Improving optionality in video game dialogue with Trope-Informed Design

Abstract: This paper applies Trope-Informed Design (TID) to optionality in video game dialogue. TID is a method for identifying opportunities for subverting and averting patterns in game design, with a view to enhancing player experience. Here we identify recurring patterns in dialogue optionality in role-playing games, and suggest ways of expanding and improving dialogue systems. We conduct a systematic study of what kinds of dialogue options players are given in video games. We then review what issues players have with dialogue option systems using trope analysis, and compare video game dialogue systems with what happens in real-life conversations. This motivates several suggestions for expanding dialogue optionality in a manageable way.

Short description: We apply *Trope-Informed Design* to optionality in video game dialogue. We show that pragmatic optionality is most common in video games and causes issues for players. We suggest how developers can manage resources more effectively, inspired by real life conversation systems.

Keywords: immersion, dialogue, conversation analysis, linguistics, tropes, trope-informed design, choice, player agency

1. Introduction

Many video games give players choices about what their character says, providing a sense of agency and the ability to develop and roleplay their characters (e.g. Domsch, 2017). For example, a non-player character (NPC) might ask a question, with the player given the choice to answer in the affirmative or negative, to tell the truth or attempt to deceive, to answer at length or rebuff the question. However, players often criticise games if they feel the options given are insufficient for expressing themselves or roleplaying as they wish. Furthermore, players feel frustrated if the apparent options do not have the inferred consequence. This problem is a challenge for developers because allowing every conceivable interaction is not practical. Even providing moderate numbers of options for a single interaction could require exponentially more options in a sequence of interactions within a dialogue tree. Some suggest that more advanced natural language input and processing methods are the answer (e.g. Martinez & Ciarletto, 2019), but these are complex to implement and difficult to localise. How can developers design dialogue systems with a practical balance between providing options and limiting the amount of content needed? What principles can guide developers when deciding to focus resources on some options over others?

In this paper, we aim to answer these questions using *Trope-Informed Design* (TID): a method for identifying patterns that recur across video games (tropes) and suggesting alternatives inspired by studies of the phenomena in the real world (Rennick & Roberts, 2021). Analysing games at the level of tropes lets us abstract beyond individual cases to get a sense of what is typical and what the full possibility space might be. This makes it possible to turn insights from past games into guidance for future game making. The first step is to understand how optionality is currently handled in games, and how players react to the status quo. After providing an overview of the existing literature on dialogue optionality in §1.1, we show in §2 that most dialogue options in video games present the player with choices about *pragmatic actions:* they allow the player character (PC) to choose what they *do* with language, whether it be accepting or declining a quest, developing a social relationship, or achieving some other end. This key insight informs our understanding of when and how

optionality goes wrong, and how it might be improved. Accordingly in §3 we identify a range of problems with dialogue options, each of which corresponds to a trope in video game conversations and negatively impacts player experience (as evidenced by repeated player complaints). For each problem, we look to real world conversations and use theories of pragmatics and conversation analysis from linguistics to suggest how developers might feasibly address them; in short, we find pragmatic solutions for pragmatic problems.

However, the possibility space for optionality is larger than is currently being explored. While video game conversations happen to provide optionality mostly at the pragmatic level, real life conversations allow for a much broader variety of choice-making. So in §4 we look beyond pragmatics, to show the many unexplored varieties of dialogue choice that games could offer to players in the future, and make suggestions as to how these might be implemented. We conclude in §5 with practical guidance for game makers based on our findings, enabling both improved optionality on the pragmatic level to overcome common complaints and improve player experience, as well as expanded optionality in heretofore underexplored avenues.

1.1 Background

Branching dialogue is widely acknowledged to be a key mechanic that contributes to video games being interactive (the narrative responds to player input) and active (players actively create the narrative, Domsch, 2013; 2017; Ruggill & McAllister, 2013). Previous work describes these mechanics, creating taxonomies of elements (e.g. Focht and Wardrip-Fruin, 2022). For example, an NPC may say something, leading to a choice point where the player is given a list of options for their character's response. Dialogue mechanics can let players express themselves through their player character (PC) (Bowey, Friehs & Mandryk, 2019) and drive the narrative within the game (Carlquist, 2003; Cassidy, 2011; Oliver, 2020). This creates two levels of interaction (Domsch, 2017): dialogue between the gamemakers and the player (ludic), and between the characters within the game (diagetic). Previous work has focussed on how the friction between these two levels can affect player experience. For example, Taylor-Giles (2020) argues that the design of dialogue can be systems-centred (prioritising functionality, e.g. being able to exit dialogue at any time without NPCs getting angry), developer-centred (easy to implement), or player-centred. The latter is usually defined as prioritising player freedom or agency (Muriel & Crawford, 2020), and seen as in competition with the other two approaches. Taylor-Giles (2020) offers suggestions which aim to "maximize player enjoyment while minimizing overall developer and system stress", a goal we share. However, alongside recommendations to avoid ambiguous cues and offer diverse options, many proposals for enhancing player experience see increasing optionality as an important part of the way forward, and suggest that facilitating open-ended conversations are the ultimate goal (e.g. Domsch, 2017). Some even propose that any pre-scripted, option-based dialogue system "removes the player from the immersion by minimizing the control they have over the character during a dialog interaction with an NPC" (Martinez & Ciarletto, 2019). There is a large literature in computer science and Natural Language Processing that proposes practical implementations to reach this goal, including the use of artificial intelligence and large language models to provide real-time interpretation of player input and generation of NPC responses (for recent reviews, see e.g. Sweetser, 2024; Gallotta et al., 2024).

