The Mutiny: an Interactive Drama on IDtension

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ABSTRACT
Mutiny is a piece of entertainment developed with IDtension, an Interactive Drama project initiated 10 years ago [1]. It is a major attempt to provide the user with a deep influence on the story, while maintaining some narrative quality.

Categories and Subject Descriptors
1.5 [Computer Applications]: Arts and Humanities – Fine arts.

General Terms

Keywords
Interactive Drama, Interactive Narrative, Global Agency.

1. CONTEXT
Interactive Drama is an emerging medium for drama. It consists in a computer-based drama in which the user is one character in the story, often the main character. As a character, the user can perform all range of actions that other characters in the story.

Interactive Drama is a challenge, because it requires the dynamic generation of story events, in particular non player characters' actions, according to the actions of the user. Very few prototypes have been developed so far.

IDtension is one of these prototypes. It has been initiated 10 years ago [1]. The algorithms used by the engine are inspired from narratological theories and principles, as well as documented writing practices in drama.

2. USER EXPERIENCE
The demo consists of a playable text-based interactive drama called « The Mutiny », written in collaboration with Olivier Marty [2]. The player is one of the characters in the story, a sailor jailed in a 17th century galleon with three other prisoners, after a failed plunder against the ship. His goal is now to take the leadership of the galleon by preparing a riot. The user is given many possibilities of actions such as ask/trade/rob an object, ask another character about his/her taste (in order to offer him/her the object he or she likes), try to flatter other characters to have allies, etc. Furthermore, the user is involved in dialogues in which he can refer to the above actions, for example, inform that he can/want to perform these actions or that he/she has failed/succeeded to perform them. As a result, the range of choices given to the user is higher than in other Interactive Drama systems. In The Mutiny, the user has more than 100 choices available, in the middle of the story.

To be able to manage the quantity of choices provided to the user, a specific and innovative user interface has been designed, the “History-Based Interface” (see Figure 1). It allows the player to select possible new actions from the previous actions and events in the story so far.

Fig. 1.: Screenshot of IDtension. The main panel is the history of interaction while the top right banner represents the stage, where the current action is displayed. The sentence in front (“inform menil that you kno wish to know what rak likes”) is one of the choices given to the user.

3. BEHIND THE STAGE
Fully developed in Java, IDtension's narrative management is characterized by the following distinctive features:

Atemporal structure: A story is not described as more or less pre-authored chunks of stories such as scenes but as an atemporal structure of goals, tasks, obstacles and ethical values. These elements are described in a generic manner. For example, the goal posses can be applied to any character and any desired object.
An subpart of such a structure is depicted on Fig. 2. This notion of atemporality is borrowed from structuralist theory [3].

Second order actions: in order to obtain a large number of possible actions without demultiplying the authoring effort, actions are described according to a second order formalism. For example inform(x,y,goal(z,g,u)) means that a character informs another character that a third character has a given goal, with a fourth character as a parameter. It could produce the following dialog line: Mary to John: Did you know that Bill wished to be loved by Rachel? These second order actions are calculated according to a Narrative Logic. It is a symbolic expert system that implements simple rules such as: If someone knows another character's goal, he can inform any other character about it.

Model of the player: The action selection mechanism for Non Playing Characters (NPC) is based on a general model of the player's perception. Indeed, each action is evaluated according to a set of several narrative criteria:

- Ethical consistency: The action is consistent with previous actions of the same character, with respect to the ethical values.
- Motivation: The action goes towards the goals of the character.
- Relevance: The action is relevant according to the actions that have just been performed.
- Complexity: The action regulates the complexity of the narrative.
- Going forward: The action moves the story forward.
- Conflict: The action either directly generates some conflict (performing a conflicting task), or the action pushes the user towards a conflicting task.

Some narrative criteria are based on the psychology of characters, such as ethical consistency and motivation (ability of characters to act according to their goals). Other criteria are guided by pure narrative constraints, such as complexity (tuning of the story to reach a suitable level of complexity) or conflict (how ethical conflict within characters is created and exhibited).

The rendering of player and non player actions makes use of a text generation sub-system, based on templates. The current demo is in English, and it works in French as well.

While the current demo is text-based, one version of an engine has been connected to a behavior engine and game engine, for 3D visualization and interaction.

A complete description of the engine can be found [4].

In terms of authoring, an author writing a story such as The Mutiny must provide:
- the structure of the story, written in a XML file
- the texts used to produce actual sentences, written in a spreadsheet software (.csv format)
- a linear text for the introduction
- various narrative parameters, to be changed in a text file.

4. REFERENCES


