



MASTERARBEIT | MASTER'S THESIS

Titel | Title

Turn-taking model in the context of the video game developer
live stream

verfasst von | submitted by

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angestrebter akademischer Grad | in partial fulfilment of the requirements for the degree of
Master of Arts (MA)

Wien | Vienna, 2024

Studienkennzahl lt. Studienblatt | Degree
programme code as it appears on the
student record sheet:

UA 066 812

Studienrichtung lt. Studienblatt | Degree
programme as it appears on the student
record sheet:

Masterstudium English Language and Linguistics

Betreut von | Supervisor:

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Abstract

In dieser Arbeit soll untersucht werden, wie das von Sacks, Schegloff und Jefferson (1974: 700) entwickelte Modell des Sprechwechsels im Kontext eines Entwickler-Livestreams funktioniert, der darauf abzielt, dem Spielepublikum ein neues Spiel oder dessen Update vorzustellen, und der eine Kombination verschiedener Diskursarten darstellt, darunter Medien-, institutionelle und Videospiel-Diskurse. Außerdem soll untersucht werden, wie das Genre des Spiels, nämlich Strategie und Action, die Häufigkeit des gleichzeitigen Sprechens in sechs Entwickler-Livestreams beeinflusst. Um dieses Ziel zu erreichen, wird der Begriff der spielbedingten Überlappungen/Unterbrechungen eingeführt, um zu untersuchen, wie Aktionen im Spiel die Struktur des Sprechwechsels während der Interaktion von Livestream-Teilnehmern beeinflussen.

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1. Introduction

The video game live streaming has been steadily developing since the beginning of the 21st century, and it has become one of the most popular means of entertainment for viewers of different age groups, cultural and social backgrounds interested in video games. The ever-increasing availability of specific software enables many people to become streamers themselves and even turn this activity into a career. Today, video game live streaming is an essential part of the video game industry as a whole that can be used not for recreation, but also for business purposes.

Video game marketing is one of the fundamental elements in the game production cycle, both prior to the game release and after it. Previously, major developer companies centered their marketing strategies around large exhibitions which allowed them to draw noticeable attention to their products and gave gamers the possibility to test early versions of these products themselves (Zackariasson & Dymek 2016: 36). However, in 2021, most major events around the world were canceled or postponed to an unknown date, which had a notable impact on the way new video games were promoted (Meahjohn & Persad 2020: 1168). Due to inability to use the traditional methods of video game marketing, many developers switched to promotional live streaming, which gave them the opportunity to promote their products from developers' homes for the audience who also had to stay inside. After most of the restrictions had been lifted, the developers did not abandon live streaming and still regularly hold live broadcasts to discuss their upcoming releases.

The structure of turn-taking in interactions between live stream participants is the central focus of this paper. The turn-taking model, which was developed in the 1970s by Sacks, Schegloff & Jefferson 1974: 700), who state that turn-taking is basic form of conversation organization and structure. The researchers highlight the high level of efficiency of the model since it because it minimizes the number of times when more than one party attempts to initiate a turn and and provides the basis for the successful elimination of long moments of silence between turns (Levinson 2016: 6; Zimmerman & West 1977: 523). However, it appears impossible to completely avoid occurrences of simultaneous speech, which can be divided into various types. If a new turn is initiated in the close vicinity to a transition-relevance place and it does not aim to disturb the structure of turn-taking, such instance of simultaneous speech constitutes an overlap (Heldner & Edlund 2010: 558). In comparison, if a new turn is initiated not close to the transition-relevance place and the speakers seeks to break the turn-taking structure of a conversation, such case of double talking constitute an interruption (Zimmerman & West 1977: 523). In the analytical part of the paper, these types of simultaneous speech occurrences will be explored in greater detail.

This paper is motivated by the insufficient level of research related to the issues of video game developer live streams, especially from the perspective of turn-taking, as well as by the general novelty of this type of communicative interaction, which began to develop just about a decade ago.

The paper aims to explore the organization of turn-taking in interactions between developer company's employees participating in such live streams with a focus on live streams that are dedicated to games of two distinctly different video game genres, i.e., action games and strategy games. Moreover, the paper seeks to determine to what extent the declared game genres influence the frequency of occurrences of simultaneous speech. To achieve the goals of the paper, the following research questions are going to be answered:

1) How do the basic features of the turn-taking model function in the context of a developer live stream?

2) To what extent does the game genre influence the frequency of instances of simultaneous speech produced by speakers during the developer live streams?

It is hypothesized that live streams dedicated to action games will feature a higher frequency of double talking than live streams dedicated to strategy games due to their higher-paced nature and a more impactful degree of randomness that are characteristics of action games.

To achieve the goals of this paper, six developer live streams have been selected for transcription and the analysis with the use of the quantitative and qualitative methods of analysis, namely the Conversation Analysis. The application of methods has allowed to test the adaptability of the basic principles of the turn-taking's model in the context of developer live streams and examine the level of influence the game genre has on the communication of live stream participants.

2. Literature review

The topic of live streaming has attracted attention of various researchers who have approached it from a plethora of perspectives, including sociology, business, communication, etc. (Hamilton, Garretson & Kerne 2014; Hilvert-Bruce et al. 2018; Foster 2016). However, due to the comparative novelty of developer live stream phenomenon, this subtype of live streaming has not been extensively investigated yet. Moreover, the organization of turn-taking within live streams has been a subject of only individual studies and still requires additional literary support. At the same time, the topic of turn-taking has been largely researched since the last quarter of the last century.

This chapter represents a review of literature sources which creates a theoretical basis to achieve the objectives of this paper. The chapter is divided into three main subchapters, which are dedicated to the topics of video game live streaming and developer live streams, discourse of such communicative interactions and the turn-taking model.

2.1. Video game live stream and developer live stream as its subtype

Since the late 1970s, when coin-operated arcade games started to spread across the world in different venues, the video game industry has been steadily growing and has now become an important media format, which millions of people consume on a yearly basis. The development of

personal computers heavily impacted the accessibility of video games, since it allowed consumers to enjoy games in their rooms rather than in crowded locations. The emergency of the Internet in the late 1990s united people across the globe, having fostered communication and improved access to joint activities, and not only so for gamers. As the video game industry continues to gain popularity and increase in revenue, the needs of gamers around the world also keep changing. Today, an increasing amount of people enjoy watching others play their favorite video games rather than playing themselves. Live streams have now become the important part of the video game industry, and their continuous development is not only a result of the popularity of video games but also its cause, including when taking the marketing perspective.

2.2.1. What is a live stream?

Today, live streams are the topic for a variety of research studies that seek to understand their nature and structure, viewers' motivations to watch live streams, the relationships between the viewers and streamers and a plethora of other topics (Hamilton, Garretson & Kerne 2014; Hilvert-Bruce et al. 2018; Mao 2022; Wulf, Schneder & Beckert 2020). In this subchapter, the theoretical background of live streaming will be discussed in order to create a basis for further exploration of developer live streams and interactions between developers within such streams.

According to the definition by Hamilton, Garretson and Kerne (2014: 1315), a live stream represents a “public broadcast of live audio and video streams alongside a shared chat channel.” Such streams are organized by people termed streamers, whom Sjöblom et al. (2019: 21) also refer to as decentralized individuals since they primarily operate on their own without any assistance from third companies (except for the platform where they stream). The active development of live streaming is often associated with the introduction and further development of such platforms as twitch.tv and YouTube.com in the early 2010s. Orme (2022: 2255) compares live streams with broadcasts of sports events stating that both types of media provide viewers with a sense of unpredictability and suspense, which have a positive impact on viewers' sense of enjoyment. This impact becomes more evident when comparing live streams with types of media that can be rewatched on a regular basis, such as movies, TV series or let's play videos uploaded to YouTube. In the latter, content creators play video games on their own, then edit their recorded footage and upload it to the Internet, hence the factors of unpredictability and live interaction are excluded.

Several types of video game live streams have been identified by researchers. According to Smith, Obrist and Wright (2013: 132), live streams may be devoted to eSports tournaments, to casual and informal let's plays where individual streamers play games and interact with viewers, or to speedruns, i.e. completing games as fast as possible. According to the authors, the most popular type of stream is eSports, which may be called the most professional type among the three. Such tournaments are organized by various companies and include official competitive games between

professional players, which today also include official commentators. The second most popular type of live streams is Let's play, which are held by individual streamers in a more informal context. The least popular type is speedrunning, which is also less formal and professional than eSports stream, however, speedrunning also includes a competitive nature, since a number of players seek to set a record for completing a game in a very short time, which may also include additional challenges, such as finishing a game without dying.

Today, streaming platforms provide a variety of opportunities for streamers to monetize their activity through various subscription models, donations, etc. (Mao 2022: 9). Such opportunities facilitate streaming as a possible career path for gamers. Sjöblom et al. (2019: 21) state that choosing a career as a professional streamer allows gamers to become hybrid workers in the sense that they transform their leisure activity into an actual job with the assistance of digital tools and services.

A video game live stream represents a combination of audio and visual elements of video games, social interaction through text-based chat channels and a streamer's persona which allows live streams to attract possible viewers. The successful management of these elements may foster the creation of online communities of various sizes (Hilvert-Bruce et al. 2018: 59). Social motivation (i.e. sense of community, social interaction, meeting new people) plays a significant role in becoming a member of such online communities. According to Hilvert-Bruce et al. (2019: 59), communities created around streamers may represent third places where viewers communicate with each other and share their emotions related to the content all of them consume on a regular basis. According to the definition by Hamilton, Garretson and Kerne (2014: 1317), third places represent "public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work". Given the digital nature of live streams, such third places become virtual, and they can be accessed almost anywhere if the location has a stable connection to the internet. The social interaction within a stream is facilitated by the active use of chat channels, which represent an important part of any live stream, where both viewers and streamers may interact with each other. Hamilton, Garretson and Kerne (2014: 1318) note that discussions in chat channels of video game live streams are primarily enabled by events that happen in the games being streamed. The authors also highlight the importance of a sense of community for the development of streams. By becoming members of such online communities, gaining influence, reputation and even developing shared qualities that represent only this group, viewers establish an emotional connection through a sense of identification with community members and a shared history.

Such online communities also foster social hierarchies within them (Wulf, Schneder & Beckert 2020: 333). Naturally, the streamers hold the most important position in such hierarchies, since they generally serve as the main reason for the creation of such communities. Hilvert-Bruce et al. (2019: 59) distinguish between various types of viewers. The lowest position is held by newcomers, i.e.

viewers who have entered the community not long ago and have watched the stream only several times. If a newcomer seeks to gain a higher social position in these online communities, their goal is to understand social regulations in a particular stream and convince other participants that they are capable of taking part in civil discussions in accordance with the underlying rules of the community (Hamilton, Garretson & Kerne 2014: 1318). Once a viewer gains some reputation, they become a part of regulars, i.e. viewers who frequently visit a particular stream and represent its most active part. Regulars play an important role in stream communities, as they are often responsible for welcoming and engaging newcomers and making the community attractive to a new potential audience. If the viewer wishes to regularly support the streamer financially, they may purchase a monthly stream subscription – which approximately costs EUR 4 per month – and become subscribers. According to Wulf, Schneider and Beckert (2020: 333), becoming a subscriber fulfills a social need for membership, although it must be noted that subscribers do not drastically differ from regular viewers. The main difference is that subscribers get a special icon attached to their name in a chat, being able to use emoticons created specifically for this stream and possibly increased opportunities to interact with streamers directly. Finally, if the community continues to grow larger and it becomes harder for streamers to monitor the chat, they may select some of their viewers and appoint them as moderators. Hamilton, Garretson and Kerne (2014: 1316) note that moderators “are given the privileges to perform administrative duties within the stream,” which include the right to permanently ban some viewers for their failure to follow the community rules or the right to temporarily exclude viewers from the community for minor violations. Similarly to subscribers, moderators receive special icons that denote their status in a community.

In certain cases, when the average number of concurrent viewers exceeds approximately 1000, according to Hamilton, Garretson and Kerne (2014: 1321), the social interaction between the streamer and the audience becomes considerably more limited, which may lead to a breakdown of participation. The authors state that chat channels of big streams change “from a meaningful medium of discussion into an illegible waterfall of text, scrolling up the page so quickly that it cannot be read,” hence taking part in meaningful interactions is hardly achievable. In such cases, the streamers may switch their chat channels into Subscribers Only mode, where only subscribers have the right to continue communicating. Thus, streamers make the communication flow more manageable, however the general level of openness decreases. Hilver-Bruce et al. (2018: 60) suggest that viewers who seek a more meaningful social interaction prefer being a part of small-scale stream communities. Their research shows that streamers also note a higher level of interactivity in communication with their chat if the number of viewers is between 100 and 150. Hamilton, Garretson and Kerne (2014: 1321) draw a similar conclusion based on their data, stating that smaller streams emphasize the fulfillment of social needs of their participants, i.e. interactions with viewers, creating a community, etc. In

comparison, large streams are watched for the unique content that the streamer is able to produce regularly.

The communicative roles of live stream participants should also be considered. Based on the Goffman's Participation Framework (1981: 144), the productive role can be represented through an animator (a person responsible for the speech production), an author (a person responsible for selecting the words to be produced) and a principal (a person rather literally responsible for the words being produced). In the context of the live stream, the streamer generally takes all productive roles. However, Recktenwald (2018: 54) notes that there are cases when the roles of an author and/or principal may be taken by other persons, such as marketers who pay the streamer to promote a certain product during the live stream. Although Goffman (1981: 226) makes a distinction between ratified (addressed and unaddressed participants who have full access to the communicative interaction) and unratified (participants who do not have the right to participate) recipients, Recktenwald (2018: 85) argues that every member of the live stream audience must be considered ratified due to the availability of live streams to the global online public. Moreover, even when the streamers focus on the game rather than on the audience, they still take into account that their speech is received by members of the audience.

2.2.2. Video game marketing

Today, the production of video games requires significant financial investments and the total production costs for the biggest games in the market. For example, Zwiezen (2023) reported that one of the most anticipated games of 2020, *Cyberpunk 2077* by CD Project Red, had a total development cost of \$174 million, as well as \$142 million devoted to the marketing of the game. Although not every game has a budget as high as *Cyberpunk 2077*, ensuring a high number of sold copies through marketing is one of the most important goals in the development cycle for any developer.

Zackariasson and Dymek (2016: 14) point out that marketing in the video game industry must be considered carefully because the authors claim that video games represent cultural products and are a part of the culture industry. In this sense, video gamers should be compared to films, books and music, since the production and consumption of these products go beyond simply using them to satisfy one's basic needs. Such cultural products include symbolic value, which must be considered in the marketing strategies.

Understanding the target audience is one of the most important aspects of marketing, also in the video game industry. Naturally, consumers prefer various genres of video games, and their age and gender may have an impact on their preferences. For example, Scharkow et al. report that older consumers are more inclined to play puzzle and card games in comparison to younger gamers, while the latter prefer to play other genres of video games (Scharkow et al. 2015: 296). The researchers' findings do not demonstrate clear evidence that gender significantly influences the genre played by

gamers. Although male players show a higher tendency towards playing strategy, sports, action and simulation games, more than 50% of other genres researched show no strong differences in terms of preferences based on gender. In comparison, a study conducted by Tondello and Nacke shows more evident differences in genre preferences based on gender (Tondello & Nacke 2019: 375). According to the authors, female gamers are more inclined to choose games that include relaxing and immersive gameplay, such as *Stardew Valley*, *The Sims*, *Pokémon*, etc. Male gamers, on the other hand, prefer games with a more challenging, intense and competitive nature, which include *Counter-Strike*, *Overwatch*, *DotA*, etc. Nevertheless, it must be stated that the general tendency in the video game industry is the increasing equality in the ratio between female and male gamers (Zackariasson & Dymek 2016: 101).