However, Tanenbaum & Tanenbaum (2009; 2010) criticise treating problems of immersion solely in terms of player freedom or number of choices. After all, players can feel actively

involved and immersed in a game even when they have limited narrative choices. Furthermore, although some experimental games have implemented reasonably open-ended systems (e.g. El-Nasr et al., 2013), these have not been integrated into mainstream games. In addition, despite the stated goal of many proposals to create dialogue which is more 'naturalistic' or 'realistic' or 'believable' (Domsch, 2017), few studies engage with the linguistic literature on the properties of everyday conversations or theory about how they work (e.g. Enfield, 2017). Some technical approaches focus on improving game systems to deal with a greater range of lexical diversity or representing conceptual relations, but these are just two of the many levels of linguistic optionality and, as we argue below, less relevant than the pragmatic level. For example, Tosca (2000) recognises that when faced with limited cues, players must make pragmatic implicatures about the full line of dialogue in a similar way to how we must infer speaker intentions from indirect speech in the real world (e.g. using intonation and word choice to distinguish a simple statement from a threat). This requires players to think about both the character's motivations and the gamemaker's intentions. Similarly, Tanenbaum & Tanenbaum (2009; 2010) note that player experience can suffer if there is a mismatch between what the player expects to happen (given their implicature) and what actually happens. Rather than seeing this as a problem of agency or freedom, they suggest that the key to explaining player reactions to these mismatches is to be found in speech act theory. They suggest that player experience can be improved by designing dialogue which allows players to achieve goals by utilising Searle's five categories of illocutionary force (Searle, 1976), for example directives (e.g. requests, commands, advice) and commissions (e.g. promises, threats).

Our study builds on the work above in several ways. Like Taylor-Giles, we seek to document types of problems with dialogue systems that affect player experience, and suggest practical ways that gamemakers can avoid the problems. However, we additionally seek to identify possible game mechanics that have not yet been explored. Furthermore, like Tosca and Tenenbaum & Tenenbaum, we argue that pragmatics is a relevant framework for explaining player experience. However, rather than formal illocution, we consider a greater range of pragmatic actions using insights from Conversation Analysis, and a wider range of problems that players face (i.e. different points in the decision process). Finally, like many studies above, we ground our proposals in examples from games and player reactions. However, rather than individual case studies, we use trope analysis and a corpus of game dialogue to provide systematic evidence of patterns across games.

2. Pragmatic Optionality

One might expect that video game dialogue choices differ by word choice or topic of conversation, but much of the time, the difference is one of pragmatics. Pragmatics relates to the social function of language (Huang, 2017). This is an extra layer above literal meaning. For example, the sentence "I have a sword" could function as an answer to someone asking "What's in your bag?", a threat, an offer to help cut a rope, or a boast. In role-playing videogames, players are often given a choice to accept or reject a quest, as in the example below from *Dragon Age: Origins* (where // divides the possible options).

> Dagna: "My father's shop refines lyrium for smithing. If you help me, I'm sure I could get you some."
> PC: I'll talk to the first enchanter next time I see him. // I'm out of your price range, girl. But good luck.

Note that the PC does not explicitly accept or reject the quest, but this is clearly implied. The level of politeness is another pragmatic choice often available. In *Persona 5,* an NPC (the SIU Director) insults the PC, which threatens to make the player lose face in front of their friends (Brown & Levinson, 1987). The player can choose not to pursue redressive action (apologise), respond indirectly, or stand up to the threat:

> SIU Director: 'WHO'RE YOU? THIS IS NO PLACE FOR RUNTS LIKE YOURSELVES.'
> PC: Oh, sorry. // Well that's not nice. // I'm no runt.

Players may also have the option to lie or tell the truth. This is also a pragmatic choice, since it is ultimately about how to negotiate social relationships with language. For example, in *The Elder Scrolls III: Morrowind*, the player is given a choice to reveal a fugitive's location or lie, and this is made explicit to the player:

Garyn Girith: "There's good money for the one who kills him. If you see him, let me know."
PC: Truth: He is by the Daedric ruin. // Lie: He left town.

Pragmatics is not the only linguistic level at which speakers in real life have optionality. As discussed in §4, we make choices about the sounds we make, words we use, what we mean by them, and so on. However, pragmatic optionality is the dominant variety in video game dialogue. To demonstrate this, a sample of dialogue scripts was obtained from the Video Game Dialogue Corpus (Rennick & Roberts, 2024), a representative sample of the most popular and influential role-playing games from the last 30 years. Suitable player choice structures were available for 24 games from series such as The Elder Scrolls, Final Fantasy, Super Mario RPG, Star Wars: Knights of the Old Republic, Chrono Trigger, Monkey Island, Dragon Age, Persona, and Mass Effect. For each game, up to 20 player choices were randomly chosen. These are points at which the player is presented with options regarding what the PC should say or do. The preceding line from the script and the options presented to the player were also captured. For each choice, a linguist coded by hand the main linguistic level at which the options varied.

We excluded non-linguistic decisions and duplicate choices. The final data categorised 355 dialogues from 23 games.

Table 1 shows the proportion of choice types in the sample. The majority of choices are at the pragmatic level (66%). This is significantly larger than all other types put together (binomial $p < 0.0001$), and pragmatic options are the majority type within every game series. Other choices provide optionality in terms of discourse (19.1%) and semantics (12.7%) (see §4), but there is significant variation in the proportion of such choices between series: some have more discourse options (e.g. *Mass Effect*'s "Investigate" options) than others, ranging from none to 43% in this sample.

Option type	Count (and percentage)	Choices primarily differ by …	Example
Pragmatics	235 (66.2 %)	Social function	Oh, sorry. // Well that's not nice. (*Persona 5*)
Discourse	76 (21.4 %)	Topic of conversation	'Tell me about yourself' // 'Tell me about ExoGeni' (*Mass Effect*)
Semantics	39 (11.0 %)	Literal meaning or reference	[NPC asks how long to set a timer] 10 minutes // 20 minutes (*Final Fantasy VIII*)
Lexical	4 (1.1 %)	Vocabulary (words with similar meanings but possibly different connotations)	'Oops! My fault!' // 'Sorry about that!' (*Secret of Monkey Island*)
Intention	1 (0.3 %)	Intended meaning (PC performances are identical)	See section 4.5

Table 1: Counts and percentages of player option types in samples from 23 video games from the Video Game Dialogue Corpus.

Table 2 shows the subtypes of pragmatic options. Most are choices to accept or decline offers, followed by choices relating to politeness. There are fewer cases of simple yes/no options, agreeing or disagreeing, and telling the truth or lying.

Option subtype	Count (and percentage)
accept/decline	97 (44.1 %)
polite/impolite	40 (18.2 %)
agree/disagree	23 (10.5 %)
yes/no	20 (9.1 %)
truth/lie	12 (5.5 %)
offer	8 (3.6 %)
serious/non-serious	7 (3.2 %)
direct/indirect	5 (2.3 %)
formal/informal	5 (2.3 %)
speak/silence	3 (1.4 %)

Table 2: Counts and percentages of different types of pragmatic options in samples of 23 games from the Video Game Dialogue Corpus.

