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A Multidimensional Classification of Choice Presentation in Interactive Narrative

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Abstract. This article approaches the question of choice in interactive narratives and presents a multidimensional classification model based on a selection and characterization of 31 existing works. The methodology for establishing such a classification is detailed, which considers composing elements, functions, aesthetic considerations, and mechanics for choice presentation. This article uses an observational approach for analyzing interactive narratives based in theoretical considerations.

Keywords: Choice, Interactive Narratives, Taxonomy.

1 Introduction

Interactive Digital Narrative (IDN) aims at letting the audience play an active role in the unfolding of a story, put in theatrical terms, breaking the fourth wall [1]. With few exceptions, this implies offering choice to the user. While many articles —mostly in academia but also in game design— have discussed the consequences of these choices on the narrative experience (e.g. [2]), and how the story should reconfigure according to the user's intervention (e.g. [4]), surprisingly little has been said of the choice itself; that is the situation in which a user is faced with various alternatives and must choose one of them.

What is the impact of the choice design on the interactive narrative experience? A notable study by P. Mawhorter and colleagues [3], tackles this subject by seeking to understand how choices affect users and how choice structure is related to the user experience. In particular, they identified a certain number of patterns in the choice structure that could provide a well-defined effect to the user, such as the dead-end option, false choice, blind choice, etc. In this article, we aim to extend this work by focusing only on one aspect of choice: the way choice is represented to the user.

Research on IDN design has largely focused on story structures, that is, the semantic level (in the four-level model proposed by U. Spierling for IDN [5]). However, the concrete presentation of the choice situation — its careful multimodal design (what would correspond to the syntactic level in [5]) — has great impact on the interactive narrative experience. This impact could be studied following an experimental methodology, but prior to such an enterprise we considered it necessary to first delimit

the design space: given a choice situation provided by a crafted story or an IDN engine, what are the different possibilities to present choices to a user? This has resulted in the current multidimensional classification of choice, a taxonomy that could serve as inspiration to creators of interactive narratives.

2 Method

Since not every user intervention in an interactive narrative is a choice, a first distinction becomes to define choice as a *situation in which the user has to decide between a certain number of explicit options*. This definition discards works based on free interfaces [6], such as interactive fictions using a natural language input interface. According to [3], choice is composed by framing, options, and results: framing refers to the content that might lead the user to interpret a choice in a certain way, options refer to the alternatives, and results to what is delivered when an option is selected. This work focuses exclusively on the mediatic representation of these three components.

To build the taxonomy, we selected interactive narratives complying with the above definition that we could have direct access to, or videos of users interacting with them. It resulted in a body of 31 works (Table 1) from the following genres: Visual novels employing dialogs between different characters, Adventure games whose focus is primarily narrative along with a mix exploration and problem solving, and Cinematic adventure games where the character can move around and interact

Table 1: List of interactive narratives examined for establishing the taxonomy

A Story as You Like It	Tales from the Borderlands - Episode 1: Zer0 Sum
Amnesia: Memories	The Doom Beneath
Batman: The Telltale Series - Episode 1: Realm of Shadows	The Eye of Emerald
Beach Bounce	The Lion's Song - Episode 1: Silence
Beyond: Two Souls	The Royal Trap
Do not Take This Risk	The Stanley Parable
Emily is Away	The Walking Dead - Episode 1: A New Day
Fahrenheit: Indigo Prophecy	The Wolf Among Us - Episode 1: Faith
Hakuoki: Stories of the Shinengumi	Three Fourths Home
Hatoful Boyfriend	To Be or Not To Be
Heavy Rain	Tokyo Twilight Ghost Hunters
King's Quest - Episode 1: A Knight to Remember	Toradora Portable
Mass Effect: Andromeda	Until Dawn
Minecraft: Story Mode - Episode 1: The Order of the Stone	Warhammer 40'000 Legacy of Dorn - Herald of Oblivion
Norn9: Var Commons	Zero Escape: Zero Time Dilemma
Steins: Gate 0	

