

Article

Perceived Foolishness: How Does the Saltybet Community Construct Al vs Al Spectatorship?



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Abstract

The spectatorship of games has become a topic of growing interest with the parallel rise of esports and livestreaming platforms. Taking Saltybet.com as its primary case study, this paper examines cases where zero-player games played by artificial intelligence-controlled characters are the focus of spectatorship. A discourse analysis identifies trends and themes in the recorded chat transcripts of 15 livestreamed tournaments from Saltybet.com where players bet fake money on the outcome of fighting game matches between Al opponents. Several themes are identified that guide discussion on how spectators discuss Al players as well as their own and the community's behaviour. These insights may be applicable to understanding the broad appeal of the entertainment people derive from Al generally whether they were meant to entertain or not. The discussion explores how the absence of human players and the scale of Saltybet's niche audience contribute to a unique, but foolish space.

Keywords

Al, spectatorship, fighting games, zero-player game, esports

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Introduction

While much has been made of the rise of game spectatorship and esports on streaming platforms like Twitch, comparatively little has been written on AI spectatorship (Johnson & Jackson, 2022; Juul & Björk, 2012) which is defined here as the spectatorship of games in which two or more AI players compete each other in the absence of a human player. Although highly competent or powerful AI typically occupy academia's or the mainstream's attention, there are also examples of popular reception of AIs championed as entertaining for their apparently inefficient, imperfect, or sub-optimal behaviour.

Many videogames have offered the option to pit AI against each other without a human player in various fighting, sports, or party games such as *Baseball Simulator 1.000* (Culture Brain, 1989) or *Mario Party 2* (Hudson Soft, 2000). These cases come under one of the categories of so-called zero-player games (Juul & Björk, 2012). However, the broad appeal of these modes did not develop much of an audience until the advent of livestreaming sites, most prominently Twitch.tv. For example, streams of various *Mario Party* games, disparagingly given the offensive ableist title 'Mario Retardy', pit 'bad' AI against each other (Hudson Soft, 2000; UltraNick24, 2013).

There are also autonomous AI robot competitions such as Robot Sumo or Robot Soccer where AI are often anthropomorphised as being foolish or othered (Robert McGregor, 2017; HTWK Robots, 2018). Inefficient or poorly performing robots have been the subject of entertainment more generally as well such as the work of robotics Youtuber Simone Giertz (The Late Show with Stephen Colbert, 2016). Johnson and Jackson (2022) have noted several cases that involve other nonhuman agents playing games over Twitch including algorithms, automated game systems, and, in one case, inputs triggered by a live fish. The viral sharing of mistakes by AI applications such as Alexa, OK Google, or Autocorrect are often presented as entertaining for the AI's unusual behaviour (Wood, 2014; Chokshi, 2018). Procedurally generated romantic matchmaking between AI in BadCupid (Kitfox Games, 2019) is another example of AI spectatorship. AI presented for the enjoyment of spectators or as an example of foolish behaviour has also been noted elsewhere (Wood, 2014; Gera, 2019; The Late Show with Stephen Colbert, 2016). A distinction is made between those AI that are intentionally implemented to be incompetent (BadCupid), those AI that emergently develop unexpected behaviour (digital evolution, artificial life, Mario Party,), and mixtures of emergent and designed surprising behaviour (Saltybet.com). Further to this study's relevance, games that involve pitting AI against one another (albeit at the behest of a human player) briefly grew in popularity within the 'Autochess' genre in 2019 (Carter, 2019). Despite all these various cases, almost no focused academic study of the topic of AI spectatorship exists which this paper seeks to examine as its focus.

One prominent example of AI spectatorship, that is the focus of this paper, is the streaming site *Saltybet.com* (Salty Bet, 2013b), mentioned briefly by Seering et al. (2017, p.2). Saltybet's popularity within a niche of the fighting game community has

been noted in games media (Caldwell, 2017) and interviews with the individual 'Salty' (the pseudonym of the human streamer who runs Saltybet streams) (McCormick 2013; Miller 2013).

Many discussions of AIs focus on their ability to be optimised for a specific task. Research concerning AIs that play games normally focuses on their capacity to learn or play in a way that is comparable to human players, such as the various Deepmind AI that have defeated professional players of *Chess, Go* or *DOTA2* (McAloon, 2019a; 2019b; 2019c) or to learn how to perform a very specific task within a game-space defined by a fitness function (Martínez-Arellano et al., 2017; Geijtenbeek et al., 2013). There has also been much recent discussion of the ethics of generative art tools (midjourney, DALL-E) or AI that use natural language processing (ChatGPT, Microsoft Bing), many of which have been mocked for their odd or unethical results or behaviour (Acres, 2023; Farrington, 2022; Mata, 2023).

In contrast, the research discussed here analyses how a specific spectating community (Saltybet) constructs the spectatorship of AI players presented for the purpose of entertainment. The entertainment appeal of AI spectatorship appears to stem from a mixture of the AI's behaviour, the visual depiction of an AI character as well as the context in which the spectatorship happens. Similar pleasure can be found in Lehman et al.'s (2018) account of failures or unexpected solutions by machine learning programmes given a task without specific enough parameters or ill-defined fitness functions, and it is noteworthy how many of the examples are highly entertaining.

The major goal here is to open a discussion on the place of AI designed to entertain as well as the use cases of AI that are sub-optimal or – to put it characteristically – 'foolish'. The research question that this paper seeks to answer therefore is: how is AI vs AI spectatorship constructed in online streaming chats (using the Saltybet community as a case study)?

Through the themes distilled from the analysis of its live chat, it will be argued that Saltybet spectatorship can be understood as an actively performed parody of the fighting game community that allows spectators to experience bizarre underdog narratives vicariously through foolish AI and enhanced by betting.

Case Study: Saltybet.com

M.U.G.E.N is a fighting game engine. Content is created by the community, and thousands of fighters, both original and from popular fiction, have been created.

 Saltybet's Nightbot's response to the chat command '!mugen', used to introduce newcomers to Saltybet.

Saltybet is the panacea to every sadness in the life

Saltybet spectator describing Saltybet

Saltybet.com (Salty Bet, 2013b) is a website that streams matches using a modification of the M.U.G.E.N. (Elecbyte, 1999; The MUGEN ARCHIVE, 2010) fighting game engine. The stream features fights between community-created characters based on popular fighting game characters and other pop culture characters while the spectating audience bet Salty bucks (S\$) on the outcome. S\$ can't be exchanged for any other realworld or virtual currency and hold no value outside of Saltybet.com. When a bettor's S\$ reach a value of 0 they are given a small amount to ensure they can keep betting some value. Saltybet betting predates gambling with virtual currency on Twitch first implemented in 2016 (Wood, 2016). Saltybet.com is highly relevant to research on the perception of AI as it is a prominent example of AI spectatorship in which spectators gather to watch AI fight against other AI, in other words there are no human players. A given AI character's ability is bracketed into tiers. This is done to balance matchups between AIs. I

Saltybet streams involve a betting phase that precedes a fight. During the betting phase, betting spectators can speculate on which character will win (expressed as betting on blue or red). Bets are frequently made based on the character's visual appearance, gambling fallacies, character loyalties (e.g. characters from a series such as DragonBall Z), traits such as having a sword (which makes it likely that a character will have large disjointed hitboxes, giving them a reach advantage) or prior knowledge of a specific AI. Spectators can pay a premium monthly subscription fee to have access to odds and 'behind the scenes' info on the roster of AI fighters (known as Illuminati) which allows them to make more informed bets. Bettors choose how many S\$ to wager based on their assessment of the AI which is repaid depending on the odds assigned to the character and whether they win or lose. Then the fight begins with a best of two or three rounds determining the winner. The stream has a relatively small but dedicated audience and has been running, almost continuously, on Twitch since May 2013.²

Although Saltybet can be watched on Twitch, the website Saltybet.com offers viewers additional features and a slightly different user interface to make informed and regular betting possible and relatively quick. When matches begin, it often quickly becomes clear which AI will win or lose due to certain behaviours or traits of the AI such as extremely damaging attacks, stun-locking an opponent so they cannot act, inactivity on the part of a poor AI or other similar behaviours. Throughout the betting and fighting phases (and like most streams on Twitch), a live chat feed can be seen next to the broadcast where players participate in discussion of the matches and *Saltybet* itself (see Figure 1). The stream rotates between three modes: matchmaking (free-form matchmaking used to refine balance), exhibition matches (themed matchups that can be requested by premium users) and tournaments.

Methodology

There have been many studies of Twitch spectatorship that adopt a variety of approaches to studying and collecting data (Harpstead et al., 2019). Data from chat is frequently used by many researchers as a point of interaction via ethnography, surveys, and other methods, often with the aim of understanding the audience as

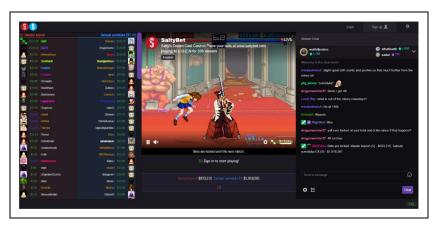


Figure 1. A screenshot showing the layout of a Saltybet stream. Bettor/bets information [left], Match stream and match information [centre], live chatlog [right]. (Saltybet.com, 2019).

participants or a community (Hamilton et al., 2014; Diwanji et al., 2020). Saltybet may not technically come under some definitions of online community since criteria like 'commitment to others' (Hammond, 2017) but the live audience could be considered a type of discourse community (Kehus et al., 2010). Thus, a direct way of looking at how Saltybet audience members construct AI spectatorship is through their live discourse.

Discourse analysis of live spectators of Saltybet is the approach taken to understand how the spectator experience of AI is shared and constructed by a small online community. To provide first-hand insight into Saltybet discourse, livestreams of Saltybet.com, the behaviour of the AI in the stream, as well as the behaviour of human spectators in the chat were observed. The aim is to generate discussion of themes derived from specific periods of streaming alongside a log and subsequent discourse analysis of the Twitch chat and streamed content. As discussed by Recktenwald (2017), discourse analysis of interactions captured during live streams can be useful in understanding how spectators engage with content, and this has not yet been done for AI spectatorship. Furthermore, Ford et al. (2017) note that Twitch chat discourse might be better understood by looking at specific factors, of which AI spectatorship constitutes a unique site since the absence of a human streamer and the novel content means that constructed spectatorship practice could be revealing.