The scale of the game heavily influences the marketing strategy for developers. There are various approaches a developing company may take depending on the scale of its game. If the game being developed is considered a large game aimed at a mass audience, the scale of marketing also must be considerable. Zackariasson and Dymek (2016: 36) state that companies developing large games must increase their presence not only in the digital markets but also in the physical ones. For example, a presentation at a big conference, e.g. E3, Gamescom, etc., may be a central event of the whole marketing strategy. Additionally, developing companies may employ outdoor billboards and advertisements to attract more potential consumers. Generally, a higher exposure in the media is also characteristic of large games in development, which may include a variety of interviews with developers, publication of trailers on online platforms, providing early access to the game to specific journalists, etc. Smaller-scale games, or casual games, do not have the capability to have marketing strategies similar in scale to large-scale games. For this reason, developers of casual games generally tend to improve their presence exclusively in the digital markets. Their main promotional strategies may include developing a community online and creating banners for web pages that are chosen strategically, e.g. banners on websites devoted to games similar to the genre of the game being advertised. Kimura (2015: 74) additionally states that word-of-mouth through social media may be an effective strategy for casual games, and it may account for 30% of total game sales. However, the author mentions word-of-mouth as the most effective if the game is the first one in the game franchise, while the effectiveness of this strategy appears to decrease for subsequent installments.

What is also important to mention is that marketing does not guarantee the success of the game, and, on the contrary, low investment into marketing does not guarantee a failure for a game. To confirm the latter statement, Zackariasson and Dymek (2016: 77) compare *Candy Crash Saga* and *Minecraft*. The developer of the former game put a strong emphasis on marketing and invest considerable financial resources to promote their games. The developers of *Minecraft*, on the other

hand, did not focus heavily on marketing at the early years of the game and mostly relied on word-of-mouth, yet the game has achieved a considerable success¹.

The effect of live streams on the success of video game marketing should be considered here as well. Naturally, live streams need to be considered a part of the digital world, which some developers may use to promote their products. According to the results of the study conducted by Foster, video game live streams may be an effective marketing tool for developers (Foster 2016: 2). According to the findings of the study (Forster 2016: 39), a promotion through sponsoring user-generated live streams of video game titles and genres appealing to heavier audiences may have a positive impact on the online presence of the game. However, several factors should be taken into account in the selection of a stream to sponsor. The author states that the higher level of impact that a stream has depends on whether the target audience identifies with the persona of a streamer in terms of stances, behavior and thoughts, which improves the general credibility of a streamer. Another important aspect that may influence the effectiveness of sponsoring a live stream is the familiarity of viewers with such streams, as the viewers who have the experience of watching a particular streamer are more likely to find the information they are provided with more credible.

2.2.3. Developer live stream

One of the biggest parts of the year for the video game industry since the end of the 20th century was massive exhibitions around the world – generally held in summer – where game developers could hold presentations of their new games, hardware and/or software, and visitors had the opportunity to test these products in person before they were released to the public. For developing companies, such events could play a pivotal role in their marketing campaigns, as the successful presentations of products in development could create immense interest and subsequently generate good sales. However, the organization of such an event became impossible in 2020 due to restrictions caused by the COVID-19 pandemic, and many events, including the major exhibitions such as Electronic Entertainment Expo (E3) and Gamescom, were canceled (Meahjohn & Persad 2020: 1168). For this reason, the developers had to adapt to the new reality and change their marketing strategies to promote their products.

Considering the widespread development of live streaming and its popularity among online users (according to the data of Twitch.tv, the average number of concurrent viewers on this platform alone exceeded two million viewers in 2020), many developers moved to their online channels on YouTube and/or Twitch, where they had previously uploaded trailers and brief information videos, to hold promotional live streams, where they could show their products being developed.

¹ Minecraft was released in the late 2011 and is now often considered the best-selling video game of all time, with more than 300 million copies sold across various platforms.

The difference between developer live streams and general live streams must be noted, which concerns the audience itself and their needs for viewing such content. The viewers of developer live streams watch them because of their interest in a specific game/software being promoted or because they support a company that develops a particular product. For this reason, it may be stated that the persona of a streamer does not play a significant role in the popularity of a stream, but the product itself and the company (or a sense of loyalty to a company from the side of viewers) serves as the main point of attraction for developer live streams. Additionally, the ordinary curiosity to learn more about an upcoming game, console or program attracts a considerable amount of internet users. Because of this difference, it may be stated that developer live streams do not foster the development of new online communities when compared to ordinary live streams. They rather represent a marketing tool for developers employed to enlarge a pre-existing community of fans through the medium that viewers are closely familiar with and have comparatively easy access to, which will ensure an increase in the number of game or software copies sold and in company's revenues.

2.2. Discourse

To better understand the concept of a video game developer live stream from the perspective of linguistics, it appears necessary to include discourse in the discussion. The term discourse may be defined very differently depending on research goals. However, linguists agree that discourse can be generally defined as a “language above the sentence” (Cameron 2001: 10. Chiang (2015: 3) provides additional possible definitions of discourse depending on the approach to it: as “specialized system of vocabulary,” or “any codified representation of knowledge in a particular academic discipline (e.g., medical discourse, legal discourse, educational discourse),” or “a type of social practice in a given profession (e.g., classroom instruction, news report, job interview).” Cameron (2001: 13) highlights the interest of discourse analysts in the ways a language is used in relation to the communicative purpose of specific situations and contexts, and how real language – in opposition to ideal language studies by researchers in the field of syntax – functions from the perspective of its goals in the text or conversations. Based on this, Cameron defines discourse as “language used to do something and mean something, language produced and interpreted in a real-world context.” Chiang endorses this idea and further focuses on the significance of the type of social action that governs communicative interaction between participants. Thus, researchers focusing on discourse need to consider a variety of external factors that may influence the use of language, i.e. participants' social, cultural and professional backgrounds, communicative purpose of interaction, communication medium, etc.

2.2.1. Media discourse

A video game developer live stream as discourse may be viewed from a variety of points. Firstly, it may be considered media discourse. According to the definition by O'Keeffe (2013: 441), media discourse refers to “interactions that take place through a broadcast platform, whether spoken

or written, in which the discourse is oriented to a non-present reader, listener or viewer.” Jurayeva et al. (2022: 561) make a distinction between two definition of media discourse. The first definition represents the concept defined by O’Keeffe, but the second definition refers to media discourse as a way of talking or thinking, which is characteristics of a certain area of media. The constant development of technologies introduces new types of media, and even though media discourse was primarily devoted to media that are considered classical nowadays, such as newspapers and radio (which researchers often refer to as printed media discourse and spoken media discourse respectively), today computer live streams could be included in the list.

Considering the talk-based nature of video game live streams, it appears logical to classify them as spoken media discourse. In her work, O’Keeffe (2006: 15) examined specific features that one may find in spoken media discourse interactions: (1) a minimum of two participants is involved in a conversation that may be presented in a purely audio form (radio) or can also be accompanied by visuals (television); (2) conversations where participants are not familiar with each other are not uncommon; (3) the audience may be familiar with at least one participant (a media persona), although this persona is highly likely not to know the audience as individuals; (4) in comparison to casual conversations, one participant (primarily the media persona) has more authority in such interactions and consequently has more discourse rights, i.e. the right to start/close a topic, the right to control turn-taking; (5) the audience may provide verbal reactions to what it sees and/or hears in media discourse interactions, although the audience is unlikely to be considered a participant and its reactions generally does not affect the conversation; (6) any media audience may become global due to the development of internet.

The case of developer live stream provides an interesting case in terms of the persona of participants. Although some video game companies have designated promoters who act as the company’s representatives in promotional events, including live streams, it is not rare that actual developers are requested to participate in such live streams to better explain certain game elements or new mechanics. Naturally, there are certain superstar developers who are known not only in the video game industry, but an ordinary developer is most probably unfamiliar to casual viewers. In such cases, the developing company (i.e. Bethesda Game Studios, Paradox Interactive, Rockstar Games, etc.) or the product itself (Assassin's Creed, Fallout, FIFA, etc.), which is promoted during the live stream, may become a kind of media persona that attracts viewers and is known to them.

2.2.2. Institutional discourse

When analyzing any developer live streams, it is essential to keep in mind that these streams are held with the goal of promoting a new product or a new extension to old products. Even though developers on the screen may appear to be light-hearted, their goal is to convince the viewers – potential customers – to spend their money on a new game. Their communication within the stream

may turn into something that resembles a casual conversation, but the developers generally operate within specific boundaries that will allow them to inform their viewers of all the benefits of a new game, which they are instructed to talk about by the company. These streams are a part of companies' marketing strategies, and the interactions within the streams are restricted by their marketing goals. For this reason, it appears logical to consider developer live streams from the perspective of institutional discourse.

Freed (2015: 809) provides the following definition for institutional discourse:

Institutional discourse refers to verbal exchanges between two or more people in circumstances (1) where at least one speaker or participant is a representative of (or a spokesperson for) a work-related institution, (2) where the language used, the nature of the interaction, and the speakers' goals are at least partially determined by the institution in play, and (3) where at least one participant defines the interaction as "work" or as doing work.

Several insights must be mentioned from this definition in regard to developer live streams. Firstly, it is very uncommon for participants of such interaction to be outsiders who are not affiliated with the developing company, and most developer live streams are held by employees who perform their job duties. For this reason, conversations between developers during the streams are unlikely to be considered natural and casual. The professional approach to such interactions from the side of participants is also noted by Koivisto and Niemi (2020: 183), who highlight the underlying goals that each participant seeks to achieve with institutional interactions.

Institutional interactions have traditionally been compared with ordinary conversations because the latter has long been considered a "benchmark which other more formal or 'institutional' types of interaction are recognized and experienced" (Drew & Heritage 1992: 19). By comparing institutional talks and ordinary conversations, researchers managed to identify several basic distinctive features of institutional discourse (Chiang 2015; Drew & Heritage 1992; Freed 2015). Arguably the most notable feature of institutional discourse is at least some degree of asymmetry between speakers. Such differences may be created by a variety of factors, but the status in the institution and experience are generally considered the most influential. Thus, professionals – attorneys and physicians – often hold dominant positions when they interact with people who seek professional advice or assistance. Consequently, such asymmetry is reflected in the structure of conversation. According to Freed (2015: 811), speakers with a higher status generally have more rights within a conversation and have the authority to construct the interaction in such a way that their primary goals for these interactions are achieved, e.g. by asking questions, switching topics, controlling the duration of interactions, etc. Drew and Heritage (1992: 23) note that noninstitutional conversation participants may not even be aware of institutional-specific limitations and responsibilities through which institutional interlocutors construct their conversational behavior.

Another prominent feature of institutional discourse is a comparatively fixed order and set of speech acts. The institutional context itself also dictates the procedure of institutional interactions, which requires the participants to follow specific fixed practices that are generally in the control of institutional representatives. Freed (2015: 813) distinguishes between prescribed procedures (designated speakers in court who have the right and authority to call a court to order), conventional procedures (lecturers at a university initiate discussions) and scripted procedures (employees of call-centers begin the conversation with customers by following the instructions verbatim).

Institutional discourse is also characterized by joint orientation towards a goal related to the institutional context. Although it is highly possible that the goals of interlocutors in institutional interactions do not coincide with each other, there is an underlying preestablished orientation that controls the interaction and shapes its course towards the completion of interlocutors' goals (Koivisto & Niemi 2020: 188).

Institutional interactions additionally limit the verbal output of institutional representatives. According to Freed (2015: 814), institutional representatives are regularly required to follow specific procedures by their organizations, and deviation from established rules is generally discouraged. Such restrictions and/or prescriptions commonly remain unknown or hidden from noninstitutional interlocutors.

2.2.3. Video game and live streaming discourse

A video game discourse must also be taken into account in the analysis of developer live streams. According to Shalamay (2022: 88), it is important to separate a video game discourse from electronic discourse and Internet discourse if the video game in question is designed to be played by a single person. At the same time, the author acknowledges that such types of discourse may be applied in the analysis of communication between players in online and multiplayer games. In addition, video game discourse may interact with other types of discourse, such as computer discourse (particularly in interaction of players with in-game menus) and advertising discourse.

Ensslin (2011: 6) suggests that video game discourse should be interpreted very broadly and include not only in-game communication, but also discussions of games via various types of media; discourse of video game industry professionals, i.e., communication between game developers and designers; in-game texts and speech created by the developers, i.e., in-game dialogues, user interfaces, etc. Hence, it may be argued that video game discourse includes multiple levels of interactions that involved parties may experience depending not only on circumstances of communicative situation, but also the type of game being played/discussed.

Furthermore, Ensslin and Balteiro (2019: 3) highlight that video games represent a multimedia product, hence a multimodal approach must be taken in order to comprehensively analyze video game discourse, as it incorporates a variety of elements that gamers can interact with either individually or

collectively. Shalamay (2022: 89) identifies six primary modes of video games, i.e., linguistic, gestural, auditory, visual, haptic and spatial. Hawreliak (2019: 228) argues that video game also includes a procedural mode, which manifests itself in the reaction of the in-game world to the player's actions, hence creating an additional layer of meaning for players. The procedural mode explains the rule of the virtual world to the players, allowing them to understand what they are allowed or prohibited to do, who they can interact with and how the world is going to respond to them.

Video game live streaming discourse has additional layers of interaction. Apart from the player and the game, live streams include live audience, whose member can interact with other in textual form in live chat rooms and interact with a player also through live chat rooms or special monetary-based donations. While the audience of live streams may include thousands of viewers², Recktenwald (2018: 179) argues that the communication during the live streams is not chaotic. On the contrary, it represents an orderly communication, which has its common cycles and patterns.

Recktenwald (2018: 180) highlight the crossmodality of interaction between the streamers and their audience, which is explained by the limited capabilities of the audience to communicate with the streamers, as their (almost)³ exclusive option is typing in the chat rooms. In comparison, the streamers have more flexibility in constructing their response. Not only can streamers respond in the textual form in the same chat room, but they can also provide a verbal response using their microphones. Moreover, Felczak (2017: 31) mentions that individual streamers may also have cameras, which give them the opportunity to provide visual and gestural responses. In-game events, however, may negatively affect the communication between the streamers and their audience. As Recktenwald (2018: 181) notes, an extended series of in-game events disrupts the streamer-audience communication, making the former concentrate on the gameplay and consequently ignore a multitude of communication attempts initiated by the audience.

Based on the information provided above, it may be argued that video game developer live stream represents an interesting combination of various types of discourses. Their features influence the conversational patterns and conditions of communication between live stream participants. It may be mostly evident in the distribution of roles that participants are assigned prior to the stream, which gives one of them a position of an expert and provides them with more communicative rights to control the structure of the talk. Furthermore, the mostly unchangeable structure of some elements of live streams, particularly their beginnings and endings, appears to be established by institutional procedures set by a developer company, and it rarely changes. Finally, the multimodal nature of video

² Currently, the highest number of concurrent viewers on a twitch live stream is almost 3.5 million.

³ Some streamers use specific software that voices messages that are shown in the donation notifications made by individual members of the audience.

game discourse clearly establishes communication routes for every participant of a video game live stream.

2.3. Turn-taking model

The turn-taking model serves as a basis of this thesis for research of interactions between developers within developer live stream. This subchapter seeks to discuss the basics of the turn-taking model, examine current approaches to the model and look into theory on the instances of simultaneous speech.