In summary, the majority of player choices are pragmatic in nature. Understanding this is the first step in addressing common player complaints about dialogue options. In the next section, we identify and categorize such complaints, and suggest how they might be addressed.

3. Players' Criticisms of Optionality

Multiple tropes relating to dialogue choices attract frequent criticism by players. These are well-documented on the popular community website "TV tropes"[1], in online articles and discussion fora, review videos, and are lampshaded in games themselves. As has been argued elsewhere, investigating at the level of tropes allows us to identify opportunities for innovation and enhanced immersion (Rennick & Roberts, 2021).

We suggest that most negative tropes relating to optionality stem from mismatches between four key elements of video game dialogue (Figure 1). These elements are as follows:

(1) Player intentions: what the player intended to do when choosing an option.
(2) Dialogue options: the formal options presented to players.
(3) PC performance: what the PC actually says or does, in response to the selection at (2).
(4) NPC response: the response of the interlocutor, who is most often a NPC.

Mismatches between any two elements can have a negative effect on player experience. In the following subsections, we describe each mismatch in more detail, provide examples, and use insights from the study of real life conversations to show how they might be overcome.
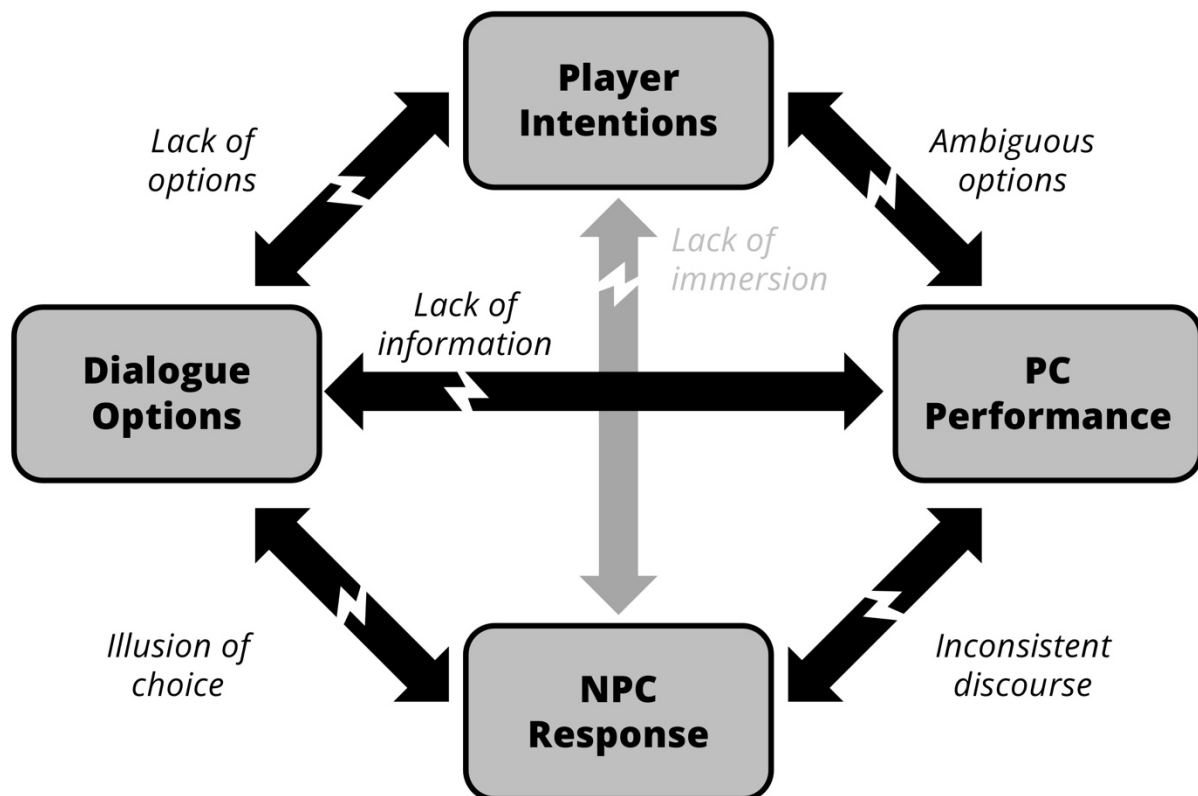

Figure 1: Different types of mismatch between game entities that cause problems during dialogue.

3.1 Lack of Options: Player Intentions vs. Dialogue Options

The first mismatch is between what the player wants to do and the formal options they are given. For example, a commonly criticised trope of games with free-text input is when players can't figure out the right keywords to use to perform the action they intend. This trope has been labelled "You Can't Get Ye Flask" (TV Tropes, ND). It can lead to frustration, and is one of the tropes that is blamed for the downturn in adventure games (Gilbert, 1989). More common in recent years are dialogue trees with a finite number of options to choose from. These are often praised when the options are plentiful and varied (e.g. [That-oneweirdguy27], 2022) and criticised when the option players desire, or feel would be fitting for their character, is not provided (e.g. [saturnlore], 2023).

This mismatch has a negative effect on player agency. This raises a concern for game designers, since the solution seems to be to provide more optionality, which is resource intensive. As Gee (2014: 83) pessimistically states, "real conversation is beyond the current

computational power of a video game, since human beings can make so many different responses to anything said to them".

However, we are more optimistic. Although there are an infinite number of possible sentences a real speaker might utter (Chomsky, 2009), in terms of what we use language to *do* - our pragmatic actions - realistic and relevant choices are relatively limited. For example, Kendrick et al. (2014) suggests that there is a universal infrastructure of conversation that can be built around the 'adjacency pair' (figure 2).

A: Hey, what are you doing tonight? B: Nothing.	**Pre-expansion**
A: Wanna come over to play a game?	**1st pair part**
B: Which one? A: Er, the new Zelda game?	**Insert-expansion**
B: Oh, definitely.	**2nd pair part**
A: Cool	**Post-expansion**

Figure 2: An example of the core pragmatic options available to speakers.