When practicing discourse analysis, it is important to acknowledge the assumption that language usage constructs identity (in this case, that of a community) rather than revealing inherent truths about the subject (Phillips & Hardy, 2002, p. 85). Likewise, it is also worth acknowledging that the case study is a small snapshot of a longstanding and niche community, and that it is being examined through a lens that privileges AI as a unique aspect of that community. Not all possible voices will appear in the text analysed and there are more meanings and representations of the Saltybet community that are possible than can be fully ascribed here.

Observations were primarily made of tournaments which are special events on Saltybet.com in which a single elimination bracket is created from AI characters of roughly even ability. Spectators can more easily benefit from short-term legacy information that is inherent in tournament structures and so these tend to be more interesting for the betting audience, drawing larger audiences than the general streamed content which runs random matchups constantly. Tournaments also have a natural start and end point and are the densest in terms of chat activity compared to longer periods of unstructured stream content with little discourse. Since the stream runs almost continuously 24/7, no archives are kept by the SaltyBet channel except for short clips that are infrequently uploaded to the SaltyBet Youtube channel (last upload was in 2013) (Salty Bet, 2013a).

All the recordings of tournament footage, results, and chatlogs were done over the course of the 2-25 July 2019-6 years after the Saltybet channel first went live via Twitch. Overall, 15 tournaments were recorded. These broadcasts were recorded at various times of day between 9:00am and 00:00am BST. This was done to mitigate the issue of a standard recording time biasing results exclusively to one time zone or another. Theoretically it helps provide a cross-section of the audience rather than only one regional audience - however, anglophone, North American voices are largely dominant as is the associated cultural bias this implies. In total, the recordings resulted in close to 20 h' worth of footage and chat discourse. Recording was done for the rough duration of tournaments (which varied from 40 min to an hour long) with the author as a live observer keeping written notes during live recording to ensure a first-hand insight into the experience of spectating Saltybet for these specific events. Tournaments also provide a bracket which helps to give a traceable narrative structure to the collected text data. Helpfully, a chatbot on Saltybet announces character matchups when betting closes so there is a record of matches played in the chatlog itself.³ Transcripts are quoted in this paper and where emotes have been used they have been left as the raw text command but underlined to help the reader more clearly see where they have been used and to distinguish them from text communication. Spectators' usernames have been coded with the number of tournament and the number of the spectator in order of appearance in the extract e.g. Tournament 5 Responder 6 would be 'T5R6'.

To record discourse for discourse analysis, a twitch chat scraper was used to record chatlogs directly from Twitch. The scraping tool used in this study was a modified version of an open-source scraper originally created by Brendan Martin (2019). The final script used was an edited version of the above developed by the authors (See Appendix 1). The script collects raw text data from the Twitch internet relay chat and converts it into a raw text file as well as an Excel document that organised individual words by frequency. The date, time, username, channel name and message content were collected. Emotes are converted to their raw text equivalent e.g. 'wtfsalt' corresponds to Figure 2. Although chat participant data is not explicitly private or forbidden by Twitch from use, it was anonymised to protect users as they have not consented to be recorded (Twitch.tv, 2023a; 2023b).

Although this research involves the collection of raw qualitative data from the chat, the subsequent interpretation is done by an informed observer who is familiar with



Figure 2. The 'wtfsalt' emote. Emote is normally an animated gif.

Saltybet and fighting game techniques and terminology. This obviously biases the interpretation of the data and risks a lack of critical distance from the subject, but it is argued here that an expert perspective is needed to make sense of an, at times, incomprehensible community discourse. This research requires some degree of informed engagement that helps cut through some of the 'noise' of Saltybet's chat which, as is shown later, features a highly ironic tone, slang, and community in-jokes. Irony is identified here not as a colloquial defense of behaviour (e.g. "I was only being ironic"), but a genuine category of technique in which opposites are frequently juxtaposed often humorously. This is sometimes done towards toxic ends and sometimes not, but the identification of irony should not be seen as a defence of any given behaviour, only an observation of what took place in the Twitch chat. The issue of bringing familiarity to the analysis of data has been noted before by Cheung and Huang (2011) when approaching the analysis of transcriptions of streamed gameplay on Twitch.

The data were analysed in Excel to determine common words, phrases, and themes, and to look at the discourse for individual tournaments as well as in aggregate. The qualitative insights and discussion of the resulting themes are seen as the main takeaway in terms of the character of the discussion rather than only what words literally appeared the most in discourse. Given the ironic and highly context-dependent nature of the Saltybet tournaments recorded, it was not a priority to provide a comprehensive quantitative analysis of the discourse, but some quantitative analysis is insightful when supporting the existence of certain trends.

Discourse Analysis Findings

AI spectatorship is not necessarily reflected in the most common topics, words, or phrases, but does manifest in some surprising ways and certain patterns of discursive behaviour reveal a lot about the nature of engagement with Saltybet and AI spectatorship. In the chat log itself there is a lot of noise, and several bots dominate the conversation with one ('WAIFU4u') announcing matchups and betting odds for every new match as well as requests for information and another (Nightbot) speaking when given specific commands by chat. While it is tempting to discount bots since they aren't really members of the Saltybet community, they are actors in the Twitch discourse that inform its construction and usage, even if just to provide information or regurgitate memes. Emote usage is consistent throughout, as is slang, various memes, and in-jokes. The tone of the Saltybet chat is highly ironic in tone which can make it a slippery subject for analysis but is also revealing about how the community of Saltybet construct spectatorship of AI.

After an initial word count, discounting typical stop words, punctuation, and usernames, some of the most common words were gathered in Table 1. Context is always important when analysing the words in aggregate. For example, one of the most popular phrases of the first tournament was 'mudamudamudamudamudamuda' (and variations with differing numbers of 'muda's). This references the Jojo's Bizarre Adventure fighting game (Capcom, 1998) which is itself a reference to the use of the Japanese word 'muda' [translating to 'useless'] in the original Jojo's Bizarre Adventure manga (Hirohiko Araki, 1987). In the original manga, it is used as a sort of insulting battle cry where a major villain repeats it rapidly while attacking one of the series protagonists.

Some tournaments produced unusual results which have been discounted from the general discussion of AI vs AI spectatorship as they are not seen as relevant enough or common enough to help answer the research question. For example, tournament 12 happened concurrently with a political event which led to lots of 'off-topic' discussion, particularly regarding American presidential politics. The word 'trump' features 60 times in this tournament making up the majority of mentions in the overall dataset suggesting that political events are not always a regular talking point. Even when they were, the community moved quickly to reject trolls and move conversation to be 'on-topic'. Saltybet's relatively niche audience aims to preserve itself and the focus of the streams when tangents threaten to overwhelm the discourse:

T12R1: Don't engage with T12R2. It's just going to lead to more BS. Also I don't trust anyone with 88⁴ in their name that defends trump.

[...]

T12R3: This is not the kind of SB [Saltybet] chat I wanted to see this morning

Thus, it is important to remember that contextual examples chosen here often draw focus towards the most prevalent themes while also looking at the broader picture of the all the logged discourse.

 Table I. The Most Frequent Words with More Than 20 Total Occurrences Across all Discourse.

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Bracket	842	Mostly used by chatbots during automated updates of tournament brackets but also a twitch command !bracket for users to acress the bracket standings via a byperlink		Yes
Tier	109	Spectators discussing the appropriateness of tier rankings of various AI but also a twitch command for finding out which tier the current tournament is balanced around		Yes
Saltybet	476	Reference to Saltybet but shows up very frequently in automated messages about the channel. Users also refer to Saltybet as 'SB'		
LUL	462	Expression of laughter to funny, improbable, or unfortunate circumstances	Yes	
Tournament	419	Mostly used by chatbots in automated announcements but also used to discuss tournaments		Yes
PogChamp	354	Expression of excitement or hype. Features in Twitch command! real [see real below]	Yes	
Song	296	Discussion of songs but mostly twitch commands for the currently playing song		Yes
ΑII	257	Used most often in the phrase 'all in' and variations, referring to betting all money. Used in other absolute phrases		
Lol	255	common slang responding to funny, improbable, or unfortunate circumstances.		
Tourney	243	In reference to a tournament. Does not appear in automated messages		
Kappa Fuck	241 234	Expression of disbelief or sarcasm	Yes	

Table I. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Muda	231	common expletive. Mostly used to express distaste for a character, confusion, or as a verb e.g., 'fuck em up' Frequency inflated by the nature of usage. Also a response to the		Yes
		twitch command 'dio2. Reference to a rapid attack itself in reference to Jojo's Bizarre Adventure as in 'muda muda muda'		
Characters	226	Automated messages announce how many characters are left in a bracket after a match		Yes
WtfSalt	203	An icon for Saltybet, often used to celebrate a betting victory or hype	Yes	
Shit	185	Common expletive, usually meant in a generally negative sense		:
Real	991	Often used to mean a 'real match' Also less commonly a twitch command !real for the following message: 'PogChamp FINAL ROUND HYPE! PogChamp'		Yes
Always	091	As in 'always bet on [x]'. A common refrain and one that shows up in several automated messages. Reflects the absolute nature of many fallacies		Yes
Notlikethis	611	Expression of defeat or loss	Yes	
Upset	117	Reversal of fortune in a fight, or an underdog defeating a fighter with greater odds		
Never	112	Used in a general sense but also in opposition to 'always' e.g., 'never bet on' reflects absolute phrases like 'Touhou never lets you down'		
Pog	93	Used mainly in exclamations: god damn, oh my god, oh thank god, god I love. Also sometimes used to refer to very strong characters or 'god tier'		

Table I. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Wow	93	Common Exclamation, sometimes sarcastically used		
Salty	06	Slang for being angry or upset at a loss in reference to how one's		
-	ò	Tace might look after eating a large amount of sait		
Sword	98	A common character archetype. Characters with swords have large disjointed hitboxes giving them an advantage in terms of reach		
Scam	77	A reference to the timer of a match running out 'timer scam' or a fighter being cheated in some other way		
Super	76	Commonly a reference to a 'super attack'. Otherwise a general modifier		
2hu	75	Slang for Touhou, a common character archetype that uses screen-filling projectile attacks, usually a character from the popular Touhou series		
Ass	17	Used colloquially 'kick his ass', in a negative sense 'that character is ass', or to refer to characters physical appearance and actions		
Best	71	General usage as an adjective to describe various things including characters		
Dead	71	commonly used in the phrase 'they are already dead' and similar variations to refer to characters that have lost or are about to lose. A meme referencing an absurdly threatening line from the anime series Fist of the North Star in which the protagonist says 'You are already dead' to an opponent before beating		
Donald	89	A malapropistic reference to the fast food mascot Ronald		