2.3.1. Basics of the turn-taking model

The creation of the turn-taking model is commonly attributed to Sacks, Schegloff and Jefferson who explored the turn-taking mechanism in the 1960s/70s. In their original work on turn-taking, the authors call it “a basic form” for organizing and structuring a conversation between individuals (Sacks, Schegloff & Jefferson 1974: 700). According to Levinson (2016: 6), the system of turn-taking is rather efficient due to the fact that instances of simultaneous speech, when two or more speakers attempt to have a turn at the same time, are rather uncommon. He states that occurrences of double talking take less than 5% of speech stream, with a modal overlap being shorter than 100 ms long and an average gap between turns being roughly 200 ms. Moreover, there are cases when parties are able to fully avoid overlaps and minimize the duration of gaps, which results in successful latching of a turn onto the next one (Zimmerman & West 1977: 523). Turns themselves tend to be rather short, with an average turn being approximately 1700 ms, although their length may vary depending on the context of a specific conversation. Sacks, Schegloff and Jefferson (1974: 699) describe turn-taking as a context-independent system that, however, is context-sensitive enough to adjust to certain parameters of individual cases of conversation, which may include differences in the social status of conversation participants, speakers’ backgrounds (e.g. cultural, professional, etc.), interpersonal relationships, place/time of conversation, etc. Levinson and Torreira (2015: 11) additionally mention that the flexibility of turn-taking allows conversations to incorporate more speakers and longer turns.

The speaker may choose to construct a turn employing various unit-types (Sacks, Schegloff & Jefferson 1974: 702). In the English language, these constructional components may be expressed in the form of a whole sentence, a clause, a phrase, or a single word. These various turn-constructional units are used not only by a speaking party to create a turn but they are also used by a listening party who attempt to predict – based on the listener’s knowledge of a particular unit structure – when the speaker’s turn is going to end, which allows for a switch of turns without a gap (Thórisson 2002: 176).

When the speaker completes a turn, the conversation reaches a transition-relevance place, which is ultimately linked to any unit-type (Sacks, Schegloff & Jefferson 1974: 703). Levinson and Torreira (2015: 17) state that such points of transition may be pragmatic, syntactical or intonational in nature.

There are several basic rules that are applied to the allocation of a following turn: (1) if the currently speaking party constructs a turn in such a way that the next speaker is selected, then the latter “has the right and is obliged” to start the next turn, while no other party has such rights (if the conversation involves more than two participants); (2) if the currently speaking party constructs a turn in such a way that the next speaker is not selected, any other party may decide to, but is not obliged to, self-select and take the following turn; (3) if the currently speaking party constructs a turn in such a way that the next speaker is not selected, the current speaker may decide to, but is not obliged to, continue, unless self-selection is instituted (Sacks, Schegloff & Jefferson 1974: 704). It is supposed that the successful application of these rules may eliminate or minimize possible gaps and overlaps. As Zimmerman and West (1977: 522) claim, the application of one of these rules resets the turn-allocation, and they should be considered again at the next transition-relevance place.

The rules presented above may be divided into two primary groups of allocational techniques, as proposed by Sacks, Schegloff and Jefferson (1974: 703). The first group includes techniques in which the next turn is allocated by the currently speaking party, which may be expressed in a form of a greeting, question, invitation, etc. The second group includes techniques in which the next turn is allocated by speakers self-selecting themselves to take the next turn, which may be represented by a party starting first or starting subsequently.

To substantiate the original turn-taking model, Sacks, Schegloff and Jefferson (1974: 700) provide a set of features characteristic of their model that can be observed in any conversation: (1) a speaker changes at least once during the conversation; (2) in most cases, only one speaker talks; (3) cases when two parties speak simultaneously happen regularly, although their length is short; (4) a majority of transitions from one speaker to another take place with no gap and no overlap or with minor gap and minor overlap; (5) the order of turns is variable; (6) similarly to the turn order, the size of turns may also differ; (7) the parties do not specify in advance how long the conversation should be; (8) the content of parties’ turns is not determined prior to the conversation; (9) parties do not distribute the turns prior to the conversation; (10) conversations may involve different numbers of participants; (11) a talk may continue or discontinue; (12) the speakers employ various turn-allocation techniques (as presented above); (13) speakers construct their turns using a variety of turn-constructional units (as discussed previously); (14) to fix errors and violation that might occur with the turn-taking, speakers may employ certain repair mechanisms. During the analysis of the data, the adaptability of these features to the context of a video game developer live stream will be considered.

Claiming that these features can be found in any conversation may appear to be an exaggeration from the authors, especially considering a variety of contexts conversation may occur in. It is possible that these particular features may have been determined as context-independent by the authors, yet

the data (from this paper as well) shows that the presented features are rather adaptable to specific conversation circumstances, which will be discussed in subsequent chapters of the paper.

Given the variety of factors that may influence turn-taking and its features, it is important to consider cultural variations. The question regarding the functioning of turn-taking in various languages has been posed by many researchers since the development of the turn-taking model (Casillas & Frank 2013; Duncan 1972; Levinson & Torreira 2015; Stivers et al. 2009). Today, it appears to be generally accepted that turn-taking is a universal feature of human languages (Henry et al. 2015: 40). This idea is supported by a seminal study on the topic conducted by Stivers et al. (2009). In the study, researchers analyzed recordings of informal conversations in ten languages that differ in their area of use, phonological structure, grammar, etc., which not only included widespread languages like English, but also languages that were considered native for less than a million speakers, such as Tzeltal. The researchers attempted to determine whether some languages had a higher rate of overlaps or whether a distribution of turn transition was unimodal and not affected by cultural variations. The results of the study provide a strong basis for the hypothesis of turn-taking universality. On average, all languages showed that turn transitions resulted in neither overlaps nor significantly delayed gaps between turns. Based on this data, it can be said that the turn-taking system functions universally across a variety of languages – at the very least, in informal settings – to ensure that a turn transition occurs with minimal gaps and/or overlaps.

From a cognitive perspective, the turn-taking system is foregrounded by complex mental processes that take place simultaneously in a listener's mind. In order to achieve effective communication and provide a meaningful response without big gaps, a listening party has a variety of tasks they need to complete at once. According to Levinson and Torreira (2015: 22), the first step a listening party must take is to determine the type of speaker's utterance as soon as possible (question, request, proposal, etc.) to understand what type of response must be given. Once a type of utterance is determined, a listening party should begin constructing a corresponding response, which includes creating its meaning, finding correct vocabulary and appropriate syntactical structure. At the same time, the listening party needs to pay close attention to the lexicosyntactic and prosodic cues of the speaker's utterance to assume how long the speaker's turn is going to take. Finally, once the listening party detects the end of the turn, they should begin its own turn. Approximate timings for these steps have become available in recent years with the help of electroencephalography (Levinson 2016: 7). The first step tends to be rather fast; the listener can generally recognize the type of utterance in the first 400 ms of a turn. The next step – construction of one's own turn – may require up to 500 ms to start after the first step. The exact timing for the estimation step is not provided, although it is generally believed that the listener is able to estimate the duration of a turn about halfway through

the turn. The final step generally happens with a 200 ms gap after the end of the previous speaker's turn, which accounts for a human minimal response time.

2.3.2. Instances of simultaneous speech. Overlaps and interruptions.

Despite the fact that a turn-taking model generally ensures that communication between the parties is effective enough, there are cases when the listening party initiates their turn slightly too early, which results in overlap, or double talking (Heldner & Edlund 2010: 558). An overlap represents a brief snippet of two parties talking at the same time as one of the parties reaches the vicinity of a transition-relevance place. According to Levinson (2015: 6), an average overlap does not take longer than 100 ms and happen rarely in conversations. Janowski and André (2019: 1052) state that overlaps have a semantic connection to the current turn and may show that a listening party is indeed involved and enthusiastic about the conversation.

According to Sacks, Schegloff and Jefferson (1974: 706), the turn-taking model creates the basis for instances of simultaneous speech and provides several reasons why overlaps may occur in a conversation. Overlaps happen in cases when a new turn is initiated by self-selecting, and self-selecting parties compete with each other in order to start their turn as early as possible at a transition-relevance place. As a result, more than one party may begin a turn, hence initiating simultaneous starts. Another reason stated by the authors is related to the listening party mistakenly projecting the arrival of a transition-relevance place or the coming end of a turn. Levinson and Torreira (2015: 12) add that overlaps may happen due to small additions to the previous turn, which may be represented in the form of addressing phrases or tags. Another reason for the occurrence of overlaps may be explained by a listening party's desire to show that they are actively listening to the content of a speaker's turn. In such cases, the listening parties may often employ a specific type of utterance coined a minimal response (such as *yeah*, *uh-huh*, *hm*, etc.). Zimmerman and West (1996: 215) note that a majority of speakers are agile enough and are able to employ such minimal responses between turns of their counterparts, which allows the conversation to continue without any overlaps. However, it is not uncommon that such minimal responses may be used during the speaker's turn, which leads to very brief overlaps. Nevertheless, there are also cases when overlaps may be perceived negatively because they do not allow the counterpart's turn to start properly and may also signal that the listening party does not pay close attention to the conversation (Henry et al. 2015: 40).

Naturally, instances of simultaneous speech may happen mistakenly, which may lead to a violation of a turn-taking structure. If the parties wish to fix the issues and to restore the structure of turn-taking within a conversation, they may employ what Sacks, Schegloff and Jefferson (1974: 723) call repair mechanisms. The application of such mechanisms allows the parties to restore the original turn order and organization of turn-taking. Among such mechanisms, researchers highlight interruption markers, repetitions and false starts as basic devices for repair of errors in conversation

organization. However, it must be noted that specific repair devices appear to be violative to the nature of the turn-taking system, such as finishing a turn before it reaches a transition-relevance place.

It appears important to state that Sacks, Schegloff and Jefferson (1976) only use the term overlap to refer to cases of simultaneous speech in conversations. However, further research on the topic of turn-taking explores such cases in more detail. In addition to overlaps, Zimmerman and West (1977: 523) identify interruptions as a separate type of occurrence of simultaneous speech. In their work, overlaps are referred to as “event[s] occurring in the immediate vicinity of a possible transition-relevance place and can be seen as generated by the ordinary workings of the turn-taking system.” In comparison, interruptions are considered unsystematic for the turn-taking system because they do not represent the result of “products of the turn-constructive and turn-allocation procedures that make up the model.” The authors even state that interruptions may be violative in their nature in relation to the turn-taking model. In normal conversations, interruptions are often considered rude or even aggressive, and it is generally agreed that overuse of interruptions in turn-taking is undesirable (Janowski & André 2019: 1051). If the interruptions used are indeed violative, they can serve several purposes in a conversation. The active use of interruptions may serve as a sign of the party’s dominance or an attempt to assert it. In addition, if the party seeks to improve its position in a conversation, it may use interruptions in order to take or retrieve control over the interaction (Zimmerman & West 1977: 525). However, interruptions might also be used in a positive manner for the purpose of achieving specific communication goals. Janowski and André (2019: 1052) claim that interruptions may be used to request a clarification of the previous speaker’s words. In this case, the interrupter may seek to obtain more information in order to provide a more meaningful and logical response, hence supporting his/her level of competence. The authors also state that such a request could be a sign of respect in relation to the interrupted party’s goal to receive an appropriate and corresponding response, which demonstrates the unity of the parties’ communicative goals. Beattie (1981: 16) also reflects on the positive use of interruptions, stating that interruptions used in the middle phase of a conversation may signal a high level of involvement in the essence of conversation.

One of the studies by Zimmerman and West focused on the occurrences of overlaps and interruptions from the gender perspective. In the analysis of their data, the authors discovered that overlaps occurred more frequently than interruptions in cases of same-sex routine conversations; the interruptions were used only seven times, and their use was rather symmetrical for both male-male and female-female pairs. However, the differences became more apparent in cross-sex conversations. In comparison to only seven interruptions in same-sex conversation, cross-sex interactions resulted in almost 70 interruptions. What is more interesting here is that the use of interruptions by male speakers constitutes approximately 95% of all interruptions. Female speakers often resorted to silence, particularly after they had been interrupted by male speakers (Zimmerman & West 1977:

524). On the basis of their analysis, West and Zimmerman concluded that the use of interruptions by males may serve as a device for asserting their dominance and/or control over female speakers in a conversation and allows them to “disorganize the local construction of a topic.” The authors also compare such interactions to communication scenarios between parents and children.

The results of Zimmerman and West’s analysis, however, must be taken with great caution, especially today. First and foremost, the study was conducted almost half a century ago, and the social roles and positions of both males and females have changed rather drastically over this period of time. Secondly, the data was collected only from one community; for this, reason, the results of this study might be representative of local patterns of use of overlaps and interruptions. Finally, all interruptions in their analysis are considered to be violative, and only gender is taken into account as an important factor for the employment of interruptions in spite of the variety of different factors influencing the structure of a conversation, such as social and professional status, backgrounds. Thus, their results, especially considering strikingly different interruption usage rates in men and women, appear to be rather one-dimensional and non-complex.

In comparison, the analysis of various academic tutorial groups from the University of Sheffield, conducted by Beattie (1981: 24), provides rather different results. The analysis shows that there were no significant variations in relation to the use of interruptions by men and women. Out of all interruptions found in the recordings, both males and females interrupted the opposite gender in approximately 34% of cases, with males having a higher percentage by three-tenths. Nevertheless, it must be said that the social context of these recordings was different from the one analyzed by Zimmerman and West. While the latter analyzed routine recordings that included everyday routine situations, the context of Beattie’s recordings dictated the need to make a good impression from the academic standpoint, and gender did not play a significant role in this particular situation. The factor that did have a significant impact on the use of interruptions was the interrupter’s status within the group (Beattie 1981: 32). The cases of one student interrupting another one considerably outnumbered the cases of a student interrupting a tutor, with the number being nearly twice as high. Again, this may be explained by the context of tutorial sessions where students need to show their abilities and level of knowledge, considering that their performance during such sessions might have an impact on students’ final grades.

2.3.3. Primary theoretical approaches explaining turn-taking

Currently, there are two main approaches that explain how the turn-taking process is organized by conversation participants. The first approach is based on the assumption that conversation participants can anticipate the end of a turn in advance and hence is termed an anticipatory approach (Riest, Jorschick & de Ruiter 2015: 62). As explained above, participants employ the language knowledge that allows them to start preparing for a transition of a turn. Several studies state that such

anticipation mechanisms are developed early in life prior to complete linguistic competence (Casillas & Frank 2013: 299; Holler & Hendrick 2015: 77; Levinson & Torreira 2015: 11; Riest, Jorschick & de Ruiter 2015: 64). Casillas and Frank (2013: 301) analyzed the eye movements of a group of children aged 1-7 years old watching short videos of conversation to and found that even the youngest participants were able to predict the switch of turns by gazing at the upcoming speaker. According to the researchers, such an early development helps children to become more successful in future interactions involving multiple participants and improves their general conversation capabilities.

In comparison to the anticipatory approach, the second approach is based on the assumption that speakers give specific signals – or cues – in their speech that allow listeners to react correspondingly and hence is called a signaling approach (Riest, Jorschick & de Ruiter 2015: 63). According to Thórisson (2002: 177), these signals are used by speakers to inform other conversation participants about the current state of dialogue. By using such signals, speakers may warn their listeners that their intention is to keep the next turn to themselves and continue speaking or that they plan to transfer the turn to another participant. Drawing on this approach, it may be said that the change of turn is controlled almost exclusively by the speaker.

