic-functional content (standard deviation = 0.66%). The level and form of dramatic flourish varied, from addition of imagery to dramatic descriptions including body language, gestures and even the GM moving around the room, depicting action events (only verbal flourish was coded).

The use of dramatic flourishes varied between GMs. In general, dramatic flourish was used by GMs (and players) to add drama to situations, e.g. combat and similar scenes or events where the emphasis is on action and fast behavior. In these situations there is ample opportunity for GMs to use dramatic flourish in describing events. However, drama was also observed in situations involving social communication between e.g. an NPC and a PC. In these cases, dramatic language was utilized in a more tension-creating way, supporting the higher degree of intimacy in this type of character-driven scene. The use of dramatic flourish among the players varied, but similar to GMs tended to be most common during action sequences. Three forms were located: **A) Entity action** (recall that Fulzans are the name for an alien race): *"You unload through the breached doors, and with [GM makes sound of Fulzan roaring] one last surge, he just [GM mimics Fulzan ripping down door with both claws] rips the door apart with his fists, you know, his open claws. [..] and with that, the others come rushing in through the broken door."* **B) Object/Environment:** Conversely, dramatic flourish is rarely observed in descriptions of the general environment of the PCs, or in descriptions of entities and objects within the environment. These statements tend to be more functional in nature: *"You look a bit around and about five hundred meters away from where they were supposed to be, there is some sort of a metal trap door that you can open. It looks like an entrance into a sort of bunker system."* **C) Environment active property:** It is the actions of entities and objects that carry the greatest potential for drama, not the passive behavior of the environment. This is a rule with exceptions, e.g. when GMs described the horrible conditions of the alien planet, emphasizing the acidic atmosphere and the dangerous conditions. However note that these again relate to active properties of the environment, and how this might affect the player-characters: *"[Shakes head] No. And since everything that you can see out into the horizon is an artillery barrage, and the ground is still shaking under you, anything that has been alive is not alive anymore."* Drama typically adds tension to the gaming situation, which is typically observable in the body language of the participants (e.g. very animated or focused). Exceptions to these principles occurred in every game session, so these are not rules set in stone however they provide a good approximation of the kinds of situations where the use of dramatic technique in storytelling are useful to keep the audience, i.e. the players, engaged and on their toes. None of the GMs used dramatic flourish all the time – rather they applied this in situations where it has effect, such as during combat, and for limited periods of time. This prevents the players from becoming "drama tired" and is a principle known from e.g. cinematography.

Content of GM communication: The content coding hierarchy groups the verbal communication of GMs into a system of coding categories, which cover the different forms of communication occurring in multi-player RPG situations, including in-game and out-of-game communication. Verbal utterances were coded based on content. The coding scheme included 28 content code categories defined under five groups: Assistance, Critique, Actions, Ask for Info and Other (table with full hierarchy omitted for space reasons). Of the 28 content code categories, eight had a frequency of more than 2% of the total number of utterances by the GMs and are discussed here.

Describing the actions of NPCs, providing information about the game world, rules or similar; forms the three most common categories, each comprise more than 10% of the GM-based communication, and are here discussed in more detail. The GM also requests information from the players, notably about the actions of their characters (5.92%), with other types of information requests measured (rules, game world, environment) forming under 1% of the total communication. 4.5% of the utterances were coded as "social communication". These did not appear to hold any directly game-functional value.

Character Action Descriptions (CADs): These describe the actions of a non-player character or player character, and average 11.74% of the GMs communication, varying between 5.8-19.84% of the total verbal communication (standard deviation = 5.36%). For example, in the following the GM is describing the actions of a group of – presumably evil – aliens called Fulzans in one of the RPG sessions: *"There are four large Fulzans, holding another Fulzan down behind a car and taking up protective positions."* The GMs would often describe the actions of the player characters even if the players were in control of these and generally described the actions of their characters themselves. Generally, GMs could take a CAD by a player, and "replay" it, providing at the same time information about how the fictional game world responded. In the example above the player has just stated the PC that he controls is filming the Private (a soldier) putting on his armour. The GM confirms this action by repeating it, at the same time adding a game world response to the action of the PC. This is also a dramatic tool for the GM, e.g. if there is a need to add drama to a scene, the GM can "redescribe" the actions of a player character using more dramatic language. In stating CADs, GMs can even define actions of player character that the controlling players have not initiated. These will generally be non-intrusive, focused more on dramatic description or adding humour to an in-game situation. The balance between intrusive control of player characters and simply enhancing the game experience is however hair-thin.

Give information: The give information content code falls under the code category "Assistance" and covers both spontaneous and non-spontaneous (on request) provision of information. On average, 15.88% of the total verbal communication of the GMs focused on the provision of information, varying between 7.93-24.51% (standard deviation = 6.02%), indicating a substantial variation in the requirement for the GM to provide information across the five game sessions. The giving of information is generally linked with an information request, i.e. non-spontaneous, by one or more players and fall within four general categories (Table 1).

Table 1. Information requests by players

Information requested	Description/example
Game world state	A request for an update on the state of the game world. By far the most common information request, encompassing about 50% of all player-based requests for information.
Other character actions/knowledge	Typically a request for an update on the placement and status of PCs and NPCs relative to the PC of the asking player/players.
Player character state	A request for an update on an action a PC has initiated, e.g. progress in putting on a suit of armour or swimming a river.
Rules	Requests for information about rules or clarification of the same, e.g. what number that is needed to roll on a dice to accomplish a specific action.