Table I. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
		McDonald. Notably never used to refer to Donald Trump, see trump below		
Flipcoin	89	twitch command for flipping a virtual coin to help bettors decide		
Gief	89	Short for Zangief, a popular Street Fighter character known for his grapple moves. Common template for MUGEN characters		
₩ť	99	General exclamation of confusion or unexpected outcomes. 'Wtf is this adaptive AI?'		
Kreygasm	63	Expression of intense pleasure, usually after a win	Yes	
Matchmaking	63	almost exclusively used in automated messages announcing new matchups as well as in response to the twitch command! remaining which notes remaining matchmaking before a		Yes
		tournament begins		
Trump	09	Most often refers to former US President Donald Trump (almost entirely in Tournament 12), much less commonly used as a verb		
Dbz	29	Dragonball Z, a famous manga and anime series - a common character archetype based on Dragonball characters. Also a Twitch command that brings up various meme messages such as 'Always sometimes never bet on DBZmaybe OneHand'		Yes
ojo	58	In reference to Jojo's Bizarre Adventure (or similar) characters [see Muda above]. Used in the Twitch command !jojo which retrieves 'You were expecting a real fight, but it was me, Dio!' usually in the presence of characters based on Dio Brando a character from Jojo's Bizarre Adventure		

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Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
0-3	55	Twitch chat command !0–3, indicates a steamroll victory where one player wins 3 rounds to the opponent's 0. Summons the bot message '(Yes
gg	55	have you surrounded. (

The formal content of the discussion breaks down similarly to other active Twitch chats, particularly competitive fighting game streams that include the prevalence of emotes, memes, insults (directed at the players), words of encouragement, hype, and automated messages from bots regarding tournament structure. There is also what Ford et al. (2017) dubbed the Twitch chat's collective reactions to events on stream as 'crowdspeak'. It can be seen during saltybet streams but due to the low number of viewers (200–400) generally it is not as intense as major esports streams except during particularly climactic matches.

Word frequency, as shown in Tables 1 and 2 and charted in Figures 3 and 4, does sometimes indicate a particular topic's prevalence or a sense of how AI vs AI spectatorship is constructed but in a general way. To better understand the core of AI vs AI spectatorship, the words were organised by prevalent themes that were pervasive across the discourse (see Table 3). It is tricky to separate commands, responses, and 'genuine' discourse, and it was considered useful to include Twitch commands in the analysis, despite their large prevalence in the data (as illustrated in Figure 3 and 4), as commands were frequently used as shorthand for memes and help paint a picture of the values of Saltybet spectators. Much of the discussion and response to the AI play was characterised by various qualities of AI but also more self-reflexive performance of FGC and discussion of Saltybet culture itself. Thus, the construction of AI spectatorship of Saltybet can be discussed across eight common themes coded to the common words and phrases in the dataset. This is presented in Table 3 in order of most-to-least prevalent.

Since some themes are more prevalent than others in the dataset and to simplify the discussion, they have been grouped by their thematic relevance to one another to structure the discussion like so:

- 1. Spectators Discussing Qualities of an AI character
 - (a) Perceived Quality of AI Play
 - (b) AI characterisation (Positive or Negative)
 - (c) Shared Pop Culture Reference
- 2. Performance of Saltybet Spectatorship
 - (a) Gambling Strategy and Outcomes
 - (b) Reflexive Spectatorship of Saltybet
- 3. Miscellaneous Tournament Information and Music
- 4. Perceived Foolishness

Spectators Discussing Qualities of an Al Character

Perceived Quality of Al Play

When discussing the unusual appeal of AI borne of digital evolution, a key issue for Lehman et al. (2018) is whether the behaviour is surprising. They categorise three behaviours that result in surprise:

 Table 2.
 The Most Frequent Words with More Than 20 Total Occurrences Across all Discourse.

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
SourPls Odds	55 54	Expresses celebration or the act of dancing more generally Discussion of betting odds. Also a twitch command lodds to	Yes	Yes
Salt	54	retrieve odds data for the current matchup. [See salty above]. Sometimes used in response to a twitch		Yes
		command !mines which gives: $(\delta(4))$ OFF TO THE SALT MINES $\delta(4)$ 9'		}
Damage	52	Usually refers to character damage output, particularly when it is high		
Нуре	52	Used literally to express an exciting moment. Also features in the Twitch command !real [see real]		
Author	21	Term for an Al character's creator. Commonly used as a twitch command !author which retrieves the author's name		Yes
BibleThump	47	Expresses sadness or upset usually at a loss. Appear in response to twitch command !butthurt which retrieves: 'EVERYONE I BET ON LOSES BibleThump'	Yes	Yes
Goku	45	A famous Dragonball Z character. Common template for characters		
Love	45	Expression of affection for AI characters and their strategies as well as specific tournaments but also named pop culture, games, and game developers generally. Sometimes directed at other users or the Salrybet community		
Music	45	Used generally to discuss music positively or its appropriateness to the current context. Occasionally used as a twitch command !music which names the track currently playing		Yes

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Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
ORA	45	A counterpart to 'Muda' [see above] commonly used as a response, as in 'ora ora'		
Canon	*	Referencing the resemblance of a matchup to fictional canon or, humorously no resemblance to a canon fiction. Mock usage of a non-existent Twitch command !canon		
Dreams	43	Bot response to twitch command !shia or !shia3 which retrieves 'SwiftRage DONT LET YOUR DREAMS BE DREAMS SwiftRage' and 'SwiftRage MAKE YOUR DREAMS COME TRUE! SwiftRage' respectively		
Hyper	43	Mainly discussion of a character called Hyper Beast		
Wutface	42	Expression of shock or anguished disbelief, usually in response to a loss or an upset	Yes	
Ρį	42	explicit reference to the ai of a character, also the name of a prominent Al author that came up in response to the lauthor command 'Yuka Ai'		
Dansgame	4	Expression of revulsion, anger, annoyance		
Let	39	Usually used in the phrase 'don't let [an opponent win]' as a desire for their character bet to win. Also features as a general word in the Twitch command !shia		
Let's	39	Most commonly in the phrase 'let's go' and variations with different numbers of 'o's. Features as a general word in the Twitch command !tmnt		
Bs	38	'bullshit', usually in response to an undesirable outcome or perceived imbalance		

Table 2. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Fish	38	Mostly in reference to a character based on Wasagi-hime from Touhou who resembles a mermaid. Character made it to round 3 of tournament 3 where the majority of mentions are from		
Monkas Failfish	38 37	Expression of anxiety or tension Expression of failure or loss	Yes Yes	
Free	37	Used broadly and generally. Most often to describe a fighter who is easy to defeat, a 'free victory', or refers to 'free' money from an easy bet		
Geese	37	A reference to Geese Howard, a notoriously difficult boss character from the King of Fighters series who is a template for many AI characters. Also used as a Twitch command! geese2 which retrieves 'I HAVE BEEN WAITING FOR YOU SoonerLater'		Yes
TriHard	37	Used to express excitement but unfortunately also used for racial discrimination against black people and characters more broadly on Twitch. Appears most frequently in a Twitch command message used when characters are defeated by taking 'chip damage' while blocking. !chip retrieves 'WHO GOT THE DIP? TriHard'	Yes	Yes
Bot	35	Reference to a chatbot. Mostly used in a discussion in tournament 10 where users accuse each other of using chatbots		

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Anime	dataset	Specific meaning in Saltybet context	Emote?	automated messages?
	32	Used humorously whenever characters inspired by anime or music from anime appears. More specifically the nature of fights that use lots of anime style super moves 'real anime fight' or flippant references to canon 'this isn't how the anime went'		
Mexi	29	Short for Mexican, somewhat derogatorily used to refer to a character with unusual stats e.g., 'mexi damage' meaning unbalanced high damage. Used as a prefix for many specific attacks and archetypes e.g., mexibeam, mexiDBZ, mexisword etc.		
Mugen	29	The game engine used by Saltybet. Discussed reflexively in terms of MUGEN's features like AI, sprites etc. and how some character designs exploit its features to make unbalanced characters. Several spectators claim to use MUGEN		
Norris	29	A reference to Chuck Norris and the associated meme in which Norris is characterised as extremely powerful. Discussion centres around a Norris character		
BabyRage	25	Usually used to express upset about a loss, commonly used ironically. Frequency inflated by users using it multiple times in a single message	Yes	

Table 2. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Meta	25	Mainly referring to a character called brawl meta knight. Meta knight is character from the Kirby series who was notoriously overpowered in the fighting game Super Smash Bros. Brawl. The character made it to the quarter finals of their tournament.		
Meter	25	A resource that allows characters to do super moves. Discussion mainly focuses on strategic use of meter or game balance.		
Touhou	25	See 2hu above		
WtfSALTY	25	Mascot of Saltybet. Used to express pleasure or victory. Mostly used in automated messages by bots to thank viewers for watching	Yes	Yes
Beam	24	A type of projectile attack that fires a sustained laser beam across the screen. Considered a strong move due to how they shut down the opponent's movement options. Often used together with mexi-		
ď	23	'overpowered', in reference to characters		
PJSalt	23	Icon expressing salt i.e., displeasure. Used most often when a character is clearly losing or the results of a match are confirmed. Can be used ironically and frequency inflated by use multiple times in a single message.	Yes	

Table 2. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
RaccAttack	23	Emote that has a very general usage. The emote is a Racoon's head and is mostly used in reference to a specific character 'rascalex' who is, humorously, just a racoon. The emote's usage doesn't seem to mean anything in more general contexts (although there is one controversial example where it is mixed up with a racial slur). Here it is a direct referent to a racoon.	Yes	
SeemsGood	23	Expressing approval. Infrequently appears in a twitch command message in response to !UPSET which retrieves 'Isn't over till the payout SeemsGood'	Yes	Yes
Dumb	22	Commonly used to anthropomorphise AI and their decisionmaking or balance		
CarlSmile	21	The emote is a man smiling while looking upwards, but in an ironic fashion used to express weary familiarity with the associated text. Almost exclusively used in a twitch command !dbz which retrieves the familiar refrain 'Always bet on DBZ CarlSmile'	Yes	
Hitbox	21	A bounding area usually hidden on an invisible layer of a character sprite that registers whether attacks collide based on the overlapping of the bounding 'hurtbox' of a character and the incoming 'hitbox' of their opponent. In discourse it is used to discuss the balance or characteristics of a given characters hitbox or hurtbox		

Table 2. (continued)

Word	Frequency in dataset	Specific meaning in Saltybet context	Emote?	Notable presence in Twitch commands and/or automated messages?
Jebaited	21	Used to indicate a situation in which one opponent 'baits' another into acting to their disadvantage. Usually used to specifically respond to baits in competitive gams but arguably ironic in all cases in Saltybet since the Al that play can't really be said to be strategising to the level of intentionally baiting an opponent into a particular situation. Can be used more generally to highlight the desired character lost. Also occasionally present in the twitch command !fair 'X vs P	Yes	
MrDestructoid	21	confirmed! Jebaited' in reference to saltybet tiers Usually used in reference to AI or characters that are fictionally robots. Also a twitch command !infiltration which retrieves 'DOWNLOAD COMPLETE MrDestructoid' - used only	Yes	
WtfMiner	21	once Humorous reference to one who has lost a lot of money and must 'return to the salt mines'	Yes	

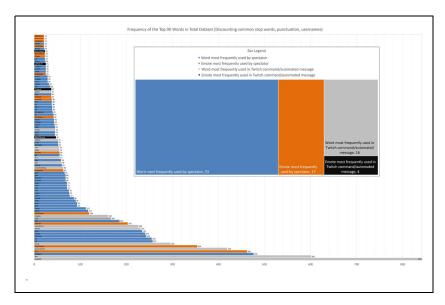


Figure 3. The most frequent words charted from data in Table I. Treemap indicates proportion of words/emotes used by human spectators/in automated messages.