Speakers can either initiate a sequence (a '1st pair part', like asking a question - *Wanna come over to play a game?*) or respond to a previous turn (a '2nd pair part', like giving an answer - *Oh, definitely*). This core sequence can be expanded by a pre-expansion (e.g., a pre-offer that establishes a topic and gives speakers a chance to avoid a possibly face-threatening offer - *Hey, what are you doing tonight?*), an insert-expansion between the two turns (e.g., to clarify the offer or repair misunderstandings - *Which one?*), or a post-expansion (e.g., a 'closing' turn to signal discussion of this topic has finished - *Cool.*). All languages appear to have this system, and it seems adequate for negotiating human social life (Kendrick et al., 2014). Furthermore, initiating turns usually have a "preferred" response (Atkinson & Heritage, 1984:53; Klüwer, 2015:118), so the number of reasonable options is further constrained if one is trying to be polite. If pragmatic optionality in real-life conversations really is limited, it might allow game developers to serve the player's desires while keeping content manageable.

To our knowledge, there is no study testing how much pragmatic optionality real language exhibits. Therefore, we analysed data from the Switchboard corpus of everyday telephone conversations (Calhoun, 2010, processed by Roberts, Torreira & Levinson, 2015). This includes 6,962 transitions from one speaker to another, with each speaker's turn being categorised into one of 32 pragmatic categories (e.g. content question, yes-no question, open question, agreement, statement, opinion etc.). We found that responses were far from unpredictable. Questions are most often followed by an answer statement, confirmation, or agreement. For example, content questions are followed by statements 82% of the time, by far the most likely response (compared to opinions 5% of the time, holds 3% of the time and all other options less than 2% each). While the semantic content and intentions of these statements may vary (e.g. informing, lying etc.), the central point here is that other types of pragmatic action are relatively rare. Similarly, there is a bias for polite, positive responses. Opinions are met with immediate agreement 53% of the time, compared to rejection 1% of the time. Even Yes/No questions are responded to with a "yes" or affirmation 50% of the time, compared to a "no" or negation 24% of the time. This pattern is common in

conversation, and is explained by people preferring politeness (not refusing an offer and not offering something that might be refused) and progressing the conversation (Sacks, 1987).

However, some turns were not reliably predictable. Hedges (expressing uncertainty about something) were followed by a range of possible options: opinions (35%), yes/no questions (20%), agreement (15%), rhetorical questions (5%), wh-questions (5%) and reciprocating hedges (5%). Statements were the most unpredictable category, with 30 types of transition attested in the data. These findings are summarised in Figure 3.
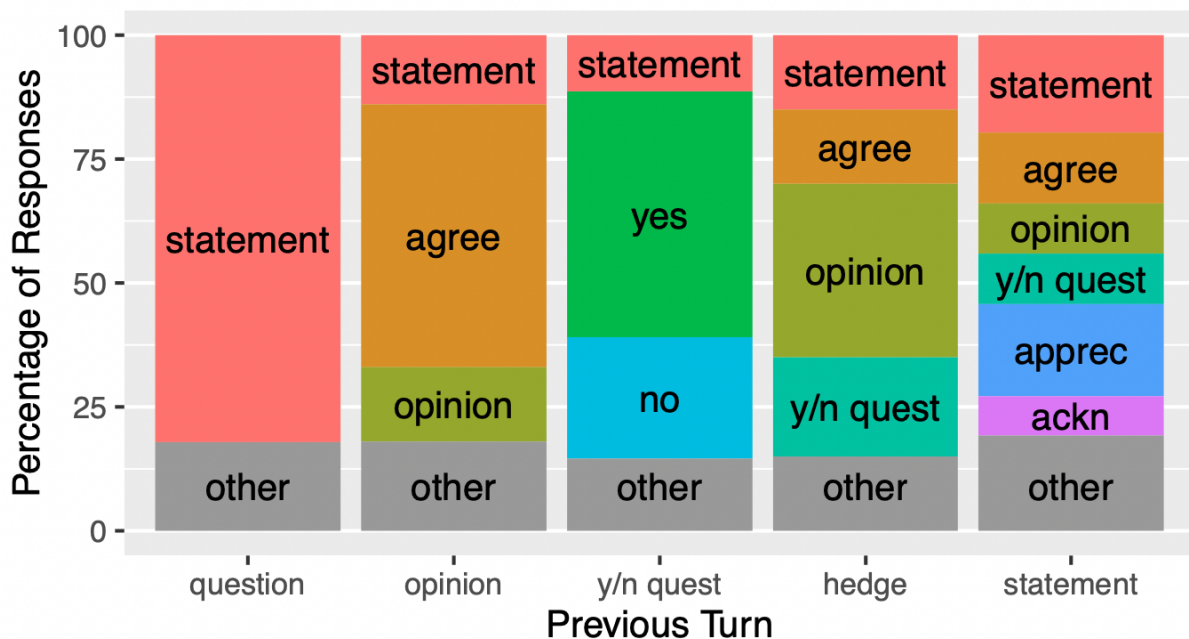

Figure 3: Visualisation of different turn types (columns) and which responses follow them (stacked rows) in real conversations (Switchboard Corpus). Previous turn types are ordered by predictability of the response from more predictable (questions) to less predictable (statements). 'y/n quest' = yes/no question; 'apprec' = appreciation; 'ackn' = acknowledgement.

What should developers take from these findings? In short, the pragmatic optionality in real-life conversations is *not* completely unconstrained, but relatively predictable and systematic. This is more the case for some sequences such as questions and answers, and less the case for more open-ended transitions such as statements. This suggests that, if developers focus on particular kinds of NPC dialogue, they can offer a limited set of responses while still maintaining immersion. That is, if NPC dialogue ends with an initiating turn (e.g. a question), or first pair part (e.g. an opinion which projects an evaluation of the opinion), players might naturally expect to have fewer response options. Designers may be able to exploit this to reduce optionality without affecting immersion. For example, if an NPC asks "Would you like to hear about the Highroad?" (from *Final Fantasy X*), a player will naturally expect options to accept or refuse (and will likely accept), but is unlikely to even think about offering an opinion or asking about the weather, so offering those latter options to the player is unlikely to enhance the player experience.