3 Classification

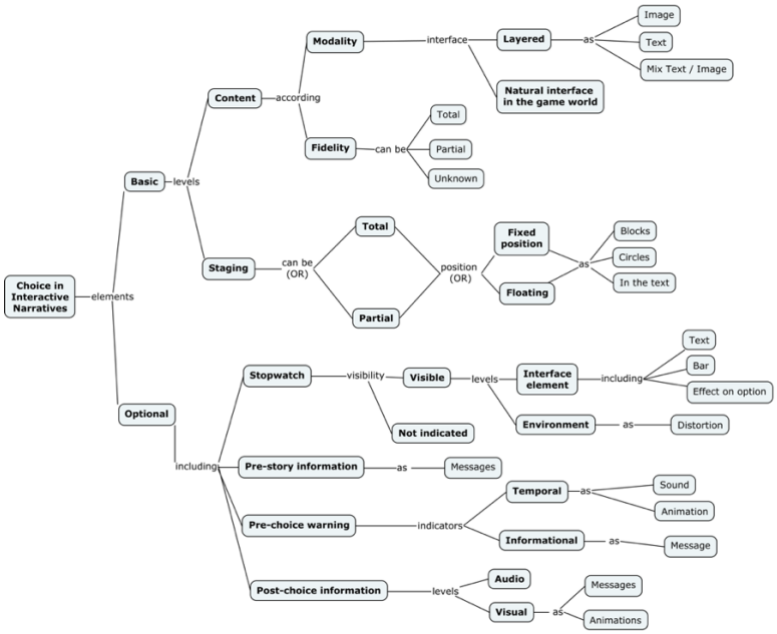

Fig. 1: Multidimensional classification of choice in interactive narratives

3.1 Categories

Basic elements

- *Content:* Represents the information given about the options. It includes two subcategories: modality and fidelity; according to [3], modality is the form that takes the option leading to a result, whereas fidelity expresses the difference between the content of the option and its result.
  - Modality: It includes images (symbolizing actions, objects), text (words or sentences), or a blend representing both the main message and conveying additional information (such as the tone with which a message will be transmitted, as in *Mass Effect*). We call them 'Layered' interfaces since they're situated in dedicated screen areas. In contrast, other options are rendered as part of the environment in which the story takes place ('Natural interface in the game world').
  - Fidelity: We observed different cases: when what is uttered by the character matches exactly the content in the option ('Total'), when a difference is introduced ('Partial'), and when the execution is hidden to the user ('Unknown').
- *Staging:* It refers to the actual representation of the options. In most of the observed works all the options were visible at the same time ('Total'), in some other works

the user has to interact with the interface to make the options visible ('Partial'). We also observed a subsequent separation concerning positioning ('Fixed', 'Floating').

Optional elements

- *Stopwatch:* It indicates the remaining time to decide; most commonly represented as a bar that empties, text, visual effects on the options, and so on. It could also be invisible and change the story if the user takes too long to decide.
- *Pre-story Information:* It informs the user about the importance of his/her choices in the game, observed only as text.
- *Pre-choice Warning:* It warns the user that a choice is about to be available. This was observed under two forms: Temporal, as a mere warning that a choice is about to be made, or Informational, both announcing the arrival of a decision-making situation and providing contextual information about the choice situation.
- *Post-choice Information:* It warns the user about the impact of a decision, conveying additional information or warning. It was observed as audio, as messages (such as "He will not forget that"), and as animations as in *Toradora Portable*.

4 Limits

The taxonomy has a number of weak points. First, all the observed interactive narratives belong to the 'controlled interface' category. Second, we do not elaborate on what kind of user responses or effects could be associated to a certain choice design, the scope of the current work limited to producing a taxonomy. Third, we do not provide annotations for each work of the corpus concerning the choice dimensions it features.

5 Conclusion

Following an observational approach based on a body of 31 interactive narratives, this article proposes a multidimensional classification of choice, characterizing different elements, functions, mechanics and aesthetic considerations found to be part of the presentation of choice. This taxonomy may inspire designers of interactive narratives to come up with combinations of elements for presenting choice to users in their works.

In general, this taxonomy borrows from and extends previous research in the field [3]; it wants to be seen as a guide for advancing the discussion on how interface design and choice mechanics influence the perception of narrative or could be used to evoke or alleviate certain responses on the users, such as frustration, enjoyment, and engagement.

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