- 1. subverting expectations,
- 2. exploiting bugs
- 3. going beyond expectations with good solutions

Although the AI featured in Saltybet do not originate from evolutionary algorithms or machine learning like those examined by Lehman et al. or Heess et al. (2017) (Saltybet AI are all finite state machines (Orkin, 2006)), spectators make many qualitative assessments of them in the context of competitive viability or learning behaviours (often ironically). The surprise is dependent on the same thing in both cases, expectations that are tested by novel behaviour on the part of the AI.

Cheung and Huang (2011) highlight that suspense is a key motivation to spectate games which is further supported by Karhulati (2016, p.10) and Wulf et al. (2018, p.16). Cheung and Huang use the concept of 'information asymmetry' to discuss how players and spectators will have different known and unknown information available to them leading to suspense. They note that: 'All information asymmetry is reduced and eliminated as the game progresses. But as the information is revealed, the spectator is entertained in the process' (Cheung & Huang, 2011). Information asymmetry may be what makes Lehman et al.'s (2018) surprising AI entertaining and is likely at work in the appeal of AI spectatorship in the case of Saltybet; however, it is may also be related to the uncertainty derived from the appeal of betting on the AI (discussed later).

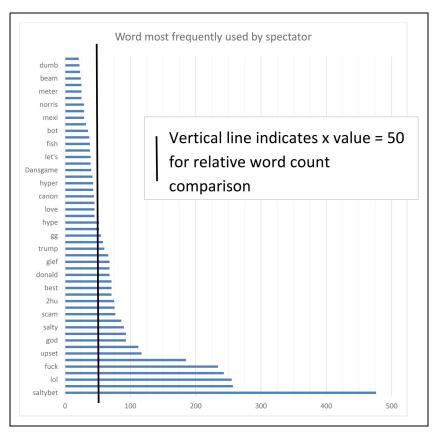


Figure 4. Bar chart multiple of the most frequent words divided by words/emotes used by human spectators/in automated messages. (continued)

Surprise is expressed in the chat logs of tournaments during 'upsets' where an AI comes back from a point lead or an underdog with low odds performs significantly well. Spectators often characterise positively the quality of play, generally by whether an upset happens or not, framing their enjoyment of the uncertainty of AI in terms of climax and anti-climax. In short, close matches, or matches where reversals happen are more exciting than matches that are no contest – much like other forms of game spectatorship. This usually manifests in simple expressions of surprise e.g. 'PogChamp', 'wow', 'upset', 'clutch', or describing the match as a 'real' match specifically one in which it reaches the final possible round of a best of five sets. The word 'dream(s)' is common to Saltybet discourse and often reflects the desire for an upset. Depending on how an underdog character is doing spectators may claim 'the dream is alive!', 'dream.exe is installing!', or when the underdog's upset is stymied, 'dream.exe has crashed'. Surprise is also a factor during the betting phase which

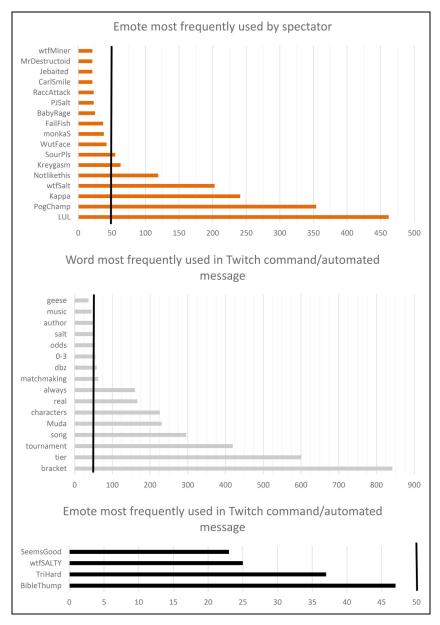


Figure 4. Continued.

Table 3. Themes and Theme Frequency Derived Using Table 1 Where Each Count is a Theme Associated with a Word. Words/Emotes Can Be, And Were, Associated with Multiple Themes.

Theme	Theme Description	Number of [the most frequent] words associated with theme
Theme I: Tournament Information	Schedule and other information (tiers, brackets, Al authors etc.)	11
Theme 2: Al Characterisation (Positive or Negative)	The characterisation of an Al character's behaviour. Can include positive anthropomorphisation or negative othering	44
Theme 3: Perceived Quality of Al Play	The perceived game balance, abilities, and the quality of play demonstrated by the AI – positive and negative	62
Theme 4: Foolishness	Foolishness characteristic in the discourse	63
Theme 5: Reflexive Spectatorship of Saltybet	Reflexive discussion of the Saltybet stream/community, fighting game tournament spectatorship, and MUGEN AI creation subculture	38
Theme 6: Music	Discussion of music played during the stream.	7
Theme 7: Gambling Strategy and Outcomes	Discussion of gambling strategy and outcomes	52
Theme 8: Shared Pop Culture Reference	References to fighting games, anime and other popular media usually via memes or other shared intertextual knowledge about that character	18

lasts around a minute and in which spectators have only the physical appearance of the AI's idle animation and name as information when making their decision.

Discussions about what constitutes good, bad, or entertaining play and the balance of Saltybet itself come up often, usually because of a specific AI behaviour that is perceived as dull or unfair. While the concept of fairness is wrapped in a veneer of 'sporting' morals (particularly in nonhuman contests (Kalof & Taylor, 2007, p.323)), it is likely that the balance is required purely because the exercise would be otherwise dull for spectators – something commented on in the chat.

T7R1: element is one of the most op fighters i've ever seen in S tier

T7R2: ALWAYS BET PERIODIC TABLE

T7R3: damn my money real bad right now

T7R4: $\$73064 \rightarrow +\$22521 \mid 1:3.2$

T7R5: all of her attacks always hit it seems

T7R6: Element wins so often

T7R7: She isn't demented enough to leave S though

T7R2: $$2289 \rightarrow +$706 \mid 1:3.2$

T7R8: cause while Mugen is fun to watch, it does get boring after a while seeing mexi or i-frame abuse

T7R2: and thats after all in on the last 4 matches

T7R9: Fire Water Wind and Wight

T7R1: @T7R7 for sure. she's just super strong

T7R10: Element got eliminated in the first round of the Grand S tier championship TPFufun

T7R2: got a whole massive 3k

T7R2: :1

T7R6: really? Interesting

T7R11: characters that break fighting game rules/mechanics like having startup or vulnerability frames are kinda dumb

T7R2: dspPepe FeelsFuckingBADMan

T7R1: maybe SS tier should be all Tourney winners

T7R12: gdqAAAH riPepperonis method7JV

T7R8: @11 ez_eight they should make a new tier LUL

T7R13: they are dumb and broken, but fun to have around

T11R1: This has been the biggest job fair ever

T14R1: this character is broken holy shit

The same can be seen in Saltybet where imbalanced matchups are met with negative criticism. Despite this, imbalanced, 'OP' [overpowered], or 'broken' characters are often discussed or fondly remembered by the community (such as in one famous case where AI inaction was interpreted as a mid-match dance-off) (Salty Bet, 2013a). They are even regarded as key to entertainment in specific cases by Salty:

As long as the character doesn't crash the game/system, they will probably make at least one appearance. If they end up in the roster and fail to entertain, they may be removed. Some people like to see very balanced characters and matchups which I understand, but you won't get the fun Radish & Barney dance party moments without a few broken characters. (McCormick, 2013).

Salty did once try to implement an automated balancing tool ('autobalance' or 'upset modifier') which would adjust a character's health based on their odds. However, it was controversial and poorly received due to not being explained when first implemented (McCormick, 2013).

Discussions of quality often insult or compliment AI depending on the perception of them. Some treat the AI as if they were a human player without reference to them as AI, although this is usually done knowingly as a form of humorous irony. Spectators are clearly aware that the fighters are AI and judge their quality along those lines as well. Variations of 'AI', 'robot', and the emote 'MrDestructoid' are not always explicitly used in reference to the AI as AI, but it does happen (although it is sometimes mixed up in discussions of those characters that are also *fictionally* robots).

T4R1: Ichirin looks like she has p bad AI

T7R8: one-trick AI going on there LUL

T7R14: I don't understand how these matches can be so close then so incredibly one sided.

T7R13: she always spam the pig move

[...]

T7R8: @T7R14 the AI just goes stupid at times

T10R1: that's how it be a lot of the time. AI matters

[...]

T10R2: Wtf is this adaptive AI?

T11R2: whay are ais such fucking idiots?

T13R1: Why does she rush in if she has a ranged, AI y

T14R2: The DBZ fighters of this model type always seem wonky. Either they charge up all the time or their AI is all over the place

T15R1: this vegeta is so well made

T15R1: its reminds me of goku hell

T15R2: wtf am i watching

T15R3: vegeta has a pretty nicee ai

T15R4: >vegeta's AI good

Slang and memes are frequently used to refer to the quality of AI echoed to acknowledge certain characters for famous catchphrases or repeated verbal barks (e.g. 'mudamuda'). McCormick (2013) details the unusual origins of the offensive term 'mexibeam' refers to high-damaging attacks. The inverse (and less commonly discussed) 'Canadian damage' refers to unusually weak characters through a US-centric metaphor which frames Canadian-ness as a sort of deficient version of a 'regular' character. The ethnically charged 'mexi-' prefix has been tacked on to other words: health, to indicate an inflated hit-point pool; damage, to suggest the character hits too hard.