In contrast, designers may need to invest more resources into providing options for NPC dialogue that ends with a statement, or avoid them altogether to save resources. While it's likely that designers are doing this naturally, the principle is not always followed. For example, in *Skyrim*, a shopkeeper addresses the player saying "You look rather pale. Could

be Ataxia. It's quite a problem here in Cyrodil". This contains three statements, to which there are many possible responses: agreeing or disagreeing with any of the statements, asking about 'ataxia', rebuking the shopkeeper for insulting them, giving some account for why you look pale (including telling the truth or lying) and so on. However, the only options that players get is to ignore the comment and request shop services. In an experiment, Schlünder & Klabunde (2013) showed that players preferred a version where the shopkeeper simply asked "How may I serve you?" - a simple content question which fits the available options more naturally.

In summary, game makers can minimise the risk of a mismatch between player intentions and dialogue options by maximising the number of options where predictability is lower, and conserve resources by reducing the number of options where predictability is higher. Of course, conversations in the Switchboard Corpus are between strangers who know they are being monitored, so are likely to be very polite. The aim of many games is to create opportunities for drama and conflict, which might entail offering more options in dialogue. Still, the developers of *Mass Effect* reported that only about 8% of players chose the 'renegade' options in dialogue (Tassi, 2020). This suggests that player satisfaction might be met with a more limited range of dialogue options than is currently considered sufficient, so long as they are the right ones.

3.2 Lack of Information: Dialogue options vs. PC performance

One of the most common complaints we identified involved mismatches between the dialogue options that players were given and the actual behaviour of the PC. The extent of the difference between these can vary. In some games such as *The Secret of Monkey Island* or the original *Fallout*, the player is shown word-for-word exactly what they will say. This contrasts with systems in other games that offer a limited preview of what the PC will say or do, forcing the player to estimate the implicature of the preview (Tosca, 2000). For example, in *Deus Ex Human Revolution* and *Fallout 4* the player must choose from a general description of what will be said, but is only shown what is actually said after they make a choice.

This can lead to unexpected consequences. For example, in *Detroit: Become Human*, when talking to Connor, the player is given the option of "trust" or "don't trust". If they choose "don't trust", the PC says "I can't take any risks…", pulls a gun and shoots Connor in the head. WhatCulture Gaming (2020) lists this as one of the top ten "dialogue choices that were devastatingly different from what your character actually said". The outcome is due to the player (understandably) misinterpreting the pragmatics of the dialogue option. This issue is recognised as a trope by players, as evidenced by numerous fan videos lampshading it (e.g. ProZD, 2016; Cinevore, 2014).

Less extreme examples often involve a mismatch in politeness. Player discussions on online fora often reference the *Mass Effect* series as having this issue (one player states "Throughout ME I was constantly going 'No, that's not what I meant!'", [Zoomorphism], 2014). For example, in *Mass Effect 3*, the PC asks the NPC Chorban whether he is trying to kill Chorban's partner. After Chorban's denial, the PC has three options: "What?", "I see.", and "(sigh)". If the player picks the last option, rather than sighing in exasperation - as one might expect - the PC actually says "I should kill both of you idiots." There is a mismatch here between an apparent off-the-record disapproval in the cue to a very bold, on-record face-threatening act in the performance (see Brown and Levinson, 1987: 92). Although examples are frequently discussed, as far as we are aware, this trope has not yet been named. For instance, we could not find a matching trope on tvtropes.org. It might be labelled "option-

performance mismatch" or, following the convention of naming tropes after paradigmatic examples, "(Sigh) Means Die".

Mismatches of this kind frustrate players, for example one player discussing *The Witcher 3* says,

> "the blurb did not do the actual response justice, especially when interacting with Yennefer/Redhead witch. I screwed those interacts badly because what felt like a gentle 'no' turns out to be a 'fuck you'" ([Darwinmate] in [ChampionofBaiting], 2022).

Another suggests this issue is serious enough to affect the overall gameplay experience:

> "I literally quit SWTOR because of this. I was talking with one of the companions you get, and she had a really tough time talking about her past. I said "I'm sorry" and it came out "I'm sorry I asked, shut up" or something. She of course felt like shit and hated me now" ([MQ116] in [ChampionofBaiting], 2022).

Indeed, players are so keen to avoid these issues, a mod for *Fallout 4* which changes the dialogue interface to show the full dialogue rather than the preview has been downloaded by over two million players (Cirosan, 2017).

It is unlikely that simply making PC actions less extreme will fix this issue, since players also express frustration at full dialogue being *more* polite than the cue suggests. Troughton (2021) suggests that the "evil" choice category in *Fallout 4* is often performed as sarcasm, and that "The number of times I've selected something already in *Mass Effect* that resembles 'go to hell' or some other inflammatory statement only to see it spoken in a much calmer manner or not even encompassing the general sentiment of 'fuck off' is upsetting."

While these differences are ultimately a conflict between player intentions and PC performance, the source of the problem seems to be the lack of information in the formal dialogue options. As one player puts it, "my beef against vague prompts isn't about avoiding unfavorable outcomes, it's about properly communicating inputs" (Hovermale, 2018). More precisely, the player fails to ascribe the correct pragmatic action to the cue. The negative effect in-game is often an unintended change to the social relations between the PC and NPCs, a critical aspect of role playing games. Focht and Wardrip-Fruin (2022: 7) call these 'blind choices', instances where the reader "lacks context enough to sufficiently form expectations."

Perhaps surprisingly, real-life conversation is more like limited-preview games. Psycholinguistic studies show that speakers choose pragmatic actions rapidly, but different parts of the speech planning process (lexical retrieval, morphological encoding, muscle encoding) happen in parallel and often speakers have not finished planning exactly what they will say before they start talking (Levelt, Roelofs, and Meyers, 1999; Christiansen & Chater, 2016). Therefore, oft-criticised game dialogue systems that only provide limited previews of the exact content of dialogue may not be unrealistic. The important requirement is that the previews accurately convey the intended pragmatic actions, rather than the exact wording of what will be said. As one commenter noted, "blurb text needs to convey intention and tone most of all. With the exact content being mostly irrelevant" ([ChampionOfBaiting], 2022) - here we take 'intention' to mean pragmatic intention and 'tone' to refer to politeness.