The development of the signaling approach is generally credited to Duncan (Levinson & Torreira 2015: 13; Riest, Jorschick & de Ruiter 2015: 63; Thórisson 2002: 177). In his study, Duncan states that a turn-yielding signal acts as a representation of a particular behavioral cue, and he divides such cues into six categories: (1) the use of sequence-final intonation that is different from intermediate pitch level; (2) paralinguistic cues, such as drawling on the final or the stressed syllable; (3) gesticulation, which may include either a complete termination of gesticulation at the end of a turn or a decrease in tensivity of gesticulation at the end of a turn; (4) socio-centric sequences, which may be represented through the use of stereotypical expressions, e.g. *isn't it, you know, and you, or...*, etc.; (5) a combination of a socio-centric sequence and a considerable change in pitch; (6) end of a grammatical clause (Duncan 1972: 286). Based on Duncan's taxonomy, Levinson and Torreira (2015: 21) conclude that such cues are primarily prosodic in nature, although their type may differ drastically based on the specific context of a conversation. They additionally mention that a speaker's gaze towards a possible addressee might serve as a turn-yielding cue. Stivers et al. (2009: 10588) suggest that a gaze toward one of the listeners may put additional pressure to provide a quicker response, hence reducing the duration of a gap.

Currently, the literature on the topic of turn-taking primarily focuses on the anticipatory approach, while the signaling approach is superseded (Levinson & Torreira 2015: 22; Riest, Jorschick & de Ruiter 2015: 63). The researchers mostly criticize the latter approach for the lack of explanation on why gaps between the turns are so short despite the fact that signals appear considerably late in the turn of a speaker, which makes it almost impossible for a listener to prepare an adequate response.

However, there are studies that may indicate that gaps between turns, in fact, provide enough time for a listening party to react to a cue that is located in a close vicinity of the end of a turn. For example, Heldner and Edlund (2010: 556) conducted a corpus-based study and analyzed three conversational corpora. The analysis of their data showed that the duration of almost half of all inter-speaker intervals exceeded 200 ms. Based on this information, the researchers concluded that listening parties may have enough time to react to certain cues found in the speakers' turns. However, it should be mentioned that other factors may influence the duration of a gap. For example, Levinson and Torreira (2015: 23) highlight that human factors, which includes poor attention being distracted, and predetermined agendas may play a crucial role in the duration of a gap. Another point of critique that the researchers point out is the context-dependency of turn-yielding signals, such as intonation in the English language, which may be interpreted differently based on the context.

Despite the fact that the anticipatory approach is generally considered a superior one, it has also been a subject of active criticism. One of the issues, as noted by Levinson and Torreira (2015: 12), is related to the essence of turn, i.e. what can be counted as a turn and how conversation participants recognize that the turn has ended. The issue becomes more evident through the fact that even a single word may constitute a turn in specific contexts. In their work, Sacks, Schegloff and Jefferson (1974: 721) also point out this issue and highlight the importance of several language aspects that assist in locating points of possible turn completion. Among them, the authors mention syntax and understanding of sound production (intonation, phonology) as possible indicators of the end of a turn. Levinson and Torreira (2015: 12) also add that pragmatics may play an important role in locating the end of a turn.

Another issue often noted by researchers is related to the lack of understanding of how the listening party is able to anticipate the end of a turn and what information they use for their projection (Levinson & Torreira 2015: 11; Power & Dal Martello 1986: 33 Riest, Jorschick & de Ruiter 2015: 64). Again, this issue is complicated by the flexible nature of the turn-taking system and the variety of turn-constructual units employed by speakers. Various researchers attempted to investigate the mechanisms underlying listeners' projection in turn-taking. For example, Caspers (2003: 269) conducted a quantitative analysis of projection based on melodic factors in the Dutch language and found that listening parties appear to primarily rely on syntactical constitutes as cues for turn-ending projection. At the same time, she notes that melodic factors (pitch accents, boundary tones, etc.) indicate whether the speaker intends to hold the turn or to transfer to another party. De Ruiter, Mitterer and Enfield (2006: 515) attempted to determine the influence of lexis, syntax and intonation on the turn-taking projection by conducting an experiment where they asked the participants to determine the upcoming end of a turn by pressing a button. The results of the experiment show that the absence of intonational contour does not affect the participants' accuracy in projecting the end of a turn, while

the removal of the lexical component results in a drastic reduction in the accuracy of participants' projection. Finally, as stated earlier, Casillas and Frank (2013: 299) determined that anticipatory mechanisms develop rather early since children from the age of 1 years old are capable of understanding who is going to be the next speaking party in a conversation, based on their gaze switches from one person to another.

In sum, both approaches have various advantages and disadvantages that account for various aspects of turn-taking operation in conversation. Although it is clear that the anticipatory approach is a dominant choice in the academic literature, it may be said that the signaling approach, despite having several rather considerable drawbacks, could still be used as an addition to the former approach or a more complex model of turn-taking to supplement their strong points and balance their limitations.

3. Methodology

This section is focused on the data selection process, including main criteria for selection, and brief description of the games discussed during the live stream in order to provide basic understanding of these games. The description of data is then followed by analytical steps completed in order to achieve the goals set for this paper.

One of the most important steps of any research is selecting the relevant data for the analysis. For the purpose of this paper, several criteria were established for each live stream to ensure their compatibility in terms of content volume and communicative conditions. Naturally, the streams had to belong to one of the preselected game genres, namely action or strategy. The study focuses on these particular genres due to their innate differences in relation to the gameplay pace, complexity and implemented mechanics. To obtain external confirmation for a game belonging to either genre, pages of respective games on online video game distribution platforms containing informative tags were examined in relation to their genre affiliation. The similarity in states of the games at the time of a live stream were taken into account. E.g., if the action game developer live stream was focused on a new big expansion or update for the game, the similar live stream devoted to a strategy game had to be found. The developer live streams had to be held exclusively by two speakers which would ensure the volume of communicative content and relative similarity in terms of turn-taking. Finally, one of the developers had to be responsible for playing the game throughout the whole selected fragment to ensure that the factor of the video game would have an effect for the whole duration of the selected extract. Finally, the live stream participants had to communicate with each other in person rather than via means of electronic communication to warrant that they would be in close contact with each other and have the opportunity to interact not only through verbal means of communication.

Based on the criteria presented above, a total of six stream were selected, with three streams dedicated to action games and three streams devoted to strategy game. The selection of developer live

streams and brief information about are presented in Table 1. The names given in bold indicates that this live stream participant was in control of the game.

Table 1. Developer live streams selected for the purposes of the paper

Name of the game	Speakers and their positions	Genre	Date of release	State of the game as of live stream date
Assassin's Creed Mirage	Chris (Senior Communications Manager)	Action	October 5, 2023	Pre-release
	Youssef (Communications Manager)			
DayZ	Matěj (Community Manager)	Action	December 13, 2018	Big expansion or update
	Adam (Creative Lead)			
Anthem	Jesse (Community Manager)	Action	February 22, 2019	General post-release support
	Ben (Lead Producer)			
Victoria 3	Paul (Game Designer)	Strategy	October 25, 2022	Pre-release
	Mikael (Lead Game Designer)			
Civilization 6	Pete (L&D Manager)	Strategy	October 21, 2016	General post-release support
	Carl (Game Designer)			
Age of Wonders 4	Bas (Game Designer)	Strategy	May 2, 2023	Big expansion or update
	Thomas (Game Designer)			

Brief descriptions of the selected video games have to be provided to ensure a better understanding of the nature of the respective game. The descriptions are based on official information about the games from the online market platforms and personal experiences with the games.

Assassin's Creed Mirage is a third-person action-adventure game set in the 9th-century Baghdad. The player is given the role of an ex-thief who fights his enemies in order to achieve peace and freedom for the people of Baghdad. From the gameplay perspective, the game heavily focuses on fast travel around the city on foot, melee combat and stealth, which ensures the constant flow of gameplay containing a variety of in-game actions that reflect the actions of the player.

DayZ is a multiplayer survival action game set in a post-apocalyptic fictional country whose population became infected by a virus. The goal of the player, as can be understood from the game genre, is to survive as long as possible without dying, as the death of a player leads to a full loss of progress. The players can freely move around the map on foot or using a variety of vehicles, and they are likely to meet groups of computer-controlled infected or other survivors controlled by players. The interaction between the players heavily depends on their approaches to the game, as some players may wish to communicate with other survivors while others may take a more direct and lethal approach. The latter can be executed using different melee and ranged weaponry, which often results in action-packed and intense skirmishes.

Anthem is an online action role-playing game set in the future on a fictional planet, and the player is assigned a role of an adventurer whose goal is to protect humans living on this planet. The central feature of the game is powerful exosuits that allow players to swiftly fly around the map and

destroy the potential threats for humanity. The central gameplay elements are exploration of the planet with the help of exosuits and fast-paced battles with computer-controlled creatures.

Victoria 3 is a historical grand strategy game taking place in the times of the British queen Victoria and up to the years preceding the Second World War. The player has the possibility to select any country that existed in 1836 and control it for a whole in-game century. During the gameplay, the players can develop their countries in relation to their technological advancements, economics, demographics or military domination. Each of these elements has extensive game mechanics supporting the development of the countries, which entails the high level of complexity.

Civilization 6 is a turn-based strategy game where players need to select one of the available historical figures from various countries and develop their own civilizations from the early primitive settlements to the modern world powers. Similar to Victoria 3, Civilization 6 has a variety of gameplay mechanics, such as technological and cultural development, strategic battles with enemy civilizations and city improvements. Although the game is often regarded less complicated than its predecessors, the entry threshold is still comparatively high.

Age of Wonders 4 is a turn-based strategy game set in a high fantasy universe, where players are free to select from a list of factions to develop one of them into the most powerful in the realm with the help of culture, technology and magic. The game also includes a variety of text-based quests that players can complete to receive various bonuses.

For each developer live stream, a ten-minutes fragment that contained active gameplay was selected. These fragments were then transcribed according to the transcription key developed in accordance with the goals of the paper. The transcription key includes conventionally accepted transcription symbols and those added to better reflect the nature of these communicative scenarios. The complete key can be found in the Appendix in Table 6. In addition, the Appendix includes transcriptions for every live stream.

To achieve the set goals, the Conversation Analysis method was employed for the analytical part of this paper, which has allowed to look deeper into the structure of conversation between live stream participants to determine the common patterns on turn-taking organization within each live stream, detect various factors influencing cases of simultaneous speech and assess the possible level of influence that a video game genre may have on the turn-taking structure. Using this method, the application of basic principles of turn-taking was addressed to establish particular differences that separate this type of communicative interaction from other types of conversations. Furthermore, the employment of the Conversation Analysis method in conjunction with quantitative methods of analysis has assisted in assessing the impact that in-game events and actions may have in relation to the production of turns by live stream participants. In addition, other external factors were also taken

into account to examine to what extent the developer live streams constitute the institutional conversational situations.

4. Analysis

This chapter is devoted to the analysis of the turn-taking model operation in the context of the developer live streams and the effect of the game genre on the frequency of occurrences of simultaneous speech. The first part of the chapter focuses on the discussion of how the basic principles of the turn-taking model developed in the seminal work of Sacks, Schegloff and Jefferson (1974:700) are applied in six analyzed live streams. Using the examples from the transcriptions, each feature is examined to determine what circumstances influence the participants of the developer live streams and their interactions with each other and what peculiarities set this type of communicative interaction apart from others. This part of the analytical chapter is completed with a brief summary of the findings.

The second part is centered around instances of simultaneous speech found in the analyzed extracts from six developer live streams. To determine the level of influence a game genre has on the conversation between live stream participants, each live stream is examined in detail to determine what factors lead to cases of double talking, with a particular focus on overlaps and interruptions that are caused by in-game events and actions. The conclusion of the second part discusses the common patterns detected in the analyzed live streams and compares overlaps and interruptions occurring for game-related causes to determine whether action games are indeed more likely to have a higher frequency of instances of simultaneous speech.

4.1. Functioning of the turn-taking model in the context of developer live streams

Considering the lack of research on the application of the turn-taking model in the context of developer live streaming and live streaming in general, it appears necessary to start with the analysis of how the turn-taking model functions in the context of a developer live stream. This will allow us to understand how the turn-taking model functions in such conversational situations and understand the underlying principles of interaction between developers during live streams. To achieve this, the basic principles of turn-taking developed by Sacks, Schegloff and Jefferson (1974: 700) in their original work will be analyzed in relation to selected live streams. The features will be discussed in the order they were presented in the literature review of this paper. The features related to the variability of turn order, length of conversation and number of parties will not be discussed here due to lack of respective data.

4.1.1. Speaker change

The first feature of turn-taking states that a speaker change must occur at least once during a conversation. According to Sacks, Schegloff and Jefferson (1974: 706), the turn-taking model

“provides a systematic basis for speaker-change and its recurrence,” and the analyzed extracts from the live streams do not provide exceptions for this feature. In each developer live stream, the speakers change regularly at corresponding transition-relevance places if the talking party decides not to self-select themselves and chooses the next speaker or allows the other party to self-select to take a following turn.

Nevertheless, it must be noted that the frequency of speaker change may differ across the streams. Figure 1 demonstrates how often the speaker change occurs in each analyzed live stream.

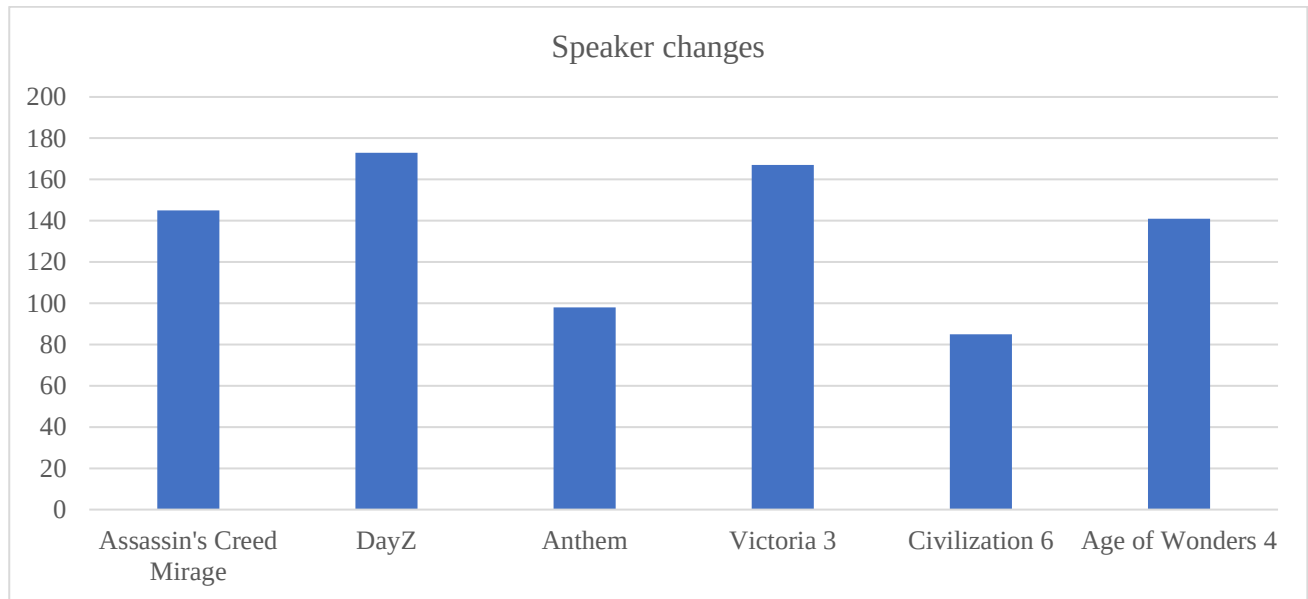


Figure 1. Number of speaker changes detected in every analyzed developer live stream.