T4R2: that sword must be made my mexicans judging that kind of power Kappa

T7R8: cause while Mugen is fun to watch, it does get boring after a while seeing mexi or i-frame abuse

T8R1: what the fuck is his hitbox LuL

T8R2: so why does minecraf-

T8R3: WHAT

T8R4: HAHAHAAH

T8R5: LOL

T8R6: oh

T8R7: this is gonna be terrible past first round with mixed tiers

T8R8: MEXICO

T8R9: MEXI

T8R10: oh okay

T8R11: evo17Mexico evo17Mexico

T8R12: WutFace

T8R13: LUL

Due to the familiarity of Saltybet's small but dedicated audience with M.U.G.E.N., almost no spectators display appreciation for AI on a formal technical level. When an AI is received favourably by the audience, appreciation turns to the anthropomorphised character of the AI rather than the AI itself. Ronald McDonald templates are infamously powerful in Saltybet, and enjoyment of the AI's skill tends to focus more on the humorous juxtaposition of a corporate mascot with its bizarre but effective fighting style.

AI Characterisation

In their discussion of why we watch others play, Taylor summarises: 'Simply put, there is no single reason' (Taylor, 2018, p. 39) and that several motivations are at work in a complex web. The question of why people spectate AI likely has a similar answer but the factors and reasons for the appeal may not necessarily be the same simply because the spectator knows they are not watching a human player. Many spectators watch others play games to see a game played well, to an extraordinary level of skill, for suspense, or to see a specific person's style of play (Taylor, 2018, pp.92–93). When spectating AI, the appeal of watching another person turns to questions about what makes an AI an entertaining agent to watch. The quality of play that many AIs demonstrate varies a lot and there are cases where it can be entertaining to watch an AI do something where the same would not be true for a human player and vice versa.

Unlike human matches, AI in Saltybet cannot really be said to be engaging in mind games since their strategies are broadly deterministic. However, they do sometimes display unusual behaviours that could not necessarily have been predicted, especially by the spectating audience that is usually unaware of how a given AI is programmed. Examples include repeatedly using the same attack to exploit defensive behaviour in an enemy AI; inhuman reaction times; unusual movement such as ducking repeatedly (such as the aforementioned 'dance-off'); avoiding all enemy attacks because of idiosyncratic movement, AI glitching, or crashing the game and even doing nothing. Thus, in order that the audience understand or rationalise otherwise bizarre behaviour, we can see characterisation happening.

As identified by Taylor (2018), Sjoblom and Hamari (2016), Hamilton et al., (2014, p.5) and Wulf et al. (2018, p.7), a major part of the appeal of spectating the play of others is the presence of a professional player or the content-creator/streamer, their personality and how they engage with their audience. Taylor states that esports streamers focus on a specific title, a love for competitive gaming as well as the specific player's skill whereas 'On variety channels, the personality of the broadcaster is so central to the content of the channel that they become the anchor' (2018, pp.92–93). The appeal often revolves around the player/streamer. Saltybet is closer to an esports stream given its competitive nature, but without any human players whatsoever. The streamer, the eponymous Salty, never speaks or shows themselves during streams and the streams are heavily automated via bots and anonymous staff present in chat or behind the scenes for matchmaking and tournament brackets. Because of the lack of a human presence, the spectating audience are keen to see personality where there is arguably none.

In discussion of the aesthetics of fighting games and the board game Go, Johnson and Woodcock (2017) note that spectator appreciation is aligned to the ways in which different games can be mediated as well as the different skills the games employ. For fighting games, they determine two major ways that this aesthetic value manifests that meet (or challenge) different social expectations of competitors: courteous sportsmanship and rebellious braggadocio. AI can't really 'perform' or intend to meet social expectations and so characterisation steps in to make AI spectatorship align with fighting game spectatorship generally. The narratives constructed by the spectating community of Saltybet must fill in a make-believe aesthetic that the 'players' are engaged.

In their paper on 'nonhuman streamers' Johnson and Jackson note the 'agency gap' which can be observed also in Saltybet streams: '[w]e use this term to refer to the observation that in these channels lacking a human agent — an agent who can talk, engage, interact, joke, as well as playing the game itself — the audience increasingly seems to 'take up the slack' in generating ideas of intentionality within that channel' (2022, p.443). They argue that having no human focus 'democratises' participation and spectators must provide context and commentary instead. Saltybet is framed in a similar way to Twitch livestreams of fighting game tournaments between human opponents, but since it lacks live audio commentary the discourse in the Twitch chat takes on the descriptive and narrative work when it comes to matchups, game information, and flavour commentary. Thus, an agency gap exists in Saltybet which is filled by characterisation to explain AI behaviours.

Some AI are characterised as exhibiting rude, disrespectful, or honourable behaviour. Other times they are 'scammers' or simply 'broken'. Characters are sometimes referred to, often disparagingly by their intelligence ('potato', 'dumb', and 'stupid').

T8R7: minecraft goku has a mexibeam that he is often too stupid to use

[...]

T8R15: this darth vader is so stupid haha

[...]

T8R16: stop getting so close dumb bird

Despite many Saltybet spectators apparently enjoying the process of characterisation, there is a dual understanding of Saltybet AI as being entertaining but also poorly designed and the sentiment expressed can be positive, negative, or an ironic mixture. However it is expressed, there is a sense that the AI are often subordinated due to their perceived foolishness. It could be seen as comparable to other cases of spectating nonhuman combat given its widespread, if dubious, appeal.

In his discussion on the moral agency and patiency of machines, Gunkel suggests that: 'the exclusion of the machine appears to be the last socially accepted moral prejudice' (2017 p.131) in reference to the disputed moral agency/patiency of machines. A prevailing view is that moral agency, especially in terms of culpability, resides only with humanity (Gunkel, 2017, p.27; Floridi & Sanders, 2004). Meanwhile, computers are argued to be a tool like any other that can be used to achieve various moral aims. AI and ethics researcher J.J. Bryson (2010; 2018), a prominent sceptic of awarding rights to AI, reminds us that AI are no more than a medium or tool that can be used in different ways, some of which may be unethical. Despite rational arguments that confirm machines as having no moral patiency (Gunkel, 2017, p.26, p.96), the anthropomorphisation of AI is still prevalent in society most likely due to the Eliza effect whereby people interpret superficially complex actions as genuinely intelligent (Fauconnier & Turner, 2002, p.5). The implication of prominent philosophical arguments like Bryson's is that the 'suffering' of AI is morally acceptable (Gunkel, 2017, p.153). One can humiliate them as much as they like without feeling ethically compromised and, indeed, their foolish behaviour is highly attractive as it may suggest using them for this purpose. In this sense, AI spectatorship could be seen as a morally acceptable alternative to other nonhuman combat games such as dogfighting or cockfighting (Kalof & Taylor, 2007; Geertz, 2005, p.62). While Saltybet operates in a different cultural context and does not involve animals, it could be seen as a more sanitary alternative to other forms of nonhuman spectatorship towards a subject with no meaningful rights, although the Saltybet community do not generally make this explicit point.

Shared Pop Culture Reference

The Saltybet audience clearly shares a frame of reference through pop culture, specifically manga, anime, cartoons, corporate mascots, and videogames (particularly fighting games). Frequent mentions and memes relating to DBZ, Touhou, Jojo, Anime, as well as specific characters such as Geese (*King of Fighters*), [Zan]gief (*Street Fighter*), Donald (Ronald McDonald) show an awareness of Saltybet's inherently intertextual nature. Many of the AI fighters are based on well-known pop culture characters or behave in ways that can be interpreted as aligned with the character (or comically misaligned). The process of characterisation is further aided by the design of many AI

which can be said to be 'themed'. This theme can build off of an existing well-known character (e.g. Akuma from the *Street Fighter* series) or a distinct character concept such as 'Killer Whale' (a character that makes the stage appear as a pool, placing their opponent on a raft and only pops up as a killer whale to attack). This theming means that the underlying systems of an AI are costumed by a character that the audience enjoys demonstrating knowledge of via memes, in-jokes, or experience with popular culture.

T14R3: gotenks ai is garbage, jiust like the show

The absurdity of the improbable crossovers between different intellectual property mirrors that of the absurdity of certain AI behaviours. Knowledge about pop culture characters is also considered information for the purpose of betting and primes suspense. Simply, it is also appealing for spectators to see a beloved character act 'in character' and to perform in a way that confirms or subverts pre-existing knowledge about them. For example, Mega_Donald was a popular combination of Ronald McDonald and the Killer Whale character (See Figure 5) which along with its opponent, Chuck Norris EX, were the subject of much discussion in tournament 5 seemingly because of the outlandishness of the characters.

Performance of Saltybet Spectatorship

Gambling Strategy and Outcomes

It is quite hard to separate enjoyment of gambling from the construction of AI spectatorship by Saltybet's audience. Gambling as a means of engaging with the outcome is present in other similar cases such as animal fighting or other zero-player games which suggests gambling and nonhuman play are connected to heighten the surprise of something that is 'out of the control' of humans or as a basis to engage the community in shared activity. Streams of *Baseball Simulator 1.000* where players help create NPC AI and bet Twitch currency on the outcome of matches are another case where this happens on Twitch (Kyle's Stream Dump, 2022). While some have hypothesised that gaming habits may further lead to gambling habits via esports spectatorship, it is hard to tell from the discourse whether Saltybet's community likely gamble outside of engaging through Saltybet (Macey & Hamari, 2018, p.345). Saltybet spectators are clearly familiar with fighting games and the fighting game community since these can be classed as a form of esports, but gambling is often presented with absurd faux seriousness in the discourse and not often taken seriously.

The topic of betting strategy stood out as prominent in the chatlogs, second to direct discussion of the characters and balance of Saltybet. As mentioned before, Saltybet also allows spectators to bet S\$ on AI matches but the same system is used on real fighting game tournaments (between human players) and the Saltybet streams were originally developed to maintain interest on fighting game channels when no regular tournament was being broadcast (McCormick, 2013). Salty mentions



Figure 5. Chuck Norris EX vs Mega_Donald.

in an interview, gambling is a way of guaranteeing further interest from the spectator. Although players can bet on the outcomes of matches, the Saltybet streams do not always feature the behaviour that might be expected of habitual gamblers, mainly because no real money is involved. Players verbally reinforce jokes about gambling fallacies and to lose all of one's money is often met with humour. Overall, there is an ironic flavour to betting in Saltybet, it is not (outwardly) taken seriously.

