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Dialogue Interfaces in Video Games Through the Lens of Immersion and Player Identification

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Background

Dialogue is an important game mechanic that can be a powerful tool in the hands of game designers and writers. Within the last decade, players have become used to dialogue being part of almost every major release title. New technological opportunities arise with virtual reality headsets, or motion sensing inputs such as "Microsoft Kinect" that shift the perspective of how players play and see themselves in a video game.

In the pursuit of creating immersive video games, prior texts often looked at dialogue interfaces in regards to which interfaces immerse and engage players the most (Sali et al, 2010) (Carter et al., 2015). Yet, the field lacks profound research on dialogue interfaces through the lens of player identity and the possibilities of breaking immersion. This paper therefore serves as an entry point as well as validation for developers and designers who integrate dialogue into their games.

Related Works

Immersion and Ludonarrative Dissonance

McMahan, 2003, disentangles the terms "presence," "immersion," and "engagement." In her literature review, she states core concepts of keeping players immersed in 3D video games.
Ludonarrative dissonance is a term coined by Clint Hocking (2007). It describes a mismatch between the narrative and play, which can result in a player's "emersion" when unintended (Seraphine, 2016).

Attachment and Player Identification

Depth of characters influence how players identify with them (Papale, 2014). Players have the ability to identify with a/one-dimensional characters, while they only feel sympathy for three-dimensional characters. Lim and Harrell, 2015 and Turkay and Kinzer, 2016 describe how avatar customization increases identification between players and their characters in-game.

Engagement

Sali et al., 2010 look at how different dialogue interfaces achieve different levels of engagement in players.

References

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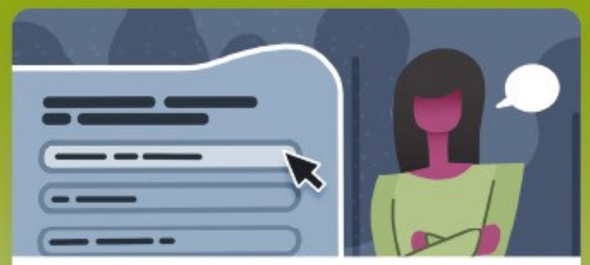

Predefined Replies

Players are presented with a list of replies and statements they can choose from. Conversations often proceed based on the selected option. *Branching dialogue* is the most common way of powering this interface.

Lack of Impact
If the dialogue options are insiginificant for the course of a conversation, players will be emersed from the game (McMurray, 2003). No consequences mean player actions become irrelevant.

Mismatching Expectations
Presented reply options might mismatch to how players want their avatar to speak. This situation also occurs when the player intends for an equivocal reply option to cause a certain outcome, but the game delivering the reply in a different tone. This often happens due to written text's missing paralinguistic information or a lack of context.

Timing, and the Loss of Urgency
The feeling of pressure can be powerful storytelling device. Yet it might result in ludonarrative dissonance if the story pushes urgency, while the gameplay mechanic does not set time restrictions. This can cause a break in immersion.

Suggestions

Non- or one-dimensional avatars
- Provide enough options for player to characterize their avatar **OR** do not characterize in avatar dialogue at all.
- Use paraphrazed reply options to compensate for the loss of paralinguistic information.
- Players can be affected emotionally in a direct way.

Two- or three-dimensional avatars
- Distance between player and avatar can be seen as a strength and should be promoted by the game.
- Players are willing to ignore a mismatch between player and avatar beliefs.
- Players are only able to feel empathy/sympathy.

Future Outlook
This interface will keep its raison d'être in the future, with foreseable developments in increasing player agency.

Text-based NLU

Players type in the exact words they want to speak. Using natural language understanding (NLU), the game assigns meaning to these words, and attempts to respond to it. It is uncommon among video games as it is considered experimental (Mateas and Stern, 2002).

Mismatching Expectations
In its current form, NLU-based systems can never fully map every input to an individual response. An underlying system might be able to conceal this fact if it does not find a fitting response (Mateas and Stern, 2002), but this cannot be seen as a comprehensive solution. Additionally, the lack of paralinguistic information might result in a mismatch between player intent and the game's interpretation.

Storytelling
The game will hand over a great chunk of its narration to the player, hence creating possible issues when trying to tell a pre-defined, linear story. Even when players are willing to play along, they might not be aware of the possibilities within the game.

Suggestions

Non- or one-dimensional avatars
The direct form of input amplifies the identification between player and avatar, making it incompatible with two- or three-dimensional avatars.
- Promote the embracing of the player's identity in the game (e.g. though avatar customization).
- The player's speech is unrestricted, yet the game can punish or promote wanted and unwanted behavior.
- Strong emotional affiliation: The game reacts to the player's direct input, therefore making responses more personal and emotional.

Future Outlook
NLU-based interfaces eventually have to pass a Turing test, which is hard to perform with currently available solutions and hardware. Advancements in machine learning and shifting computing-heavy tasks to external servers will eventually enable this type of dialogue interface to become a powerful mechanic for highly immersive games.

Voice-based NLU

Players converse naturally using their own spoken words, with the game understanding and responding to them. It is considered highly experimental.

Mismatching Expectations
Voice input suffers from similar technical boundaries as text-based NLU, with the addition of removing paralinguistic information of player speech without their knowledge, resulting in unexpected responses. As accents and speech vary, the interface might not correctly understand the player's words (Allison et al, 2019).

Social Perception
Allison et al, 2019 note how some participants experienced a "discomfort referred to the idea of a hypothetical outside observer, from whose perspective the participant risked a loss of face and social status." This discomfort appeared to be less significant when it would be clear to the "hypothetical outside observer" that the player is interacting with a game.

Suggestions

Non- or one-dimensional avatars
Suggestions for text-based NLU apply here as well.
- A premise or diegetic middleman, such as talking through a handheld radio, can conceal the system's inability to understand the player's voice (similar to *Eugene Goostman*; Sandberg, 2014).
- Designers should evaluate the importance of passive voice input: Words that are spoken outside of the game's context.
- The strength of this interface is its natural form of input. Intermediary steps such as displaying and confirming a said sentence should be avoided.

Future Outlook
Similar to text-based NLU, technical challenges have to be faced first. As this type of interface removes any intermediary between player and diegesic conversation partners, it has the potential to be extremely immersive.