Responses to requests for information about the game world either take the form of environment descriptions, however also information about the general workings and mechanics of the game world. For example: *Player: "Aren't our cameras now set up to transmit to the A.T.T.A.C.K satellite?"- GM: "Your cameras are set up to transmit to the A.T.T.A.C.K satellite."* In this example the player is unsure about a specific property of two objects within the game world, the camera and the satellite, exists, and is asking the GM for a ruling on whether this property exists within the game world fiction. These kinds of information requests are important in setting boundaries for the possible actions of the player characters and serve to ensure the internal consistency of the game world fiction – e.g., in a RPG set in a fantasy-themed world, players asking if they have a laser pistol in their backpack will likely receive a negative reply from the GM. Related to the "give information" content code is "suggest/request action". This code covered when the GM was providing hints to the players, suggesting they take specific actions, i.e. a form of help. In sessions where the GM held a more tightly controlling role, this could even go as far as the GM requesting the players to take specific types of actions. While rare, GMs can resort to this option, e.g. when players are about to take action which would kill their player characters, or disrupt the overall plot of the game story in a way the GM did not want.

Also related to the internal information flow is "information request (action of character)", which covers the typical situation where GMs ask the players what actions their characters are taking. This question was typical of combat situations, where the actions of the PCs and NPCs have to be described at a resolution of seconds or less, in terms of time flow within the fictional world. Also typically related to combat situations is the "Acknowledgement" code, which consists of the GM confirming actions of the player characters within the game world.

Environment description: The most commonly occurring content category code was "environment description", encompassing 47.49% of the total verbal communication averaged across the five game sessions (varied from 40.2-54.3%, standard deviation = 5.78%). In traditional multi-player, non-digital RPG situations like the one analysed here, the GM has a large degree of authorial control of what happens within the fictional game world and how it responds to the actions of the player. Communicating what happens within the fictional world and how it responds to the actions of the player characters, and updating the state of the fictional world on a running basis as

the players' progress through the game story, is a key task of the GM [2,9]. Descriptions of the environment cover all forms of sensory input, from visuals, sound, taste and even emotional impact of events within the fictional game world.

Environment descriptions come in a variety of forms, generally either describing the general appearance of the environment and **objects** within it, which surrounds the player characters, or describing the actions by **entities** within the game world. E.g.: *"[…] which is the size of a 50-story office building. It's this huge military base that has landed on the planet and is used to do the invasion. The invasion has to come from a ship because the atmosphere outside is so acidic that if you took off your helmet you'd die instantly as your eyeballs melt!"*. Another example: *"There are explosions; Fulzans run everywhere, they scream and yell. There are a bunch of Fulzans that take defensive cover, they've got themselves laser rifles, they're shooting back, there's gun fire going over everyone's head."*

These can be combined, and often are in descriptions that cover the physical environment and objects within it, as well as the behavior of active entities. For example: *"As you go into the armory, you see a shadow block the corridor […] you come round the corner, the armory is there, the shadow that blocks the light out of the other end. Some creature, six foot tall and so bulky that it takes up most of the corridor, is lumbering down it slowly. This creature, you're happy that you can't see clearly - because it, but what you can see - it's the most ugly, horrible creature in existence!"*

Description of the actions of entities includes the player characters, as mentioned above. E.g., in response to a player noting that her PC will begin to put on a suit of armor: *"The armor takes a long time to get in because you've got to put every single heavy piece on, and they're all big heavy pieces and you don't yet have the hydraulics activated. You start putting on your armor, and the doors which closed shudder as something hits it [bangs fist on table]."*

The most common environment description of the GM is the response to the action/-s of one or more player characters: The GM responds to the behavior of the characters and updates the state of the fictional game world. This is exemplified in the below example, where a player has announced that his character is sitting down with a couple of soldiers to have a chat about the war: *"So you are sitting there talking to the army guys about how the quality of the army can be judged on how bad the food is. This must be a bloody awesome army, because the food is really bad. "*

Rules & social: While less common than the three most typical content codes, comments on the game rules or instructions to the players, for example what they need to score on a die roll to have their characters perform a specific action, were observed at regular intervals (frequency of 3.73%). The frequency of this content code was higher in sessions with less experienced players, where GMs used more time to explain the game rules both before/during the game session.

4   Discussion and Conclusions

The operations of GMs in table-top RPGs are a source for the development of heuristics for digital interactive storytelling systems. However, these games are highly complex systems. Before principles of GM operations can be transferred to digital

domains, a substantial amount of empirical research is required, focusing not only on communication between game participants in RPGs but also the game process [14] and the cognitive processes of GMs during play [2]. Furthermore, the requirements of each participant – their interests and desires experience – need to be examined in a comprehensive model of RPG play. In the current study, an initial step has been taking towards one of these areas of RPG play: The verbal communication of human GMs in table-top RPGs. GMs must balance a substantial amount of variables in their verbal communication with the players, perhaps most importantly in striking a balance between functionality and drama. In the above, the relative frequency of these elements and their contents has been analysed, however, future work on the present dataset will aim at analysing how GMs weigh the requirements of functionality, drama and continuity, and how they communicate this balance in practice; furthermore how the principles of this practice can be transferred to digital systems.

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