The data from Figure 1 indicates that two streams (Civilization 6 and Anthem) – which happen to be devoted to different genres – show a less frequent change of speakers in comparison to other streams in both genres (85 and 98 times respectively). This may be attributed to the roles assigned to each participant prior to the stream that results in a higher level of authority for one of the speakers, which also corresponds to the features of media discourse described by O’Keeffe (2006: 15). Such a distribution of roles may be connected to the positions participant hold in the company and their relation to the game. In these streams, speakers who have less authority in the conversation hold positions related to community management and do not directly develop game mechanics, which are commonly discussed during the live streams. For this reason, the expert role is assigned to developers who have a greater level of knowledge of game mechanics; thus, they are able to explain certain game elements in greater detail and they have more rights to self-select themselves to continue speaking. In streams where both participants hold positions directly involved in game development, i.e. Victoria 3 and Age of Wonders 4 (167 and 141 changes of speakers), a speaker change happens more frequently in comparison to those discussed above. However, it must be additionally noted that other factors may influence the frequency of speaker change other than assigned roles and positions in the company. For example, the stream devoted to DayZ was held by the Community Manager and the

game's Creative Lead, yet the extract does not show a decrease in the frequency of speaker change. On the contrary, this particular live stream has the highest number of speaker changes across all live streams (173 changes). It may be assumed that interpersonal relations and experience of holding such streams together (most DayZ developer streams are held by the same people) reduce the influence of expertise level on the frequency of speaker change. In comparison to live streams discussed above, the Assassin's Creed Mirage live stream was held by two Communication Managers who do not participate in the game development directly. Hence, it may be stated that both live stream participants have equal rights to produce and continue turns, which may account for a relatively high number of speaker changes.

4.1.2. One party talking and instances of simultaneous speech

The basics of the turn-taking model ensures that only one party produces a turn a time. The quantification of simultaneous speech cases and their frequency in relation to the total number of turns presented in Figure 2 appears to confirm this feature of the turn-taking model.

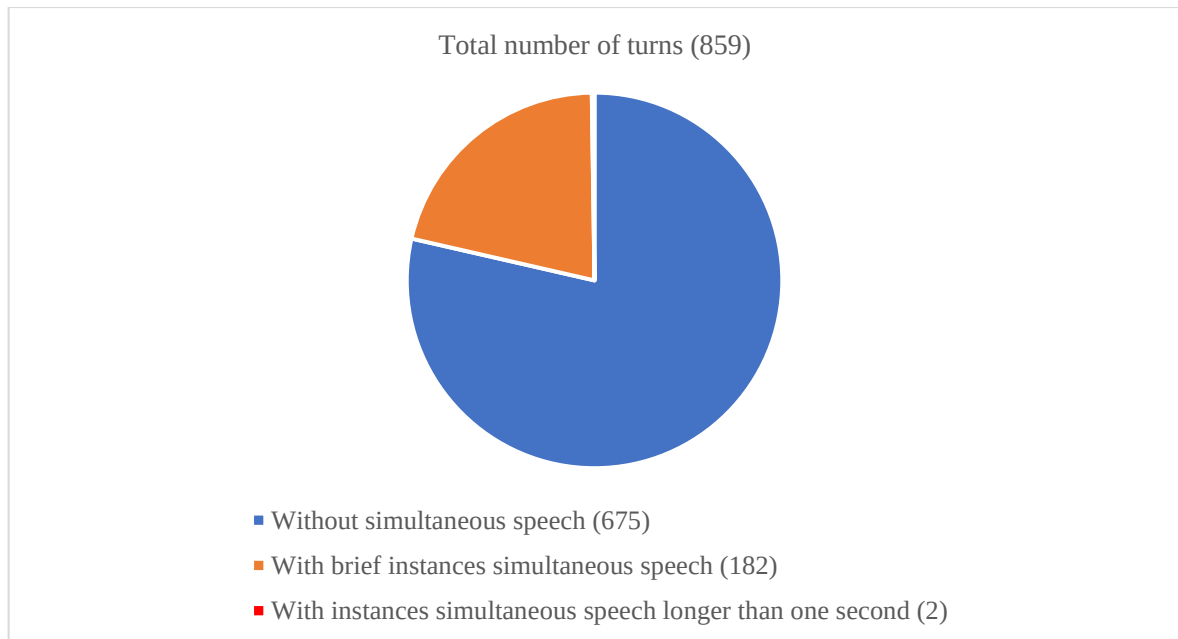


Figure 2. The distribution turns in the developer live streams with and without instances of simultaneous speech.

In 79% of all turns, the turns produced by speakers do not include any type of simultaneous speech occurrence, and the parties successfully finish their turns without being interrupted or overlapped. Moreover, the overlaps and interruptions found in the analyzed live streams are almost exclusively brief and do not last for longer than a second. In only two cases duration of simultaneous speech occurrences exceed one second.

Nevertheless, live stream participants happen to speak simultaneously. In the analyzed extracts, a total of 184 instances of simultaneous speech are found, with 83 of them occurring in streams devoted to action games and 101 in streams devoted to strategy games. In roughly 20% of all instances of simultaneous speech (38 times), the listening parties attempted to show their interest in what was

being said by the speaking parties through the active use of minimal responses. However, it may be argued that the active use of minimal responses resulting in overlaps is not a characteristic of every developer live stream since 20 of such overlaps come from only two streams out of six, which also include the two highest total numbers of instances of simultaneous speech.

Given that the instances of simultaneous speech are of particular interest to the topic of this paper, their occurrences in the developer live stream will be discussed in greater detail in a subsequent subchapter devoted specifically to them.

4.1.3. Transitions with no or slight gaps/overlaps

The turn-taking model functions in such a way that a turn is transitioned from one speaker to another with very brief or completely absent gaps and/or overlaps. The frequency of gaps and overlaps exceeding the average duration established by the literature is presented in Figure 3.

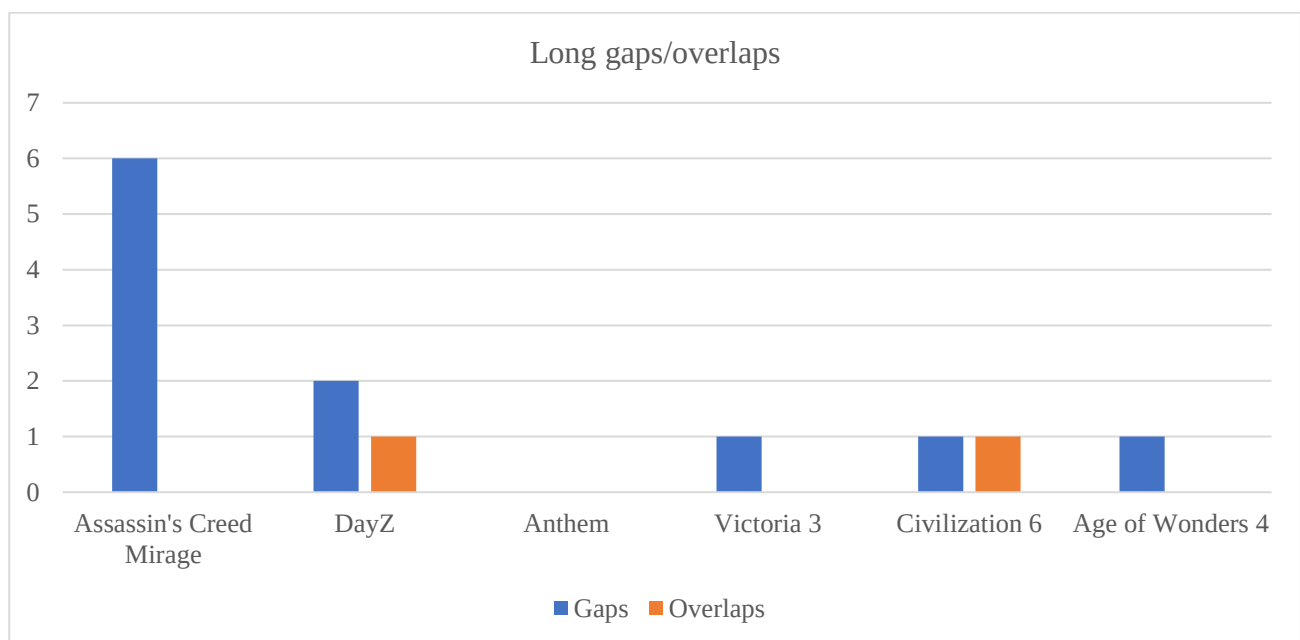


Figure 3. Number of gaps and overlaps in the developer live streams that are longer than 2 seconds.

The data presented in Figure 3 indicates that only few transitions include comparatively long gaps and overlaps. Example (1) from the Victoria 3 live stream demonstrates a typical case of rather long gap that can be found in the developer live streams:

- (1) Paul: [the one] luxury we have here is there's not a lot of infrastructure for them to push through
Mikael: uh-huh (2)
Paul: **moving to the other part of the map** why is Oman (.) oh Rwanda is fighting revolutionary Rwanda

Occurrences of such extended gaps or overlaps are connected to the nature of developer live streams and video games in general. As it is written in the example, the developer who is playing the game focuses on certain in-game actions, which may provide information that can be discussed. In this particular case, the developer was trying to find an interesting in-game event, such as a formation of a new fraction. For this reason, he had to focus on the game to find such information, which led a

two-second pause after the end of the previous speaker's turn. Similar pauses in transition may also occur when the developers feel that the visual information from the screen is more important than their verbal information, e.g., when they need to demonstrate the graphics of the game, which can be observed in example (2) from the live stream about Assassin's Creed Mirage:

- (2) Chris: here we are uh I love a sync point{*whispering*} [{*observing the landscape*}] (5)
 Yossef: [{*observing the landscape*}] (5)
 every time I do one of these I'm like oh okay yeah so you can see there the Round City{*pointing Chris at the screen*}=

In such cases, the developers generally construct the previous turn in such a way that it leads to pauses similar to the one presented in example (2), and the next turn may be initiated once interesting new information from the screen can be discussed.

It is not uncommon that the speakers are capable of successfully avoiding gaps and/or overlaps and latching their turns. The distribution of latches across analyzed live streams is presented in Figure 4.

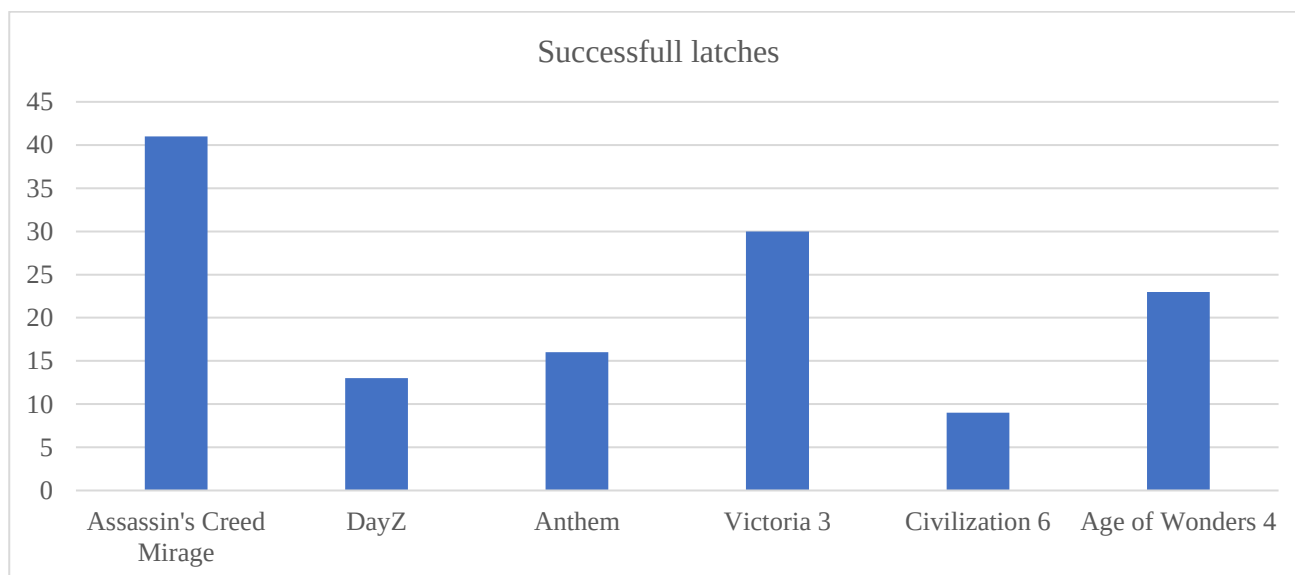


Figure 4. Total number of latches found in every developer live stream.

In total, the live stream participant managed to latch their turns 132 times. An interesting observation may be noted regarding the distribution of latching across the live streams. It appears that the highest number of latches is found in streams where both participants are either part of the game development team or both work in the sphere of public relations. For example, the live stream that includes the highest number of latches is the Assassin's Creed Mirage with 41 latches, which constitutes approximately 31% of all cases of latching. This live stream was held by people who both had the positions of Communications Managers. Also, the inspection of various streams from Ubisoft, which are related to other games and not only the Assassin's Creed franchise, shows that Chris and Yossef are regularly assigned to participate in live streams together, both as a part of a larger group of participants and as a dyad. The analyzed data even includes a fragment where the developers

successfully latch several turns in a row, which is very uncommon in the transcribed extracts, even if the turns are represented by minimal responses, as can be observed in example (3):

- (3) Yossef: [{*observing the landscape (5)*}] every time I do one of these I'm like oh okay yeah
so you can see there the round city{*pointing Chris at the screen*}=
Chris: =yeah=
Yossef: =you can see the whole wall=
Chris: =yeah=
Yossef: =and the palace in the center=
Chris: =uh-huh uh-huh=
Yossef: =every time I do one of these I'm like man {*turning to Chris*} (.) the world art team
is just flexing{*laughing*}=
Chris: =unbelievable [un:believable]{*laughing*}

The live stream with the second highest number of latches is the Victoria 3 live stream with 30 latches, which constitutes approximately 23% of all cases. This stream has two participants who both hold the positions of Game Designers, although one of them is a Lead Game Designer. The inspection of other streams devoted to Victoria 3 (other games by the same publisher are not taken into account, which was the case with Ubisoft because the developers work exclusively on this project) shows that Paul and Mikael did not have any other live streams that they took part in together. However, it is highly likely that they interact with each other regularly on a daily basis, given that their positions are related to the common branch of the development process. Similarly, the stream devoted to Age of Wonders 4, which has the third highest number of latches (23, or 17%), is also held by two developers, Bas and Thomas, who hold the positions of Game Designers. While Thomas is a regular participant in the company's promotional live streams, the analyzed stream was the first live stream that featured Bas. But similarly to the previous case, it is possible that Bas and Thomas have experience interacting with each other in the process of game development. Among the three other live streams, which feature a developer and a person operating in another field within a company, only one of them has a total number of latches exceeding 10% of total latches – the Anthem live stream.

Based on the above, it may be argued that the experience of speakers in working with each other may influence the overall quality of turn transition from one stream participant to the other.

4.1.4. Size of turns

Considering the rules for turn allocation of the turn-taking model, the size of turns in a conversation may significantly differ even within a single communicative act. While the literature states that the duration of average turns generally does not exceed two seconds, the possibility of current speakers to self-select themselves to continue speaking provides the basis for practically unlimited extension of their turn. In addition, a variety of constructional unit-type also enables the possible prolongation of the current speakers' turns. The data from the analyzed live streams is presented in Figure 5, which shows the distribution of long turns (longer than two seconds) across the streams, as well as their distribution between live stream participants.