In summary, the most criticised mismatches between dialogue options and PC performance arise due to a lack of transparency as to what the pragmatic action undertaken will be. However, full preview of dialogue comes with its own design limitations. One solution is to take inspiration from real language processing and overtly categorise options by pragmatic action. For example, in *Dragon Age 2*, summarised dialogue options are accompanied by informative symbols on the dialogue wheel (e.g. helpful, diplomatic, lie etc.). We suggest that increasing transparency in this regard will enhance player experience.

3.3 Ambiguous Options: Player intentions vs. PC performance

While most mismatches between player intentions and PC performance are mediated by dialogue options, some cases involve a direct mismatch between the two. The following dialogue from *Dragon Age: Inquisition* is illustrative:

Solas: Look. The Black City, almost close enough to touch.
PC: "It's amazing." // "Thoughts, Solas?" // "Focus, Solas".
[PC chooses "Thoughts, Solas?"]
PC: "This must be very exciting for you, Solas. Any advice you have on exactly what's going on would be wonderful."

The cue seems like a direct question or invitation to give an opinion and the written text seems a plausible direct rendition. However, the voice actor's delivery has been interpreted by players as sarcastic (e.g. WhatCulture Gaming, 2020), causing a mismatch in pragmatics. This can have a negative effect on the player's ability to implement their intended characterisation of the PC.

A real world analogue of this might be the kind of misunderstandings in emails or text messages due to lack of multimodal information (Johnson et al., 2016). In these cases, receivers often interpret a more negative affect than was intended (Kelly & Miller-Ott, 2018). This seems to align with the *Inquisition* example above, with the voice actor performing a more negative affect than was anticipated by the players. In real emails, people often add emojis to make their intentions clear (Wagner et al., 2020). Games could use similar systems. Indeed, *Inquisition* uses symbols indicating categories of response ('stoic', 'sad', 'confused' etc.) in some other conversations. However, we also suggest that script notes for the voice actors are important to avoid the specific mismatch between player intentions and PC performance.

3.4 Illusion of Choice: Dialogue options vs. NPC Response

An often criticised trope is "But Thou Must" (TVTropes, ND), where an illusion of choice conceals a single outcome. The paradigmatic example comes from *Dragon Quest I,* where the princess asks the PC to escort her back to the castle. The player is presented with options "Yes" and "No", but if the latter is chosen, the princess says "But thou must" and the same choices appear again. The player can continue to decline, and this interaction will repeat itself until the player accepts. This creates a mismatch between the dialogue options and the NPC's responses.

There are three main ways this trope manifests:

1. You cannot progress unless you give the 'right' answer (as in DQI). In *Final Fantasy X* the PC discusses their battle plan with an NPC. If you indicate that you don't yet have a plan, the NPC suggests you go away and return once you do. The scene fades to black and the interaction starts again.
2. Giving the 'wrong' answer makes no difference; the game behaves as if you picked the 'right' one. For example, several instances in *Blue Dragon* present players with yes/no choices of whether to complete a plot-necessary action. If you decline, the other characters will perform the action regardless.
3. There is no wrong answer available. In *Morrowind,* the PC is repeatedly asked to join the villains but is never given the option to say yes. Similarly, the villain of the mage tower level in *Dragon Age: Origins* will ask a mage PC whether they want to join him; the player is given three options, all of which are variations on 'no'.

In these examples, there is a mismatch between an (apparent) choice in the player input and the actual consequences.[2] This issue is discussed at length by players, with many describing a negative effect on immersion and "potentially alienating the player from the character they are playing" ([iwantice99], 2021).

As mentioned in §3.1, there is a perceived tension between giving players rich, meaningful choices and resource limitations facing game makers. We suggest that lessons from real life conversation might help game makers navigate situations where they are tempted to implement this trope. In real life, we often find ourselves at cross-purposes with our interlocutors and try to negotiate through language. This is rarely done directly (e.g. by ordering someone, which would be face-threatening). Instead, speakers have a range of options available which might be used in video games to limit the feeling of being railroaded.

The classic DQI example is a case of "coercive impoliteness" (Culpener, 2011), which is a way of coercing someone into doing something through deliberate impolite (face-threatening) language. This typically involves giving orders or threats and often occurs when there is an imbalance in social power (e.g. PC talking to princess). However, in the real world, it rarely happens without motivation, which is partly why the 'but thou must' example is jarring. However, Culpener notes that this kind of impoliteness may be more acceptable if it is "entertaining" (shows a witty or creative use of language and humour). The player may still be forced into a certain decision, but at least they might get a laugh out of it.

At the other end of the politeness spectrum is ritual refusal, where one person offers something to someone who wants to accept, but custom dictates that they refuse before accepting (e.g. Schneider, 1999). The sequence and extent of the refusal differs between cultures (Barron, 2005; Devi & Devi, 2014). For example, in Irish English, offers are typically refused and re-offered twice before acceptance. Beyond that, the offerer may be "pressing" and considered impolite (Schneider, 1999). Strategies for the refuser include saying they do not need anything; they do not want to appear greedy or impose; why they don't want something. The offerer may renew the offer by downplaying the extent of the imposition, or re-presenting some other benefit. But crucially the offerer will appear impolite if they simply repeat themselves verbatim.

These options for refusal could be implemented in games to disguise limited choice. For example, if the player must accept something, a sequence of slightly different rephrasings of the question could be used. Mastery of this strategy is displayed in the cult TV show *Father*

Ted (Linehan, Mathews & Lowney, 1995). In Figure 4, Mrs Doyle is offering a sherry to Henry, who she doesn't realise is a teetotaler.

H: I won't have a sherry thank you.	**1st ritual refusal**
D: Ah, don't be silly now, of course you will.	**Polite re-offer**
H: No no. No really, I shouldn't.	**2nd ritual refusal**
D: Go on, it'll help you sleep.	**Alt. Motivation**
H: No, it's not a good idea.	**Account**
D: Just a little drop, just a teeny tiny bit.Go on.	**Diminutives**
H: No no no, really, I shouldn't.	**Unwilling**
D: Ah go on go on go on. ...	**Pressing**
H: No seriously, I can't.	**Upgrade to unable**
Mrs. Doyle: Go on Go on Go on Go on Go on Go on Go on Go on Go on Go on Go on Go on Go on GO ON!	**Coercion**

Figure 4: Example of coercive impoliteness.