The ironic tone of the chat discourse is evidence of this as it provides no shortage of mock gambling superstitions and memes relating to bets. The frequent use of emotes (commonly the Kappa emote) after declarations about betting strategy or match results strongly indicates that chat messages are meant ironically, although this may just be a performative layer as other spectators did get apparently upset at major losses due to the time invested.

One of the most common fallacies is the recurrent meme that states 'Always bet on DBZ' (and other variants) which was a common rule of thumb in early streams since Dragonball Z characters tended to be powerful (McCormick, 2013). The statement's absolutist quality and the fact that spectators seem to constantly ridicule the advice suggests a general awareness of, and enjoyment of, known fallacies. Popular variations attribute success to characters that use swords (sword) or characters from the Touhou series (2hu). There is even a common counterpart in the form of 'never bet on DBZ', and other variants to push the opposite extreme. These absolute maxims are frequently echoed or ridiculed as part of the twitch commands spectators use. Many other humorous comments about betting can be seen in the chatlogs. Spectators exaggerate the negative effects of their loss.

T14R4: HERE IS WHERE I LOSE IT ALL

T8R18: this tourney isn't about money it's about the emotion

Or a send-up of the absolutist statements such as the response to the Twitch command '!dbz3' which returns: 'Always sometimes never bet on DBZ...maybe <u>OneHand</u>'. In one exchange players discuss the end of a poorly received tournament (tournament 8) where even winning a bet is implied by some to still be a waste of the spectator's time:

T8R19: Im not even mad

T8R18: that tourney gave me agita

T8R7: ban tourney creator

T8R20: no1FEELS

T8R21: that was free

T8R3: descolour DansGame

T8R22: That entire tourney was awful.

T8R23: Congratulations everyone, we've just wasted our time

T8R24: that tourney was fantastic

T8R25: @T8R23 not all of us

T8R26: it was amusing

T8R3: That tourney was amazing idk what you mean dude DarkMode

T8R4: got 100k, not completely waste Kappa

T8R27: @T8R23 welcome to SB

One could argue that Saltybet's construction of AI spectatorship is not primarily in the betting itself, although that is an enjoyable aspect. As gambling is an 'aesthetic semblance' of social mobility in Balinese cockfighting (Geertz 2005, p.79), betting could be thought of as an 'ironic semblance' of gambling in Saltybet. Since S\$ are not a real currency and cannot be exchanged for one, the semblance of gambling that exists most often leads to ironic commentary. As one spectator, outside of the dataset of this paper, once remarked 'if I lose this bet I will lose my house and my wife will divorce me'. However, it should also be noted that the betting happens every 5 minutes or so which works to develop a regular routine and rhythm to Saltybet spectatorship which is compelling by itself and not necessarily related directly to the presence of AI.

Reflexive Spectatorship of Saltybet

Bryson (Gunkel, 2017, p.26) describes AI as 'extensions of the user' as nothing more than media that can be used to various ends. The AI rather than just being the focus of spectatorship can also be seen as a focal point for a creative community. Following from this, the community and Saltybet itself were often the subject of reflexive discourse. Community and social interaction have been cited as a core appeal of spectating games (Wulf et al., 2018, p.9, p.16), and this is no different for Saltybet. Many streams form communities which are a major commonality between AI spectatorship and regular spectatorship. Saltybet has a peripheral community in the M.U.G.E.N. modding scene and the AI are enjoyed as artefacts created for entertainment, not just for their game balance or their unusual behaviour and the characterisation it allows.

T15R1: most of the pokemon characters are really well made

The tournaments observed showed several instances of the community introducing the concept of Saltybet to newcomers:

T15R5: dumb question, are these AI fights?

T15R6: they are ai

[...]

T15R7: !faq yes

T15R8: Salty surfer is GOTLIKE.

nightbot: No, it's not real money. No, they are not real people fighting; it's AI vs AI. Go to saltybet.com to place bets. Read the FAQ http://www.saltybet.com/about

T15R9: yes

or having brief but intense reflexive discussions about Saltybet itself:

T8R29: mixed tier?

T8R30: fucking veku...

T8R31: I mean christ, requester can't even spell "coming" correctly

T8R18: SUPREME VEKU

T8R32: Veku Supreme hold the mayo

T8R33: s u [b] r e m e

T8R30: itll be funny to watch veku fight minecraft goku

T8R9: potato salad

T8R30: prepare for lopsided ondds

T8R31: @ T8R 29 GreenChocolatee custom means some asshole illuminati made it

T8R34: wtfVeku

T8R35: custom means it was arranged by someone

T8R30: odds*

T8R14: Its a turney that was made custom by someone in the community, rather then just by RNG

Oldenburg's concept of a 'third place', employed by Hamilton et al. (2014, p.2) while analysing Twitch streams can also be applied to Saltybet. Defined as 'public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work' (Hamilton et al., 2014) third places feature conversation as a primary activity but also an instituted social conformity that is reinforced

by the group and its members through participation in its activities. Since conversation is important to third places (Hamilton et al., 2014. p.7), streams that are too large and thus have too much going on in chat no longer feel like third places and more like public spaces where meaningful conversation is impossible. Meanwhile Saltybet maintains a small and stable audience which may be why spectators stick around if they find the core content of Saltybet appealing and perpetuate the third place's rituals.

Social integrative motivations (Sjöblom & Hamari, 2016, p.23) may be at work given that Saltybet has a small but stable audience and a dedicated community external to the Saltybet streams. Streamers normally play a role in community curation and moderation and while Saltybet has mods it still may seem relatively impersonal compared to streams where human players are a focus (Taylor, 2018, p.109). The appeal of having others see your interaction in a stream is common to many streams (Karhulati, 2016; Recktenwald, 2017), and this likely becomes a reinforced aspect of streams with no streamer on camera. Salty themselves identifies three key factors that makes Saltybet compelling which are in summary:

- 1. unique, lovable, and nostalgic characters
- 2. betting on matches
- 3. interacting in the chat (Miller 2013).

Some of these factors are specific to Saltybet spectatorship and some are more general appeals of spectating streams. Interestingly, Salty doesn't comment much on the behaviour of AI as a core appeal which suggests that the appeal of the streams may lie in its jocular, nostalgic aspects and its general similarities to a competitive fighting game stream.

Like Twitch generally, Saltybet '[...] might function as [a] kind of "haven" where gamers [...] can be among themselves, maintain their community, and stay away from opinions that may offend them' (Wulf et al., 2018, p.16). Although the community demonstrates reprehensible toxic elements, there were also several times the audience was observed defending the stream and attempting to redirect focus on to enjoyment of the match itself. Although small, the audience is dedicated and does not tolerate intrusive topics. Would-be trolls were frequently derided in chat. As mentioned earlier when a tangent regarding US politics arose in the chat, the community moved swiftly to remind others that the community were only interested in discussing the stream and rejected attempts to goad the community into controversial off topic discussions.

Taken as a whole, Saltybet is clearly a stable community, but the nature of this community is most evident in its ironic and performative aspects. Yates (2001, p.117) notes that: 'Coherence to group norms and the strong expression of group identity is only likely to take place in contexts where the maintenance of the group is more salient than individual personal expression.' Given that individual expression is very difficult in Twitch chats with hundreds of participants, socially constructed norms tend to be reinforced via repetitive rituals. Saltybet inherits its framework for these kinds of spectatorship rituals primarily from fighting game tournament spectatorship. Saltybet is an extension of the fighting game community as discussed by Salty in interview with

Miller (2013). For this reason, many spectators likely understand that Saltybet works as a sort of loving mockery of competitive fighting game spectatorship, and this is supported by the discourse in the chat. Saltybet can thus be understood as an actively performed parody of the fighting game community that allows spectators to experience bizarre underdog narratives vicariously through foolish AI and enhanced by betting.

Miscellaneous - Tournament Information and Music

A portion of the discourse was taken up by chatbots providing information on tournaments, brackets, results, and other specific requests from users such as what the author of a given AI is. Requests for author information were seen as further evidence of a desire to learn more about the AI and community of Saltybet. Spectators can find information on AI and authors on Saltybet's fan wiki (Saltypedia, 2013). Some of the informational messages are automated to happen at predetermined points like after a match and others are triggered by using twitch chat commands. Although the bots aren't really spectators or participants as such, the prevalence of this type of discourse suggests that, like many streams, viewers want information on what they are watching. Even though Saltybet is framed as foolish, people still take it seriously enough to have an instrumental need for such information.

Lastly, there is prominent discussion of music in the chat. Although not necessarily a primary appeal for many, some engage with Saltybet partially to hear its eclectic soundtrack drawing from video game soundtracks, anime, and niche music genres. As an extension of FGC fandom, many fighting game soundtracks are associated with enjoyment of a particular era for each community member. A chat command (! song) can recall the track currently being played and several discussions were recorded where discourse focuses on the music currently being played.

```
T2R1: I know, I'm ranting a bit. I just love Tim Follin's music.
```

[...]

T2R1: Aw yeah, another great track

[...]

T2R1: Jesus, it's like this tourney's soundtrack was made of my favorites

T3R1: the music here is always jamming

T9R1: starcraft music Kreygasm

T7R14: Music is so fitting for this savagery

Perceived Foolishness

Saltybet's AI, and the entire community itself, can be considered foolish under more traditional definitions that state that a fool's 'acknowledged defects are socially acceptable as a form of entertainment' (Welsford, 1968, p.55). This is something the discourse apparently revels in and would not necessarily be a negative self-identification, nor is it meant as a negative or derogatory classification here. Although a radically different context from court jesters and fools of ancient civilisation or the mediaeval period, Saltybet AI are defective in a way that is acceptable (perhaps even preferably so) to their audience. The audience itself also humorously acknowledges the absurdity of watching and betting on foolish AI for entertainment. Many AIs are characterised similarly resulting in the perception that the AI (and by extension AI spectatorship) are generally foolish in a way that is celebratory of foolishness.

This perceived foolishness extends to the spectators of Saltybet themselves who often frame their lack of success in betting as comical. There is an undercurrent implying that the act of watching Saltybet is ironically foolish yet, simultaneously, earnest fun. Newcomers are often welcomed into the stream who may not be aware of the layers of self-referential humour or even how Saltybet itself works. The perceived foolishness thus masks a genuinely passionate niche subculture that congregates around AI spectatorship.