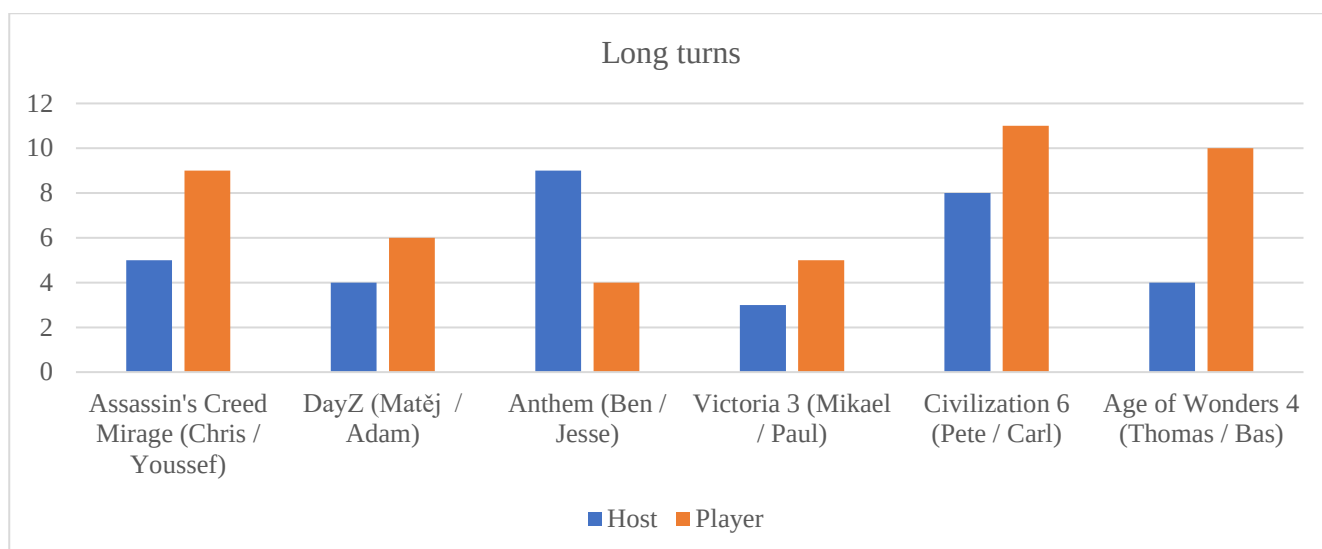


Figure 5. Total number of extended turns found in every developer live stream. The first name in parentheses indicates the live stream participant who is assigned the role of a host, while the second name indicates the live stream participant who plays the game.

The analysis of the data from all extracts indicates an important feature of such lengthy turns. In the streams where one of the participants is not directly involved in the development process and holds a position that is connected to public or internal relations (who is generally assigned the role of a host for a stream) and the second participant is an actual developer of the game, the latter appears to have more rights to produce extended turns about the game or in-game situations. It is particularly evident in the stream devoted to Anthem, where Ben Irving, the Lead Producer of the game, produces long turns more than twice as often as Jesse (nine and four long turns respectively) who performs a more supportive role, although the former technically performs the role of the host.

The host also has a limited right to produce lengthy turns if they contain information about the promotion of the game and if such speakers interact with the chat, which can be seen in example (7) from the Assassin's Creed Mirage live stream:

- (4) Chris: oh it's so good*{laughing}* every time I love it every time (.) uhm*{looking at chat}* so chat I see a few you asking some residual questions about the giveaway uh we did give away some collectors cases for Assassin's Creed Mirage during the showcase just earlier in the broadcast that giveaway has been closed the winner has winners have been selected and so congrats to those winners and uh you know for the rest of y'all we do do giveaways on this channel from time to time so go ahead and follow the channel get those notifications on and you won't miss it anytime you see giveaway in the title of our streams you've got a chance to win something (.) but for now it's drops and early look **first** look at live Assassin's Creed Mirage gameplay

In comparison, the distribution of lengthy turns appears to be more even if the stream is held by company employees who are both directly involved in the game development process, which can be observed in the Victoria 3 live stream where both participants hold the positions of Game Designer and Lead Game Designer. However, a developer who actually plays the game on stream seems to

have more rights to produce longer turns. In the same Victoria 3 live stream extract Paul, who controls the game on the stream, produces a total of five lengthy turns, while Mikael produces only three.

The occurrence of longer turns in the developer live streams may be caused by various reasons. Example (5) taken from the Age of Wonders 4 live stream represents a long turn, which is initiated by the opening of the in-game quest menu with a passage of text:

- (5) Bas: **going to the storm crow den** let's go straight here **opening the quest menu** hey we did it uh we made it uh the storm crow den the visage of the storm crow that lured you there has disappeared yet you feel a cool breeze pushing uh you onward carrying with the taste of thunder uh you examine the enthralling tree and notice that faint astral currents flow from its branches high-squall's influence is palpable here (.) you recall ancient legends that promise formidable boons to the most ardent torchbearers of the high-squall claim this territory so that you may build the storm crow temple which invokes the power of the storm crow to slowly turn your domain into **grassland** where your bonebirds thrive*{reading from the screen}* [that's tr-]

In this example, the developers encounter a text-based quest menu that includes a large passage that explains the goals of the quest and its backstory. In order to ensure the full understanding of the quest by the viewers, one of the developers playing the game decides to read out a rather long passage, which extends his turn up to 37 seconds. It must be noted here that such situations with one of the developers reading a long text from the screen generally occur in the streams that are devoted to text-based games or games that have a non-voiced text-based quest system, such as Age of Wonders 4. In comparison, example (6) from the Civilization 6 live stream shows a lengthy turn that is caused by the need to provide an extensive explanation regarding the situation on the screen:

- (6) Carl: the siege icon here that that Pete is talking about means that this city will not heal every single turn normally I'm dealing damage so you can see minus one health right there uh normally it recovers that health every single turn but while it's under siege uh it does not recover any health and siege is (.) I have to have every single hex around the city either occupied by unit or in my unit's zone of control (.) uh so I do have units on this side this is a zone of control tile this is a zone of control tile and then I have to have naval units I had to bring over some naval units because of this tile here in order to completely siege the city I had to uhm surround it there as well and I'm I'm actually going*{slightly laughing}* to stop attacking [from the sea]

Moreover, the developers occasionally produce extended turns that include a summary of changes the development team plans to introduce, which can be observed in example (7) from the DayZ live stream, where one of the stream participants is talking for a rather extensive period of time (for roughly 29 seconds):

- (7) Adam: uhm so yeah so we looked at m3s truck increased its drivi- its driving capabilities (.) you are as a driver not **suffering** that much when you know like climbing uphill and driving over the terrain (.) what we also did was (1) we looked at offroad oh too (.) it's something similar so you still see the difference (.) and driving on a grass should also look more cheerfully and that's for the case for all the cars perhaps less slippery it's going to be like slower

Given the importance of this information, Adam is given the opportunity to speak exclusively about the topic, and the second stream participant does not attempt to initiate a turn, even despite the fact that this example contains possible transition-relevance places, both semantical and syntactical.

4.1.5. Content of the turns

Similarly to the turn order, the parties do not generally prepare in advance what they will include in their turns. The content of turns is determined in the course of conversations. In contrast, developer live streams potentially have turns whose content is prepared prior to the live stream. Due to the nature of developer live streams and the developers' goal to explain new features introduced into their games, live stream participants prepare certain pieces of information that they need to provide within their turns. This may also serve as a possible explanation for the existence of turns whose length considerably exceeds the average length of turns. In addition, such turns also tend to include a small number of pauses and stutters from developers, which may also indicate the pre-prepared nature of such turns. The example of such a turn is arguably observed in example (8) from the Anthem live stream (originally, this part of the live stream included interruptions from the second stream participant, but they were omitted to show two turns from the first participant which should have been a single turn):

- (8) Jesse: **crashing the character into the ground** so I wanted to point out also if anyone was like oh a noob you overheated and crash to the ground then anyone notice how quickly I actually recover [from that right?]
Jesse: [ye:ah] so overheating running into walls if you you know happen to do that takes a little while but so if you watch now (.) **aiming into the ground** I'm crashing into the ground **crashing the character into the ground and recovering** (1) you can move pretty quick [after]

Another important point to note regarding this particular example and developer live stream, in general, is that the game on the screen may have an influence on the functioning of turn-taking within a conversation. In example (8), the developer initiates a new turn after a certain game event – crashing into the ground in this particular case – occurs on the screen. Once this event is seen by the viewers, the live stream participant begins to explain what changes the developer team has introduced in relation to this in-game event and how it is going to affect the gameplay. For this reason, it appears important to state here that the in-game events may serve as triggers for certain turns to be initiated.

In example (8), the in-game action is performed by the developer himself, which then leads to the initiation of the turn. What must also be considered here is the aspect of randomness that video games provide for the gameplay. The player cannot control every aspect of the game, especially if it includes other participants, regardless of whether they are controlled by a human being or a computer. Sometimes, the circumstances of the game may result in the occurrence of an event that will require the attention of the player and serve as a trigger for the turn of one of the live stream participants. Such a situation can be seen in example (9) from the Age of Wonders 4 live stream:

(9) Game: ***a new player's turn begins** **a quest menu is opening***

Bas: {*looking at the quest menu*} uh you've let your bone birds uh ardent followers of the storm crow to a new realm when something catches your eye (.) not far from ur-un-well uh a wondrous tree pulsates with invigorating energy{reading from the screen} it's actually well (.) uh it strangely familiar energy inspires you even from afar a faint cackle on the winds calls to you (.) uhm your eyes fixed on the tree you discern a faint apparition of immense power could it be? is that the ancestral spirit of your bone birds? the storm crow himself? does the storm crow from whom your uh people immediately call high-squall{reading from the screen} high-squall is funny that's a good name{laughing} uh truly grace this realm? you should visit the storm crow den presently{reading from the screen} (.) okay [cool]

While this example is similar to example (4), the developer did not control the game in this particular case. The game itself, based on a large number of different variables included in the game code, initiated the event and made the developer begin a new turn whose content is directly connected to this in-game event.

4.1.6. Distribution of turns

The turn-taking model and its turn-allocation techniques ensure that the conversation flow is natural and that any speaker taking part in the conversation receives the chance to initiate a turn. Each transition-relevance place provides several directions that an interaction can take, and the conversation participants do not decide in advance which direction they are going to follow in usual circumstances. However, example (10) from the Civilization 6 live stream may provide a different perspective on the distribution of turns:

(10) Pete: but Carl you've kinda positioned yourself where you're ready to start the fun times right?

Carl: yes I am I I I rush as fast as possible like I said doing **chops** and other things to accelerate myself to try to get uh you know get the play as going as quickl- quickly as I could and that's really the goal here with with all of these uh challenges the monthly challenges you're supposed to do it as fast as you can so uh you know the the the lower your **turn count** the better so I'm I'm currently on turn forty-six this is the emperor difficulty and we'll see how we fare we do have we have to go up against walls here (.) and horsemen not so great against the walls we'll see how that goes uh **switching to the civilization development menu** we've got a couple of civic and tech choices and things to make first so let me get through those and then we'll go ahead and start this war off

Here, we can observe that the host even leads the developer to talk about the in-game tactics. It may signal that the participants distribute certain turns to ensure that the developer with extensive knowledge speaks about a particular topic. For example, the developers may agree before the stream that one of them is going to cover a certain game mechanic while the second one will cover another game element. If the stream is held by the developer and a host who is unrelated to the development process, the developer may be exclusively given the turns whose content is related to the in-game mechanics or tactics.

It may be repeated that the general length of such turns may also be an indication that these turns are indeed distributed in advance and developers have more time to prepare them, which also

coincides with the points made in the subchapter devoted to the turn content. Nevertheless, it may be required to continue research in this direction to also involve interviews with stream participants.

4.1.7. Continuity or discontinuity of conversations

If conversation participants successfully continue talking through a series of transition-relevance places and have only slight overlaps and/or gaps, such conversation can be regarded as continuous. If conversation participants decide not to initiate a new turn at some transition-relevance place, such a stop is regarded as discontinuity, and the conversation becomes discontinuous. The rules of the turn-taking model ensure the general continuity of conversations due to the possibility of any speaker initiating a turn at a transition-relevance place. Moreover, the discontinuity is unlikely to occur if the current speaker selects the next speaker. Although silences can still be found in such cases, they should be considered pauses before the next party's turn rather than lapses.

In the context of the video game developer live stream, the interactions between live stream participants are primarily continuous. This is explained by the promotional nature of such a stream, whose objectives include attracting the attention of the audience, maintaining contact with viewers and ensuring a high level of interest in the product. Based on this, it is very important for developers to ensure the continuity of their talk to better explain the main features of their presented games and to prevent the loss of interest from the audience.

In total, analyzed developer live streams include only two instances of silence that are longer than four seconds (four and five seconds, respectively), both of which occur in the Assassin's Creed live stream. What is interesting in these cases is the fact that the cause of both silences is connected to the demonstration of the game. Example (3) discussed earlier includes such a prolonged pause, and it is explained by the attempt of developers to demonstrate the in-game graphics. The second case of silence in the analyzed extract is demonstrated in example (11):

- (11) Chris: alright what does this guy have *{looking at the in-game shop menu (4)}* so you can sell trinkets that you find uh from looting here and there all right dirhams is that for you?

Here, the developers show how players can trade with in-game merchants that can be found in virtual Baghdad. The developer playing the game goes through a trading menu and shows the items a player can buy in the game to improve the gameplay or to make their character look different.

The general absence of long periods of silence in the analyzed developer live streams may prove that the interactions between live stream participants are primarily continuous, and discontinuity is not characteristic of such interactions. It may be argued that developers try to avoid periods of silence that are too long to preserve viewers' attention. Additionally, the continuous nature of the talk might be explained by the promotional nature of such live streams, whose objectives include attracting the attention of the audience, maintaining contact with viewers and ensuring a high level of interest in the product. Based on this, it is very important for developers to ensure the continuity of their talk to

better explain the main features of their presented games and to prevent the loss of interest from the audience.

Although not directly, this may also indicate that developers indeed prepare the content of their talks rather thoroughly to make sure that they can cover as much information as possible. Nevertheless, the periods of silence can occur in the developer live streams, and they may also be intentional. Based on the present lapses found in the extracts, their primary use is to navigate the viewers' attention to a certain game element, be it the highly technological game graphics or a certain game element that players may come across when they are going to play themselves.