As Cronin (2018) notes, this sequence begins as ritual refusal, introduces diminutives to minimise any apparent cost, and then goes on to "press" the speaker, becoming increasingly face-threatening to the point of intimidation. Henry's replies also get increasingly direct ("I shouldn't", "It's not a good idea", "I can't"). This kind of sequence in a game, although the player may ultimately still have no real choice, maintains politeness at the beginning and at least avoids the strange "but thou must" repetition. Additionally, the player may accept before being forced. But even if not, the humorous escalation might at least be entertaining.

Alternatively, if the developer wants the player to reject a choice, they could present options for the player turns that look like ritual refusals ("Oh, you are too kind."), but then have the NPC take their refusal at face value ("Oh well, suit yourself."). These strategies may only work once, but may at least give the impression of more pragmatic sophistication (Rennick & Roberts, 2021) or be more enjoyable that a simple "but thou must".

3.5 Inconsistent Discourse and Lack of Immersion

There are two remaining mismatch types. Firstly, the PC's performance may not match the NPC response, such as "NPC Amnesia" where the PC is treated like a stranger even if they've talked to the NPC many times before (TVTropes, ND). Secondly, the player may intend to have one effect but the NPC responds unexpectedly, like polite requests met with

rude answers. In both cases, the NPC is behaving as if they have no pragmatic mind. Rennick & Roberts (2021) discuss how to avoid these types of mismatch.

4. Expanding Optionality

So far, we have focussed on pragmatic optionality as it is the dominant variety found in video games. We have identified common problems with existing pragmatic optionality that have a negative impact on player experience, and suggested how these might be overcome. However, in real life, speakers have optionality at multiple different linguistic levels. In the remainder of the paper, we define each of these, discuss how they are currently treated in games, then suggest how they might be developed to give greater choice to players and flexibility to game makers.

4.1 Phonetic and phonological optionality:

Phonetics relates to the physical sounds (or movements in sign language) we use, including intonation, whispering, shouting and so on. Clear examples of phonetic optionality are rare in video games, but in *The Secret of Monkey Island,* the player gets options while talking to a dog: "Woof // Arf // Ruff // Grrrrr". Since these have no meaning, and are arguably not English phonemes, this is a rare case of phonetic optionality.

By contrast, phonology refers to the way different sounds are perceived as belonging to categories and how this differs between languages, dialects, and accents. For example, a Londoner pronounces the vowel in "about" to rhyme with "bow", while a Canadian pronounces it to rhyme with "boot". While we could not find a concrete example of this optionality in video games, it is possible in principle. For example, at the phonetic level, one could imagine a game where the PCs words are fixed, but the player has control over the intonation, allowing them to turn a statement into a question, or emphasise specific information. For instance, there could be a game (akin to *Octodad)* where the PC is a ghost who can possess someone's vocal folds and must control the steadiness of a voice to avoid detection. Phonology could be gamified as a kind of beat 'em up/dance combo game to articulate certain non-native sounds correctly. Alternatively, an RPG with text dialogue could convey differences in dialect with font colour. PC's dialogue could be 'coloured' by who they talk to and players could recognise "non-native" accents, or choose to signal affiliation or distance. Similar mechanics are possible with voiced accents, though it involves more work and accent stereotypes should be avoided.

4.2 Lexical optionality
Lexical optionality relates to the choice of words, where there may be multiple words that have similar meanings but different connotations (e.g. "friend" vs. "mate"). In *The Secret of Monkey Island,* the PC can shoot a pirate ship with a cannon. If they do, the pirates complain and the player gets a choice of responses:

PC: Whoops! // That was me. Sorry. // Sorry about that! // Oops! My fault!

All of these have the same essential meaning and pragmatic function (an apology), but using different lexical items. In games, this is mainly observed when a character has to provide a secret password to prove they are trusted or part of a faction ("Trust Password", TV Tropes ND). However, we could not find many examples of broader "shibboleths". These are phrases that are unknown or difficult to produce by outsiders and so reveal the social identity

of their speakers. Lexical and syntactic choices might matter if a player needs to switch accents or registers in order to create affiliation or distance with NPCs (see discussion of in-group rituals in Rennick & Roberts, 2021).

4.3 Semantic optionality

Semantics relates to the meaning of words and sentences. In *Final Fantasy X*, Wakka asks the main character whether they remember a prayer. The purpose is exposition: to give Wakka a chance to repeat the prayers for the benefit of the player, regardless of the choice. The options don't vary by pragmatics (both are negative replies), but their meaning is slightly different (not remembering versus not knowing).

'Wakka': 'You do remember the prayer, right?
PC: I don't remember. // I don't know any prayers.

This functions to enhance roleplaying, allowing the player some choice over their character and how they navigate their social relationships.

Several cases of semantic optionality in our sample gave the illusion of choice without changing the consequences (and thus semantic optionality might be utilised to mitigate the sensation of railroading in cases like those discussed in §3.4). For example, in the *Monkey Island* series, the player is often given choices that vary only in semantics with no effect on subsequent dialogue. The apparent purpose is to entertain the player and invite them to choose the funniest response, allowing them to roleplay as a quippy pirate. For example, from *The Curse of Monkey Island*:

'Van Helgen': "I realized that I could still enjoy the music of the sea while remaining safely on land."
PC: Through affordably-priced sea shanty compilation albums? // By hanging out at the docks and singing to passing sailors?

Importantly, the playfulness of this type of optionality should be clearly communicated to the player. One way to do this is to make sure semantic options are not presented alongside pragmatic options. In the example above, the pragmatic action is the same for each option: both are teases, and there is no option to be more polite. This functions as a cue to the player that the optionality is for roleplaying flavour.

In summary, semantic optionality is a promising avenue by which game makers might increase player choice and agency - e.g. by providing more nuance to characterisation - without requiring more resource-intensive story branching associated with pragmatic optionality.

4.4. Discourse Optionality

Discourse relates to how utterances fit together into coherent conversations about particular topics. In games, this most often appears in options to change the topic of conversation. For example, in *Dragon Age 2*, the player can switch topics to get information, manage interpersonal relations, or demand action:

'Sebastian': "In one instant, we lost our mages, our templars - everyone my parents used to call on for protection."