The mediaeval court-fool no longer has a place in the modern age and generally died out around the enlightenment period (Welsford, 1968, p.193). Welsford argues that this is because certain societal roles are contingent on a social order that governs itself based on divine rituals and religious creeds. One might argue that they are a relic that was rightfully done away with because the notion of fools is incompatible with human rights and dignity. However, AI might make for excellent 'fools' due to their frequent tendency to be anthropomorphised and lack of moral patiency. Welsford suggests that the appeal of the fool lies in their immunity to the whims of fate and acts as a surrogate through which we vicariously experience a temporary invulnerability to the 'slappings' of life. Welsford (1968, p.314) states: 'if the fool is 'he who gets slapped', the most successful fool is 'he who is none the worse for his slapping'...' which echoes the enjoyment Saltybet spectators seem to derive from watching AI 'slap' each other without consequence.

Foolishness is one of the most pervasive characteristics of the discourse and it extends to other practices such as gambling and the general performativity of Saltybet spectators. That is, foolishness is a socially constructed marker of Saltybet reinforced through performative repetition.

Conclusion

Discourse about Saltybet reveals various themes that construct two major thematic areas:

- 1. spectators discussing qualities of an AI character
- 2. the performance of Saltybet spectatorship by spectators.

These two areas, it is argued, are both characterised by foolishness that are perceived by the spectating audience as a distinct and appealing feature of Saltybet. AI spectatorship involves many behaviours on the part of spectators. These include gambler's fallacies, the use of text chats, Twitch emotes, memes, narrativization, community in-jokes, characterisation of AI, and ironic parody of fighting game spectatorship. Saltybet can thus be understood through multiple specific strands that relate back to a general theme of 'perceived foolishness' (both of the AI and the community's self-perception of the Saltybet experience).

The study is not without limitations. Surveying the audience and community through questionnaire and interview might be more direct than discourse analysis in determining how Saltybet and AI vs AI spectatorship is constructed by its audience. The method taken here also privileges those spectators that speak up in chat so non-speaking 'lurkers' are not featured in the dataset and analysis. The analysis also doesn't provide an overview of spectatorship outside of tournaments or discourse in non-live settings like forums or even in-person fighting game events. However, it has provided a useful insight into how AI vs AI spectatorship is constructed in the context of online streaming chats where a human participant is absent.

The results discussed here cannot easily be generalised to other examples of AI spectatorship, though the existence of similar cases lends some credence to AI spectatorship as a practice characterised by perceived foolishness despite these being understudied. The cases of 'Mario Retardy' streams, *BadCupid*, Robot Sumo as well as cases where virtual betting is a part of AI vs AI spectatorship such as Kyle Bosman's streams of *Baseball Simulator 1.000* (Kyle's Stream Dump, 2021, 2022) are all case studies that could be the focus of comparative analyses of case studies to better understand AI vs AI spectatorship. This could also help further the understanding of public perception of seemingly foolish results from generative AI such as Midjourney, ChatGPT, etc. For now the results here likely say more about Saltybet than they do about AI spectatorship more broadly.

From investigating how the online streaming audiences construct AI vs AI spectatorship through discourse, the overall impression is that these practices are enjoyed by spectators in a partially ironic but also passionate manner. It is theorised here that part of the appeal is in morally permissible forms of nonhuman competition supported by a ritually foolish tone as well as sources of entertainment found in other forms of streaming communities, particularly fighting game spectatorship.

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Notes

- 1. Saltybet's tier list reflects common discourse on the ranking of tiers in various fighting (and other competitive) games. It includes several tiers that almost exclusively hold poorly functioning, unpredictable, or game-breaking AI (Saltyinfo, 2019). Although tiers are meant to roughly balance matchups, in practice some matchups can still present incredibly lopsided odds since AI may be fighting each other for the first time and certain emergent behaviours are hard to predict. The tiers and odds are a rough guideline of performance rather than a hard category.
- X-tier (Too powerful, highly unpredictable)
- S-tier (Strong)
- A-tier (Middle)
- B-tier (Weak)
- P-tier ('Potato' tier, No real AI, or gimmick-based characters)
- Untiered (frequently crash or lock the game, otherwise non-functional)
- 2. Between August 2015 and August 2019, Saltybet.com maintained a relatively small average viewer count of approximately 400 and this has remained consistent up until the year 2023. Since its debut on Twitch, it has amassed 309,000 followers and millions of views. Large peaks in the viewer count come sporadically but peak viewership has never risen above 1,700 (SullyGnome, 2019a; 2019b). Peak concurrent viewers were only 1085, averaging 385 over the last year.
- 3. Because fights vary a lot in length, it was also hard to reliably record Tournaments from the beginning because of a lack of consistency in the stream's schedule. This meant that some days provided several opportunities to record tournaments while others had none.
- 4. 88 is an alphanumeric cypher associated with far right groups. H is the 8th letter of the alphabet and so 88 is often seen as a covert way of saying the offensive Nazi salute 'Heil Hitler'.
- To maintain anonymity, Salty once joked in an interview that Saltybet is 'powered by a team of highly intelligent saltwater dolphins' (McCormick, 2013).

References

- Acres, T. (2023). Microsoft limits new Bing after reports of bizarre answers with journalist 'compared to Hitler'. Available at: https://news.sky.com/story/microsoft-limits-new-bing-after-reports-of-bizarre-answers-with-journalist-compared-to-hitler-12813741
- Bryson, J. J. (2010). Robots should be slaves. In Y. Wilks (Ed.), *Close engagements with artificial companions: Key social, psychological, ethical and design issue* (pp. 63–74). John Benjamins Publishing Company.
- Bryson, J. J. (2018). *Anthropomorphising Ai is an impediment to a stable society*. [online video] Available at: https://www.microsoft.com/en-us/research/video/anthropomorphising-ai-is-an-impediment-to-a-stable-society/ [Last Accessed 17 April 2019].

- Caldwell, B. (2017). Have You Played... Salty Bet? [online]. Available at: https://www.rock-papershotgun.com/2017/12/15/have-you-played-salty-bet/ [Last Accessed 17 April 2019].
- Capcom. (1998). JoJo's Bizarre Adventure. CP System III and Sega Dreamcast.
- Carter, C. (2019). Auto Chess is the newest craze in town to follow battle royales: here's a few of the most popular games. Destructoid. Available at: https://www.destructoid.com/autochess-is-the-newest-craze-in-town-to-follow-battle-royales-heres-a-few-of-the-most-populargames/
- Cheung, G., & Huang, J. (2011). Starcraft from the Stands: Understanding the Game Spectator. CHI 2011. [online]. Available at: https://jeffhuang.com/final_starcraftspectator_chi11.pdf [Last Accessed 17 April 2019].
- Chokshi, N. (2018). 'Amazon Knows Why Alexa Was Laughing at Its Customers,' nytimes.com, (2018). [Online]. Available: https://www.nytimes.com/2018/03/08/business/alexa-laugh-amazon-echo.html. [Accessed: Mar. 2, 2019].
- Culture Brain. (1989). Baseball Simulator 1.000. Nintendo Entertainment System.
- Diwanji, V., Reed, A., Ferchaud, A., Seibert, J., Weinbrecht, V., & Sellers, N. (2020). Don't just watch, join in: Exploring information behavior and copresence on twitch. *Computers in Human Behavior*, 105(1), 106221. https://doi.org/10.1016/j.chb.2019.106221
- Elecbyte. (1999). *M.U.G.E.N.* PC Game Engine, v1.1 beta 1. Elecbyte. [https://mugenarchive.com/forums/downloads.php?do=cat&id=39-mugen-builds]
- Farrington, J. (2022). People Are Obsessed With This AI Image Generator Here Are The Wildest Creations. Available at: https://www.buzzfeed.com/jake_farrington/funniest-dalle-images-from-the-internet
- Fauconnier, G., & Turner, M. (2002). The way we think: conceptual blending and the mind's hidden complexities (1. paperback ed). Basic Books.
- Floridi, L., & Sanders, J. W. (2004). On the morality of artificial agents. *Minds and Machines*, 14(3), 349–379. https://doi.org/10.1023/B:MIND.0000035461.63578.9d
- Ford, C., Gardner, D., Horgan, L. E., Liu, C., Tsaasan, A. M., Nardi, B., & Rickman, J. (2017). Chat speed op pogchamp: Practices of coherence in massive twitch chat. https://doi.org/10. 1145/3027063.3052765
- Geertz, C. (2005, Fall). Deep play: Notes on the balinese cockfight. *Daedalus*, *134*(4), 56–86. https://doi.org/10.1162/001152605774431563
- Geijtenbeek, T., Van der Panne, M., & Van der Stappen, A. F. (2013). Flexible Muscle-based Locomotion for Bipedal Creatures. In ACM Transactions on Graphics, 32, 6 (Proc. of SIGGRAPH Asia 2013). https://www.goatstream.com/research/papers/SA2013/
- Gera, E. (2019). BadCupid: Procedural romance in a digital world. [online]. Available at: https://www.eurogamer.net/articles/2019-01-12-badcupid-procedural-romance-in-a-digital-world [Last Accessed 17 April 2019].
- Gunkel, D. J. (2017). The Machine Question: Critical Perspectives on AI, Robots, and Ethics. The MIT Press.
- Hamilton, W., Garretson, O., & Kerne, A. (2014). "Streaming on Twitch: Fostering Participatory Communities of Play within Live Mixed Media." CHI 2014, April 26– May 1, 2014, Toronto, Ontario, Canada. https://ecologylab.net/research/publications/ streamingOnTwitch.pdf
- Hammond, M. (2017). What is an online community? A new definition based around commitment, connection, reciprocity, interaction, agency, and consequences. *International Journal of Web Based Communities*, 13(1), 118. Available at: https://doi.org/10.1504/IJWBC.2017.082717