4.1.8. Use of turn-allocation techniques

Naturally, the live stream participants actively use a variety of turn-allocation techniques in order to ensure a smooth flow of their conversation and its understanding by their viewers. The classification created by Sacks, Schegloff and Jefferson (1974: 716) suggests the existence of two primary groups of turn-allocation techniques, which are the current speaker selects the next one and the next speaker self-selects. This is a rather general taxonomy, and various techniques may be included in both groups. Example (12) from the Anthem live stream, for instance, demonstrates the 1st technique, where the developer selects the next speaker by directly addressing him, and the next speaker, Jesse in this case, is obliged to initiate a new turn:

- (12) Ben: Jesse are you in a group? yes or no
Jesse: uh no I'm I'm by myself right now *{turning to Ben}*

In some cases, the current speakers may select the next speaker using non-verbal methods, such as turning their head towards the next speaker to signal them about approaching the turn switch, which can be observed in example (13) from the DayZ live stream, where Adam asks a question and turns to Matěj when his turn is about to finish:

- (13) Adam: okay (.) *{looking at the car's back door}* and how do you like the red (.) *{turning to Matěj}* door?
Matěj: yeah I like it's you know a personal touch

Occasionally, the conversation participants construct their turns in such a way that they do not select the next speaker by the upcoming transition-relevance place. In such cases, they may resort to tag questions that allow them to exit their current turn and ensure the transition to another speaker. In developer live stream, such a situation may occur when one of the stream participants discusses a certain element of the game they have changed and attempts to obtain confirmation from the second stream participant. It must be noted that the use of tag questions is primarily characteristic of stream participants who do not play the game during the live stream. In total, such stream participants employed tag questions 12 times, while participants in control of the game only used tag questions twice also for the purpose of confirmation. Example (14) from the DayZ live stream demonstrates a standard use of tag questions in developer live streams:

- (14) Matěj: to talk about it explicitly there is some sounds that we added [right]?
Adam: [yeah]

In the case of the video game developer live stream, a request to perform an action in the game may represent an interesting turn-allocation technique. Naturally, such requests can only be addressed to the stream participants who are in control of the game. Example (15) shows how the host asks the developer playing the game to press a button to perform a certain action with the in-game car:

- (15) Matěj: [alright] yeah yeah that's true (.) can you honk? {laughter}
Adam: **pressing the honk button**

The technique belonging to the second group may be represented by the current party deciding to continue talking and initiate a following turn. This can be observed in example (16) from the Age of Wonders 4 live stream. The developer finishes his original turn and then starts speaking about a different topic:

- (16) Thomas: and so it's kind of different like what acc- you have access to early on also
(1) yes we do like naming things but with with bone but in this case it's um it's just kind of a running joke

Given the rules of turn-taking, it is very common for a new speaker to initiate a turn after the end of the previous speaker's turn, even if the previous speaker was not selected. In relation to developer live stream, an interesting example of this technique is the developers' switch of focus from the discussion of the game to answering questions from their audience in the chat. Generally, one of the stream participants – primarily hosts who do not play the game – follows the stream text chat to see whether the audience understands the information they are provided with. Once the previous speaker finishes the turn (and such turns are generally rather long), a new turn is initiated, which seeks to answer the question from the chat, which can be observed in example (17) from the Age of Wonders live stream:

- (17) Bas: but uh we could get there later uhm I'm going to hit your advice I'm going to go straight for this draft pick up and hopefully get uhm my army up and running
Thomas: {reading the chat} uh yes Matthew the two the the turn one spells they are indeed randomized so you get two skills at the start of the game and they are randomized from what you have available from your culture and from the start

The provided examples demonstrate that developer live streams generally employ similar turn-allocation techniques found in other circumstances of communicative interaction. However, certain external factors, such as the game being played itself, the possibility of interacting with the live chat, distribution of roles to the host and the player may have an impact on how certain techniques are employed and who has more rights to use some of them in the course of a live stream.

4.1.9. Turn-constructual units

The use of different turn-constructual units is characteristic of any type of conversation, and it ensures that a turn can eventually reach its transition-relevance place. It also helps the listening parties to approximately anticipate when the turn is going to end with the help of projection. While

the use of various unit-types in developer live streams corresponds to the theory on the matter, there is a particular case which needs to be considered in more detail.

The first case has already been partially covered previously in the discussion of example (5) from the Age of Wonders 4 live stream where the developer is reading a rather long passage found in the quest menu of the game. There is a total of seven turns in this live stream which are constructed using the large passages found in the game menu. Several points can be made regarding such turns. Firstly, it may be argued that text-based video games provide a basis for turn-constructive units that go beyond one sentence and constitute whole paragraphs or several of them. This might also be confirmed by the supposed manner of projection of the second live stream participant who attempts to initiate a new turn only after the current speaker finishes the passage from the screen. The only exception to such a transition of turns occurs when the current speaker makes a mistake and misses a word in the text, and the second stream participant attempts to point out such a mistake. In other cases, the turns do not switch from one speaker to another. Secondly, the right to construct such reading-based turns appears to belong exclusively to the stream participant who plays the game, as all of them are initiated by the same person. Finally, such turns have visual support from the screen which makes it easier for the second party to anticipate the upcoming end of the turn. Nevertheless, further analysis of such turns in developer live streams may be required to confirm the foregoing points, as the examples of reading-based turns are only observed in one of the live streams analyzed for this research.

4.1.10. Repair mechanisms

In the course of a naturally occurring conversation, it is highly probable that one of the speakers may commit an error, which can be related to factual information, turn-taking or language. When one of the parties notices the error, they may attempt to fix the issue using various methods. Despite the fact that live stream participants seem to prepare extensively for live streams, which allows them to make a small number of mistakes, they cannot be fully avoided. The analyzed developer live streams give examples of several repair mechanisms.

In cases when one of the stream participants interrupts the counterpart, hence breaking the turn-taking of the conversation, one of the most common repair techniques is to immediately attempt to stop a turn and let the previous speaker continue talking. This can be seen in example (18) from the Civilization 6 live stream, where Carl tries to initiate a new turn not at the transition-relevance place but quickly stops to let Pete continue:

- (18) Pete: it looks like you've got a pretty good block of forces up there ready to go [and]
Carl: [I]
Pete: this is where Tomyris uhm abilities really sort of come to shine get [arm up fast go ahead?]

Some live stream participants may unwillingly break the structure of turn-taking by not allowing the second speaker to initiate a turn for too long. If it happens and the current speakers notice this inequality in the distribution of turns, they may attempt to construct a turn to apologize for the lack of possibilities to initiate a turn and select them as the next speaker. This repair is found in example (19) from the Anthem live stream. Here, Ben recognizes that Jesse has not been able to properly initiate a turn for a long time, admits his mistake and allows him to start talking:

- (19) Ben: [I didn't] realize you were looking at me you were trying to time it to me talking
 Jesse: {laughter}
 Ben: but I talk too much
 Jesse: that's fine=
 Ben: =that's my fault okay let's [try again]
 Jesse: [so so] when you overheat now (.)

It must be noted here that the analyzed developer live streams do not provide examples of repair mechanisms that are aimed at fixing the issue of ambiguity when the current speaker selects the next speaker in a vague manner due to the fact that the communicative interactions in the focus of this research exclusively involve only two participants. It remains unclear whether such mechanisms are used in developer live streams, and it is required to look into live streams with at least three speakers.

4.2. Simultaneous speech in video game developer live stream developer

Although the turn-taking model provides a sufficient basis for conversation participants to effectively switch from one speaker to the other without overlapping each other's turns, it is not uncommon both in usual conversation and in communicative interactions within developer live streams to find instances when more than one party speaks at the same time. Considering the institutional and media nature of video game developer live streams and the effect video games may have on conversation, it appears necessary to explore instances of simultaneous speech found in developer live streams to determine what factors influence their occurrence and whether the game genre has an effect on the frequency of overlaps and interruptions. It must be repeated here that action games are hypothesized to include more instances of simultaneous speech of a violative nature than strategy games due to the higher level of randomness and decreased control over the game speed, which may trigger the initiation of a turn by a listening part not at the transition-relevance place.

In total, 184 occurrences of overlaps and interruptions have been detected in six analyzed extracts from the developer live streams. The live streams about action games include a total of 83 occurrences of simultaneous speech. The distribution of overlaps and interruptions across live streams is demonstrated in Table 3.

Table 3. Distribution of overlaps and interruptions in action game developer live streams

Game	Overlaps	Interruptions
Assassin's Creed Mirage	17	9
DayZ	26	12
Anthem	10	9

Total (of total number of simultaneous speech occurrences)	53 (~64%)	30 (~36%)
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In comparison, the developer live streams about strategy games include a total of 101 cases of overlaps and interruptions. Their distribution across three live streams is presented in Table 4.

Table 4. Distribution of overlaps and interruptions in strategy game developer live streams

Game	Overlaps	Interruptions
Victoria 3	24	15
Civilization 6	12	11
Age of Wonders 4	19	20
Total (of total number of simultaneous speech occurrences)	55 (~55%)	46 (~45%)

The pure data presented in tables 3 and 4 suggests that, contrary to the hypothesis, developer live streams devoted to strategy games are more likely to include cases of double talking than live streams about action games. Not only the total number of instances of simultaneous speech is higher in the case of strategy games, but the ratio of interruptions to and overlaps in strategy game live streams is more similar, which might indicate a more disruptive effect of the genre on turn-taking. Nevertheless, the quantitative data does not provide a full understanding of the nature of simultaneous speech in the live stream given the variety of factors that may lead to speakers interrupting their counterparts. In order to provide a more accurate evaluation of the influence a game genre may have on the structure of turn-taking, each live stream will be analyzed in greater detail. This will assist in understanding how in-game actions – both in control of the players and out of their control – may trigger cases of simultaneous speech. To achieve this goal, a notion of gameplay-driven overlaps/interruptions needs to be introduced. A gameplay-driven overlap shall constitute an instance of simultaneous speech when both participants react simultaneously to an in-game event and produce brief turns near the transition-relevance place. A gameplay-driven interruption, on the other hand, shall constitute an instance of simultaneous speech that is caused by the reaction of one participant to an in-game event, which produces a turn not in the vicinity of a transition-relevance place – hence breaking the order of turn-taking – that lead to the speaker change. The quantification of gameplay-driven instances of simultaneous speech will provide a more accurate picture of the influence of a game genre on the frequency of interruptions and overlaps in developer live streams. The quantification of gameplay-driven overlaps/interruptions is presented in table 5.

Table 5. Distribution of gameplay-driven overlaps and interruptions in game developer live streams

Game	Gameplay-driven overlaps	Gameplay-driven interruptions
Assassin's Creed Mirage	0	6
DayZ	2	4
Anthem	0	2
Total for action games	2	12

Victoria 3	3	4
Civilization 6	0	2
Age of Wonders 4	2	4
Total for strategy games	5	10

The quantification of gameplay-driven instances of simultaneous speech reveals that both genres have comparatively similar frequency rates of double talking that is caused by in-game events. To further explore the main reasons for the gameplay-driven simultaneous speech occurrences, each stream will be analyzed in greater detail in the following subchapters.

4.2.1. Assassin's Creed Mirage live stream

The live stream held by the Communications Manager and the Senior Communications Manager, Youssef and Chris, has a total of 26 occurrences of simultaneous speech. The number of overlaps is almost twice as high as the number of interruptions (17 and 9 respectively) found in the analyzed fragment of the live stream. During the live stream, the role of the host is taken by Chris, while Youssef has the control over the game.

Of the total number of overlaps, 70% (12) are initiated by Chris in various circumstances. Such a high number of overlaps is explained by the fact that Chris actively employs minimal responses such as *uh-huh* or *yeah* to demonstrate his active listening, which do not always fall into moments of silence between Youssef's turns but happen during the active production of the turn. Chris also employs supportive turns after Youssef has performed a successful action in the game, such as *here you go*. Such cases constitute almost half of all overlaps by Chris. In other cases, overlaps happen because Chris attempts to initiate a turn in a close vicinity to a transition-relevance place.

The number of overlaps initiated by Youssef is more than half as low. He uses less minimal responses in general, and three of them are produced during Chris's turn. Other overlaps are initiated close to a transition-relevance place and do not provide an example of overlaps caused by in-game factors.

The Assassin's Creed Mirage live stream has the highest lowest number of interruptions in comparison to five other developer live streams. It can be attributed to extensive experience of participants in working with each other during promotional live streams and similarity of their positions. Nevertheless, this low number of interruptions is unexpected considering the active nature of the game.

Both stream participants interrupted their counterparts almost evenly, with four interruptions by Chris and five interruptions by Youssef. Several of these interruptions can be considered to be gameplay-driven as they are caused by the actions happening in the game, and many of them happen in the span of several consecutive turns, which are presented in example (20):

- (20) Youssef: we're now uh okay alright how am I gonna**struggling to perform an action in game**
Chris: I think it might be just there (1) is it?

Youssef: [no:]
 Chris: [or is it] still higher? oh I see [you gotta go]
 Youssef: [no I mean I can] I can break this if I you know=
 Chris: =I think you probably have to uh
 Youssef: no I think I think I can get [aro::und] **climbing the tower**
 Chris: [you think] you gonna you got a path? =

In this fragment, both live stream participants have a very active discussion on how to approach a parkour challenge that can be found in the game and completed in various ways. As both participants attempt to solve it in real-time, they occasionally interrupt each other when the turn of the counterpart is not finished and is not in the vicinity of the transition-relevance place.

In the previous example, both speakers are occupied by the in-game events. In comparison, gameplay-driven interruption may happen when one of the participants is producing a turn unrelated directly to the current state of the game. Example (21) demonstrates how Chris is producing a turn constructed around the interaction with the chat while Youssef interrupts him:

(21) Chris: I trust this [king of the no-]
 Youssef: [there is to many there] is too many *{inhale}* **trying to hide in the game** (.)
 okay we need to eavesdrop on these guards down here (1)

While Chris is talking about a certain topic asked by a viewer, Youssef is actively trying to infiltrate the enemy camp without being noticed. Once he sees a group of enemies approaching, he initiates his own turn and interrupts Chris. Chris, on the other hand, does not attempt to continue his turn, and the attention is switched to the game.

Although the following does not represent an overlap or interruption in this live stream, it is nevertheless important to examine. Example (22) shows how Youssef triggers the dialogue between the enemy non-playable characters in the game, which players can eavesdrop on (non-playable character is shortened to NPC in the transcription):

(22) Youssef: yeah **pressing the button to initiate NPC's dialogue**
 NPC 1: I saw this before are you and the scribe ever going to play nicely together
 NPC 2: not likely the man thinks he can let loose his tongue just because of his rank
 Chris: not a fan of the scribe
 NPC 1: and who will record the prisoners then? you? you cannot fasten your own bracers let alone write
 Chris: *{laughter}*
 Youssef: uh::
 NPC 2: if it means we rid ourselves of his blithering I will happily learn=
 Chris: =descension among the ranks here between the various uh guard classes

Here, the dialogue between non-playable characters results in neither overlaps nor interruptions. With the help of subtitles on the screen, the stream participants successfully initiate their short turns between in-game utterances, and Chris even manages to latch his turn onto the end of the in-game dialogue. There are several reasons why Chris and Youssef decide not to interrupt this dialogue despite its irrelevance to the game story. Firstly, the stream was held before the release of the game,

and this was the first demonstration of this type of in-game dialogue that players would be able to get themselves once they got access to the game. Secondly, this dialogue may be different depending on the in-game circumstances and the location of the player, although the process for initiating is always similar. Finally, this might be connected to the fact that this dialogue is part of a bigger gameplay system – attacking enemy camps – that Chris and Youssef are attempting to showcase in this section of the live stream.

Utterances produced by non-playable characters are also found in one more live stream analyzed for this research, but the reaction of participants of that stream leads to interruptions in comparison to the reaction of Chris and Youssef observed in example (22). The circumstances that lead to the difference of these two similar cases will be discussed in the respective subchapter.

4.2.2. DayZ live stream

This DayZ live stream was held by the Community Manager and Creative Lead of the game, Matěj and Adam. A total of 38 cases of double talking are found in the analyzed extracts, with 26 of them classified as overlaps and twelve as interruptions. During the live stream, the game is played by Adam, and the role of the host is assigned to Matěj, who is also responsible for tracking the live chat room.

More than half of the turns that result in overlaps during the DayZ live stream are initiated by Matěj, and it accounts for a total of 15 overlaps. Similarly to Chris from the previously analyzed developer live stream, Matěj demonstrates that he is actively listening to Adam and produces more minimal responses and supportive turns, e.g., *uh-huh*, *exactly*, *yeah*, etc. The production of such turns by Matěj results in seven instances of overlaps. In other cases, the overlaps are explained by the proximity of the transition-relevance place. Two of the overlaps by Matěj can be considered gameplay-driven overlaps. Their occurrences in the course of the live streams are attributed to in-game actions that result in parties initiating their rather short turns almost simultaneously. Both of these gameplay-driven overlaps initiated by Matěj are illustrated in example (23), where Adam attempts to start the vehicle's engine and drive, and both parties react to these successful and unsuccessful actions:

- (23) Adam: let me try it **getting into the car (2)** can I start it? **starting the engine**
[okay]
Matěj: [nice]
Adam: **unsuccessfully trying to drive the car forward** oh okay (.) [it's stuck]
Matěj: [it's stuck]
Adam: who parked it? who parked it like this?