PC: 'Tell me about yourself.' // 'Why was your family killed?' // 'Why are you still alive?' // 'Starkhaven?' // 'I'm glad I could help.' // 'Where's my money?'

The example above shows that it can be hard to maintain realistic pragmatic politeness while offering a range of new discourse topics. The options offered here differ not only by discourse but in terms of politeness[3] ("Where's my money?" is a direct demand), which (as discussed below) can create conflict between the player's intentions and the character options, negatively affecting immersion.

Game systems could allow more explicit mechanics for navigation of discourse-level structures, such as initiating new topics of conversation (this happens in *Subsurface Circular*) or keyword systems ('collecting' topics from other conversations to unlock extra dialogue options, as seen in *Dusk of the Gods)*. In this way, the options provided to the player will always seem relevant.

4.5 Intention Optionality

The intention of a speaker is not often studied in linguistics since it is rarely observable. However, games sometimes offer optionality at the cue level but not at the full response level. In *Mass Effect*, each of the prompts below leads to the same spoken line (a kind of 'false choice', Focht & Wardrip-Fruin, 2022). Although hidden from the player, the optionality here is essentially the intention or conceptual message behind the words.

Liara: "You need to alert the Council. They will assemble a fleet to accompany you. It is our only hope."
Option Cues: "You're right." // "Time to end this!" // "Let's do it."
[Regardless of choice, the dialogue continues as ...]
PC: "Crew... dismissed! Joker, alert the Council. Tell them everything."

This has a similar effect to semantic optionality, but the optionality here is in the cues rather than the PC performance. Interestingly, providing these options does not incur additional production costs at the voice acting level, but may still allow for greater nuance in roleplaying or how people understand their character. One caveat is that players may feel cheated if they realise the PC performance is the same regardless of cue choice.

4.6 Additional Varieties

Other types of optionality are possible. For example, in real-time interaction, people choose *when* to speak. In the indie game *Don't! Heroes*, the player only has the ability to say "Don't!". They influence the story by choosing whether or not to say it. This could be gamified further by giving players control of the exact timing of responses. Interrupting someone or leaving too long a pause can be interpreted as rude or an indication of dishonesty or unwillingness (Kendrick & Torreira, 2015, see discussion of *Oxenfree* in Rennick & Roberts, 2021).

Syntactic optionality involves, for example, choosing active rather than passive constructions ("Aloy gave the bow to Ellie" vs. "Ellie was given the bow by Aloy"). While the meaning is similar, they highlight different information or levels of agency (Gries, 2017). Theories of syntactic movement provide mechanics by which sentences are transformed (Carnie, 2013), which might inspire game mechanics.

Finally, selecting a language is a common choice for bilinguals and occasionally used in games. For example, in *Planescape: Torment,* talking to one NPC in an obscure language restores their sanity. Communication is also possible in multiple modalities, such as the use of gesture, sign language, whistled languages, or touch languages, or even modalities used in non-human communication such as smell, light or vibration. These types of optionality are hard to convey to players while making sure they understand the dialogue, but may be interesting for more experimental games targeted at specific audiences.

5. Conclusion

In this paper, we have highlighted the importance of pragmatic optionality in video games: not only do most dialogue options vary at the pragmatic level, but player complaints about dialogue also focus on the pragmatics. We categorised common issues in terms of mismatches between four elements: player intentions, dialogue options, PC performance, and NPC response. We propose that agency and immersion is fostered by providing meaningful pragmatic options, rather than the freedom to say anything.

We also highlighted underexplored levels of optionality in dialogue, and suggested how these might be capitalised on to create new and innovative mechanics. We suggest that, to avoid player confusion, in most cases choices should vary at a single linguistic level for any given choice point (i.e. for a given choice, players choose between semantically-varying options, or pragmatically-varying options, but not a mix of both simultaneously).

If game makers want to maximise player immersion and agency while reducing the amount of content they have to produce, we make the following suggestions based on our findings (these suggestions are not intended to be prescriptive for what constitutes 'good' dialogue - effective and entertaining dialogue can be non-immersive, such as breaking the fourth wall):

1. Focus on giving the player meaningful and appropriate options for what to *do with language* rather than what to say.
2. Provide cues for options that accurately and transparently convey the intended pragmatic options of the PC. This is more important than showing the exact phrasing of what will be said.
3. Provide script notes for voice actors about the pragmatic context of the lines being uttered.
4. Don't aim to cover all possible choices. Players are unlikely to expect it, since pragmatic optionality in real-life conversations is relatively predictable and systematic. Instead:
   a. Spend resources where the predictability of a response is lower.
   b. Conserve resources where predictability is higher.
   c. Have NPCs initiate actions with relatively predictable responses (questions, requests or offers rather than statements).
   d. Spend resources on branches that follow polite options. Players are more likely to choose these (face-saving) responses than impolite (face-threatening) responses.
5. When real choice between outcomes is an illusion, consider:
   a. Using escalating coerceive impoliteness before "but thou must".
   b. Using semantic optionality to allow for more nuanced characterisation and roleplay, thereby enhancing player agency in a different way.

c.　Using humour.
6.　Consider types of optionality beyond the pragmatic - how and when characters speak, the sounds they utter, the intention behind the words - and the ramifications this has for their characterisation and relationships.

Endnotes

1. TVTropes is a website compiled by fans. While it is not systematic, exhaustive or unbiased, the examples listed are at least positive evidence that the player community is aware of the recurring patterns in games.
2. The trope differs from two options with negative outcomes (Morton's fork), or choices that appear consequential but have no effect. These occur in games, but are not discussed much.
3. We are grateful to an anonymous reviewer for highlighting this.

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Captions

Figure 1: Different types of mismatch between game entities that cause problems during dialogue.

Figure 2: An example of the core pragmatic options available to speakers.

Figure 3: Visualisation of different turn types (columns) and which responses follow them (stacked rows) in real conversations (Switchboard Corpus). Previous turn types are ordered by predictability of the response from more predictable (questions) to less predictable (statements). 'y/n quest' = yes/no question; 'apprec' = appreciation; 'ackn' = acknowledgement.

Figure 4: Example of coercive impoliteness.