- Harpstead, E., et al. (2019). 'Toward a Twitch Research Toolkit: A Systematic Review of Approaches to Research on Game Streaming', in *Proceedings of the Annual Symposium* on Computer-Human Interaction in Play. CHI PLAY '19: The Annual Symposium on Computer-Human Interaction in Play, Barcelona Spain: ACM, pp. 111–119. Available at: https://doi.org/10.1145/3311350.3347149
- Heess, N., et al. (2017). Emergence of Locomotion Behaviours in Rich Environments. arXiv:1707.02286 [cs.NE] Cornell University.
- Hirohiko Araki. (1987). JoJo's Bizarre Adventure. Weekly Shonen Jump.
- HTWK Robots. (2018). 'Nao-Team HTWK vs. Nao Devils Final RoboCup German Open 2018,' *YouTube*, (2018) [Video File]. Available: https://www.youtube.com/watch?v= ZwAjHTI21Dg. [Accessed Mar. 2, 2019].
- Hudson Soft. (2000). Mario Party 2. Nintendo 64.
- Johnson, M. R., & Jackson, N. J. (2022). Twitch, fish, pokémon and plumbers: Game live streaming by nonhuman actors. Convergence: The International Journal of Research into New Media Technologies, 28(2), 431–450. Available at: https://doi.org/10.1177/13548565221074804
- Johnson, M. R., & Woodcock, J. (2017). Fighting games and go: Exploring the aesthetics of play in professional gaming. Thesis Eleven, 138(1), 26–45. http://eprints.lse.ac.uk/69726/1/ Woodcock_Fighting%20games%20and%20Go_2017.pdf. https://doi.org/10.1177/072551 3616689399
- Juul, J., & Björk, S. (2012). 'Zero-player games or: what we talk about when we talk about players', in. *Philosophy of Computer Games Conference*, Madrid, Spain. Available at: https://www.jesperjuul.net/text/zeroplayergames/
- Kalof, L., & Taylor, C. S. (2007). *The Discourse of Dog Fighting. Humanity & Society*, 13(November), 319–333. https://doi.org/10.1177/016059760703100403
- Karhulati, V. (2016). Prank, Troll, Gross and Gore: Performance Issues in Esport Live-Streaming. Proceedings of 1st International joint Conference of DiGRA and FDG.
- Kehus, M., Walters, K., & Shaw, M. (2010). Definition and Genesis of an Online Discourse Community. *The International Journal of Learning*, 17(4), 67–85. https://doi.org/10.18848/1447-9494/CGP/v17i04/46968
- Kitfox Games. (2019). 'Badcupid: Book of Love,' badcupidgame.com [Online]. Available: http://www.badcupidgame.com/#/. [Accessed: Mar. 2, 2019].
- Kyle's Stream Dump. (2021). *Degenerate Baseball Championships! & FFXIV*. Available at: https://www.youtube.com/watch?v=KG5hpUPacCQ
- Kyle's Stream Dump. (2022). Creating the New Baseball League & Mario Maker 2. Available at: https://www.youtube.com/watch?v=xupdxMZglCk [Accessed: 18 August, 2023].
- Lehman et al. (2018). The Surprising Creativity of Digital Evolution: A Collection of Anecdotes from the Evolutionary Computation and Artifical life Research Communities. arXiv:1803.03453v3 [cs.NE] Cornell University.
- Macey, J., & Hamari, J. (2018). Investigating relationships between video gaming, spectating esports, and gambling. *Computers in Human Behavior*, 80(1), 344–353. https://doi.org/ 10.1016/j.chb.2017.11.027
- Martin, B. (2019). How to Stream Text Data from Twitch with Sockets in Python. Available at: https://www.learndatasci.com/tutorials/how-stream-text-data-twitch-sockets-python/
- Martínez-Arellano, G., Cant, R., & Woods, D. (2017). Creating AI characters for fighting games using genetic programming. *IEEE*, *9*(4), 423–434. https://doi.org/10.1109/TCIAIG.2016. 2642158

- Mata, W. (2023). Seven times ChatGPT has been accidentally or genuinely funny. Available at: https://www.standard.co.uk/tech/chatgpt-funny-responses-conversations-b1058733. html.
- McAloon, A. (2019a). Deepmind AI faces off against (and defeats) Starcraft 2 Pro Players. http://gamasutra.com/view/news/335138/DeepMind_AI_faces_off_against_and_defeats_ StarCraft_II_pro_players.php
- McAloon, A. (2019b). OpenAI's machine learning bots defeat Dota 2 champion team. [online]. Available at: http://gamasutra.com/view/news/340816/OpenAIs_machine_learning_bots_defeat_Dota_2_champion_team.php [Last Accessed 16 April 2019].
- McAloon, A. (2019c). Researchers pit DeepMind AI against human Quake III players. [online]. Available at: https://gamasutra.com/view/news/343787/Researchers_pit_DeepMind_AI_against_human_Quake_III_players.php [Last Accessed 6 June 2019].
- McCormick, R. (2013). Twitch-based: Exploring the Salty Bet phenomenon. [online]. Available at: https://www.eurogamer.net/articles/2013-09-11-twitch-based-exploring-the-salty-bet-phenomenon [Last Accessed 17 April 2019].
- Miller, P. (2013). Sodium Intake: An Interview with the Creator of Salty Bet. [online]. Available at: http://shoryuken.com/2013/08/12/sodium-intake-an-interview-with-the-creator-of-saltybet/ [Last Accessed 17 April 2019].
- Orkin, J. (2006). Three States and a Plan: The A.I. of F.E.A.R. http://alumni.media.mit.edu/ ~jorkin/gdc2006_orkin_jeff_fear.pdf In: Champandard, A.J. (2007). Assaulting F.E.A.R.'s AI: 29 Tricks to Arm Your Game. http://aigamedev.com/open/review/fear-ai/
- Phillips, N., & Hardy, C. (2002). *Discourse analysis: investigating processes of social construction*. Sage Publications (Qualitative research methods, v. 50).
- Recktenwald, D. (2017). Toward a transcription and analysis of live streaming on Twitch. *Journal of Pragmatics*, 115(1), 68–81. https://doi.org/10.1016/j.pragma.2017.01.013
- Robert McGregor. (2017). 'ロボット相撲,' *YouTube*, (2017). [Video File]. Available: https://www.youtube.com/watch?v=QCqxOzKNFks. [Accessed Mar. 2, 2019].
- Salty Bet. (2013a). Shaker Classic 5 Radish SSJ4 vs Barney. [online video]. Available at: https://www.youtube.com/watch?v=UQK39dEtNbg&feature=youtu.be&t=1m53 s [Last Accessed 12 July 2019].
- Salty Bet. (2013b). Salty Bet. Live Stream. 23rd January 2019. https://www.saltybet.com/
- Salty Bet. (2019). Saltybet Youtube Channel. Available at: https://www.youtube.com/@saltybet/videos.
- Saltyinfo. (2019). Tiers. [online]. Available at: https://saltyinfo.fandom.com/wiki/Tiers [Last Accessed 29 July 2019].
- Saltypedia. (2013). SaltyBet. [online]. Available at: http://saltypedia.wikia.com/wiki/SaltyBet [Last Accessed 17 April 2019].
- Seering, J., Savage, S., Eagle, M., Churchin, J., Moeller, R., Bigham, J. P., & Hammer, J. (2017). Audience participation games: Blurring the line between player and spectator. In *Proceedings of the 2017 Conference on Designing Interactive Systems* (pp. 429-440).
- Sjöblom, M., & Hamari, J. (2016). Why do people watch others play video games? An empirical study on the motivations of Twitch users. SSRN.
- SullyGnome. (2019a). SaltyBet. Summary stats over the past 365 days. [online]. Available at: https://sullygnome.com/channel/saltybet/365 [Last Accessed 29 July 2019].
- SullyGnome. (2019b). SaltyBet. Stats over the long-term. [online]. Available at: https://sullygnome.com/channel/saltybet/2017may/longtermstats [Last Accessed 29 July 2019].

- Taylor, T. L. (2018). Watch Me Play: Twitch and the Rise of Game Live Streaming. Princeton University Press.
- The Late Show with Stephen Colbert. (2016). Simone Giertz is Queen of Crappy Robots. [online video]. Available at: https://www.youtube.com/watch?v=O61wJPNJgZQ [Last Accessed 17 April 2019].
- The MUGEN ARCHIVE. (2010). *MUGEN Builds*. https://mugenarchive.com/forums/downloads.php?do=cat&id=39-mugen-builds
- Twitch.tv. (2023a). Twitch.tv Privacy Notice. Available at: https://www.twitch.tv/p/en/legal/privacy-notice/
- Twitch.tv. (2023b). Community Guidelines: Introduction to Safety on Twitch. https://safety.twitch.tv/s/article/Community-Guidelines?language=en_US
- Ultranick24. (2013). Mario Retardy Stream #1. https://www.twitch.tv/videos/48477291
- Welsford, E. (1968). The fool: his social and literary history (1st ed. reissued). Faber.
- Wood, J. (2016). Twitches New Virtual Currency Stream+ Could Be A Boost For Esports
 Betting. Available at: https://www.thelines.com/twitch-introduces-new-virtual-currency/
- Wood, N. (2014). 'Autocorrect Awareness: Categorizing Autocorrect Changes and Measuring Authorial Perceptions,' Honors Thesis. Florida State Univ., Tallahassee, FL, USA. [Online]. Available: https://diginole.lib.fsu.edu/islandora/object/fsu:204751/datastream/PDF/ view. [Accessed: Mar. 2, 2019].
- Wulf, T., Schneider, F. M., & Beckert, S. (2018). Watching players: An exploration of media enjoyment on Twitch. Games and Culture. Advance online publication. https://doi.org/ 10.1177/1555412018788161
- Yates, S. (2001). Researching internet interaction: Sociolinguistics and corpus analysis. In S. Yates, S. Taylor, & M. Wetherell (Eds.), *Discourse as data: A guide for analysis* (pp. 93–146). Sage.

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Appendix I - Twitch Scraper Script based on Brendan Martin's (2019) Template

```
import socket
import logging
from emoji import demojize
logging.basicConfig(level=logging.DEBUG,
            format='%(asctime)s — %(message)s',
            datefmt='%Y-%m-%d %H:%M:%S',
            handlers=[logging.FileHandler('chat.log', encoding='utf-8')])
Get token here: https://twitchapps.com/tmi/ Note: running this script the first time will show a
welcome message from Twitch. Run it again to show the first message from the channel.
server = 'irc.chat.twitch.tv'
port = 6667
nickname = 'testaccount5674'
token = 'oauth:ew56st5lc2u6x4zsb2gr2c9iecgfsr'
channel = '#saltybet'
def main():
  sock = socket.socket()
  sock.connect((server, port))
  sock.send(f"PASS {token}\r\n".encode('utf-8'))
  sock.send(f"NICK {nickname}\r\n".encode('utf-8'))
  sock.send(f"JOIN {channel}\r\n".encode('utf-8'))
  try:
    while True:
       resp = sock.recv(2048).decode('utf-8')
       if resp.startswith('PING'):
         # sock.send("PONG :tmi.twitch.tv\n".encode('utf-8'))
         sock.send("PONG\n".encode('utf-8'))
       elif len(resp) > 0:
         logging.info(demojize(resp))
  except KeyboardInterrupt:
     sock.close()
    exit()
    name == ' main ':
```

Please note the nickname is the name of the Twitch account the scraper uses to authenticate data scraping.