Adam initiates fewer turns that result in overlaps in comparison to his stream counterpart. He also uses minimal responses, although not as actively as Matěj, and they overlap with the host's turns three times. Other overlaps that do not represent minimal responses take place very closely to

transition-relevance places. None of Adam's overlaps can be classified as gameplay-driven, as they are not caused by in-game actions.

During this live stream, both participants appear to extensively use non-verbal means of communication, which may be employed for indicating the upcoming end of the turn or causing a reaction from their counterpart. Both Adam and Matěj regularly turn their heads to each other, which may result in overlapping turns. Example (24) illustrates how the use of such a non-verbal technique not in the vicinity of a transition-relevance place by one of the live stream participants elicits a short reaction from their counterpart that leads to a brief moment of overlapping speech:

- (24) Adam: uh we've also looked at the the m3s truck we made it more off-roady {*turning to Matěj*} more capable of [like]
Matěj: [uh-huh]
Adam: going up the hills and (.)

Both Matěj and Adam interrupt each other during the analyzed extract an equal number of times, with both having six interruptions. The difference that should be noted in that regard is that Adam has more interruptions that can be classified as gameplay-driven. As he is in control of the game, he focuses on the in-game event more than Matěj, especially in cases when the latter is producing a turn. In example (25), Matěj is producing a rather long turn about a change the development team is introducing in the new update, while Adam is looking at the in-game menus showing items stored in the vehicle and eventually decides to point out an interesting detail about it and interrupts turn of Matěj:

- (25) Matěj: [nice] (.) so as you can see like during the years since the cars were added there were a lot of ways how to unstuck a car you know (.) some of them weren't really like [something (.) atmospheric]
Adam: [someone really gave] us a very fitted car{*looking at the car inventory menu*}

While the process of looking through the in-game menus cannot be called particularly active or sudden, certain in-game events may elicit unexpected turns from the stream participant who plays the game. Example (26) illustrates how Adam, while driving a vehicle, loses control of it, accidentally crashes into the gate and interrupts Matěj to give a brief comment on the situation. After Matěj responds to that and seeks to continue his interrupted turn, Adam appears to speak a bit more about this crash, although he quickly stops and allows Matěj to continue speaking:

- (26) Matěj: no they're like they're like [saying]
Adam: [I **almost**] like smashed the sign
Matěj: you know but you made it and we are stronger [anyway]
Adam: [it's a]

In total, Adam produces three gameplay-driven interruptions. In comparison, Matěj produces only one gameplay-driven interruption, but it should be considered additionally. In example (27), Adam is talking about changes to the vehicle system while driving a car. Once the car approaches a

certain location, Matěj strongly interrupts Adam to test his and the audience's knowledge of the game. This interruption appears to surprise Adam not only because of a sudden challenge to his knowledge, but also because of his supposedly exclusive right to make gameplay-driven interruptions:

- (27) Adam: going up the hills and (.) so generally more driving (.) we made it easier (.)
more convenient we [also]
Matěj: [wait] {looking at the location to the left} quick quiz (.) what is this
camp?
Adam: {looking at Matěj in surprise} (3)
Matěj: I totally interrupted you for no reason at all
Adam: why:::=
Matěj: =but the chat could know
Adam: uh:: is that Kometa? {turning to Matěj}
Matěj: yeah I think so {turning to Adam} (.) I wasn't actually sure of it{laughing}
Adam: {laughter}
Matěj: I think it's Kometa (.) it's Kometa right?
Adam: {laughter}
Matěj:{reading chat} guys Topolka come on

The notion of the exclusive right to interrupt another speaker because of an in-game event – at least in this particular stream – appears to be confirmed in turns presented in example (28), where Matěj first apologizes for his interruption, and Adam, although partially jokingly, explicitly states that it is his right to interrupt Matěj during the stream:

- (28) Matěj: sorry for the interruption=
Adam: =yeah that very [rude]
Matěj: [very] rude I know
Adam: you you know that you're the host of the stream so I'm like I'm allowed to interrupt
you {turning to Matěj} but not the other way right

After this gameplay-driven interruption, the transcription of the DayZ live stream does not include other gameplay-driven interruptions initiated by Matěj.

4.2.3. Anthem live stream

The developer live stream devoted to the action game Anthem is held by Ben and Jesse, who hold the positions of the Lead Producer of the game and Community Manager, respectively. During the live stream, the game is played by Jesse, while Ben takes the role of the host. What must be noted here in relation to this distribution of roles is that Ben, given his high position in the hierarchy of the development team, appears to have more rights to speak and interrupt his counterpart, which follows the assumption on the inequality of right distribution in institutional setting discussed by Freed (2015: 811). In contrast, Jesse has a more supportive role in the live stream despite the fact that he is actually the person playing the game, which generally seems to entitle such live stream participants to have more freedom of producing turns. This live stream has the lowest number of simultaneous speech occurrences not only among action game live streams but also among all analyzed live streams.

Considering the fact that the primary speaker during the live stream is Ben, who provides the most important information on the current state of the game post-release development, his total

number of overlaps is comparatively low, while Jesse initiates more turns that result in brief overlaps (three overlaps by Ben and seven overlaps by Jesse). The difference here is explained – similarly to the previous live streams – by the use of minimal responses such as *cool*, *uh-huh* by Jesse, who appears to have the role of an assistant to Ben. More than half of the overlaps initiated by Jesse represent minimal responses, while other instances of overlapping appear near the transition-relevance places. Out of three overlaps initiated by Ben, none can be attributed to minimal responses. He does employ minimal responses to demonstrate his active listening to Jesse, but he successfully uses them between turns, although still less frequently than Jesse. No overlaps from this live stream are classified as gameplay-driven.

The distribution of interruptions between two live stream participants may further indicate that the higher position influences the distribution of communicative rights during live streams, at least in some of them. Out of nine interruptions found in the live stream extract, seven of them belong to Ben, while Jesse interrupts his counterpart only twice. Furthermore, both interruptions attempted by Jesse are quickly stopped by him in a seeming demonstration of respect for Ben's authority, as illustrated in example (29). Jesse finally initiates his turn once the previous turn of Ben is finished:

- (29) Ben: [we're] joking because Jesse didn't give himself a high-level build
 Jesse: yeah=
 Ben: =and I was like we can't be playing hard on [stream]
 Jesse: [I]
 Ben: we're gonna be the pleb devs [who]
 Jesse: [so]
 Ben: don't know how to play the game
 Jesse: I I tried with the gear I've got on grand master one and it was (.)

In comparison, Ben interrupts Jesse even when the latter is producing turns containing important information about the game. Moreover, such interruptions happen even when Jesse is talking about something related to the in-game event happening on the screen, as can be observed in example (30):

- (30) Jesse: I'm crashing into the ground **crashing the character into the ground and recovering** you can move pretty quick [aft-]
 Ben: [if you] blink you miss it they say {turning to Jesse}
 {laughter}

A total of two interruptions from this live stream can be classified as gameplay-driven, and both of them are produced by Ben. Example (31) demonstrates one of them, which also represents a request by Ben for Jesse to perform a certain action in the game:

- (31) Jesse: **crashing the character into the ground** so I wanted to point out also if anyone was like oh a noob you overheated and crash to the ground then anyone notice how quickly I actually recover [from that right?]
 Ben: [do it again]
 Jesse: **taking off from the ground** [so]

One interesting interruption by Ben is related to his control – or rather attempt to control – the live chat on a tablet. As example (32) demonstrates, Jesse is interrupted by Ben, who requires some assistance in dealing with the chat. Once Jesse successfully helps Ben tackle the issue, he returns to his original turn:

(32) Jesse: uhm: I mean [we've]

Ben: [it's actually] scrolling to fast{*showing iPad to Jesse*}

Jesse: {*looking at iPad*} so if you scroll it if you hold the fingers (.) **boom** there you go

Ben: but then what [happens]

Jesse: [you can] pinpoint some question (.) so one of the things I've seen is people talking about the messaging that can pop up during free play of your servers gonna shut down uhm we've actually changed that

This is the only example of such interruption found in all analyzed extracts. This one is likely caused by Ben's inexperience in using tablets to interact with the live chat. In other live streams, developers are generally successfully able to check the live chat to determine possible questions from the audience.

4.2.4. Victoria 3 live stream

The developer live stream aimed at the promotion of Victoria 3 is held by two Game Designers, Paul and Mikael, although the latter holds the higher position as he is the Lead Game designer. The distribution of roles here is slightly different from those in other analyzed live streams. While Paul is the developer playing the game, he is also responsible for observing the live chat, which is rather unusual as these two functions are generally assigned to different stream participants. The Victoria 3 live stream is one of the two live streams with the highest number of instances of double talking. In total, this live stream includes 39 instances of simultaneous speech.

The total number of overlaps found in this stream is the second highest among all analyzed live streams – superseded only by the DayZ live stream examined earlier – and it amounts to 24 instances of overlapping speech. 15 of them are related to the turns initiated by Mikael, whose turns result in overlaps 15 times. In 60% of cases (nine overlaps), this is attributed to Mikael's active use of minimal responses and supportive turns he actively uses during the live stream, although sometimes he is unable to use them between turns. Other cases represent overlapping speech found near the transition-relevance places. Compared to Mikael, Paul's turns result in overlaps eight times. Only two of these overlaps can be attributed to the use of minimal responses.

Three overlaps found in the Victoria 3 live stream can be classified as gameplay-driven. Two of them are related to cases when both developers seek to find certain information located in various in-game menus, which may be a number or an important statistic, and both Paul and Mikael find it simultaneously and initiate turns at the same time, resulting in brief moments of double talking. In both cases, the turns initiated by both parties represent one or two words, such as one, which concerns the loss of war support value in the game, or per week, which is related to the frequency of a certain

in-game event. The third gameplay-driven overlap observed in example (33) represents a single word quietly uttered by one of the developers when he is going through the production menus to look for a certain production material while the second developer – Mikael in this case – is explaining one of the game mechanics:

- (33) Mikael: so uh yes so that that is that is definitely what I mean uh by tech
[advantage]
Paul: [steel]{lowered voice} {reading from the in-game menu}
Mikael: it comes down to not only who has the tech but also who's making it and who's willing to pay for it [so]

60% of interruptions found in this live stream are initiated by Mikael. The majority of Mikael's interruptions exhibit his attempts to provide additional information to the turns of Paul, which can be explained by his higher position in the development team and his more extensive knowledge of the game and its development, which may also explain the higher number of interruptions compared to Paul. This can be observed in example (34), where Mikael justifies a certain decision made by the development team, which Paul started to talk about earlier:

- (34) Paul: zero point twenty-three war support per day that being said we'd lose more war support if I couldn't afford to pay for the [guns uh]
Mikael: [sure yeah so] it's a balancing act but we are definitely dropping faster than the ottomans are right?

Paul interrupts his live stream counterpart a total of six times. In two of these cases, Paul only attempts to interrupt Mikael to switch the topic or to add valuable information. This attempt of Paul to interrupt Mikael is illustrated in example (35), where Paul seems to propose a certain action, although he stops his new turn to let Mikael finish. Again, it may be attributed to the higher position of Mikael in the development team, which leads to more rights to control the turn-taking in the conversation:

- (35) Paul: well I say that as if attrition isn't the biggest killer um=
Mikael: =attrition is a big killer [and so we]
Paul: [we can]?
Mikael: have lost as many people to attrition as to battles{looking at the in-game text}

A total of four gameplay-driven interruptions are found in the Victoria 3 live stream.

The only Mikael's gameplay-driven interruption actually represents a repair attempt. As he is watching how Paul switches from one in-game tab to the other after Mikael's instructions, the latter notices that Paul opens the wrong menu, and Mikael draws Paul's attention to that fact, which is demonstrated in example (37):

- (36) Mikael: {laughter} I mean we can see that if you click into them
Paul: so if we [look uh:] *switching to another tab*
Mikael: [arms indu]stries I mean

Three of gameplay-driven interruptions are initiated by Paul, who is responsible for controlling the game and who often goes through a variety of different in-game menus showing different information. Example (36) illustrates such interruption:

(37) Mikael: I mean by tech advantage is not like we we're better off in [military tech but rather]

Paul: [this this little] thing right here*{pointing at the in-game graph}* is paying thirty thousand pounds a month or no this it's weekly um basically and we're spending half of it on artillery (.)

Here, Mikael is talking about scientific and military progression systems in the game when Paul finds a piece of certain information related to the trading systems, initiates his new turn, and also non-verbally draws Mikael's attention to this information.

4.2.5. Civilization 6 live stream

The Civilization 6 live stream is held by Pete and Carl, L&D Manager and Game Designer, who have a very clear distribution of roles among them during the live stream, with Pete being the host of the live stream and Carl playing the game. This live stream has the lowest number of simultaneous speech occurrences across strategy game live streams and the second lowest among all analyzed live streams.

A total of twelve cases of overlapping speech are detected in the analyzed live stream extract. While the number itself does not vary significantly from other live streams, the distribution of overlaps between live stream participants is different. While Pete produces only three turns that overlap Carl's turns, the latter overlaps Pete's turns three times more frequently, with a total of nine overlaps. Pete's overlaps are attributed to his use of minimal responses that he, like other hosts, employs to demonstrate his active listening. It must be noted here that Pete – at least in this fragment of the stream – is unexpectedly successful at incorporating his minimal responses between other turns, which is rather uncommon considering the analysis of previous live streams. In comparison, Carl is less effective in his use of minimal responses. Out of his nine overlaps, four are attributed to minimal responses. No overlaps detected in the Civilization 6 live stream can be classified as gameplay-driven because none of them are caused by in-game events.

Similarly, Carl also interrupts Pete more often, with Carl interrupting seven times and Pete interrupting only three times. Instances of interrupting by Pete generally concern the provision of additional information that Carl may have missed during his turns or that Pete himself did not provide during his previous turns. The illustration of Pete's interruption is provided in example (38) where Pete adds information to Carl's turn about the nation-specific military unit:

(38) Carl: [this is] this is the Persian immortal**pointing cursor at the enemy unit** which is uhm [Pers-]

Pete: [their] unique unit

The interruptions that Carl initiates primarily concern his desire to provide more information to the viewers about certain gameplay mechanics that Pete starts talking about but cannot provide an extensive description thereof because his level of knowledge about the game is not as wide as the level of knowledge of Carl who is directly involved in the process of Civilization 6 development. Two cases of interruptions initiated by Pete are related to in-game events, and they are consequently classified as gameplay-driven.

The Civilization 6 live stream is the second live stream which includes a non-playable character whose utterances intervene in the conversation between developers, although in this live stream, Pete and Carl react differently in comparison to participants of the Assassin's Creed Mirage live stream. In the course of the live stream, Carl interacts with the leader of the computer-controlled nation whose character is fully voiced and speaks in his native language. As the developers discuss the intricacies of the in-game politics system, the computer-controlled leader starts speaking in reaction to Carl declaring war on his nation. In comparison to the previous stream with a similar situation, Pete and Carl do not stop their turns and speak over utterances of the in-game leader, as can be seen in example (39):

- (39) Pete: and because this is a uh just a duel you and him somebody's going to win
through war you don't need to worry about the [diplomatic uh ramifications of this because
(.) what is diplomacy really]
NPC: *[**talking in Middle Persian**]*
Carl: [exactly in in this case diplomacy is the point of the spear]
NPC: *[**talking in Middle Persian**]*
Pete: uh-huh

The difference in reactions may be explained by the fact that Civilization 6 had been released for eight years at the moment the stream was held, which makes it highly likely that the audience, primarily consisting of gamers who played this game, has already seen these interactions many times. Furthermore, the conditions that may change the phrase uttered by the computer-controlled leaders are more limited in Civilization 6 compared to those of Assassin's Creed Mirage, and the chances of the audience being familiar with these phrases are also rather high. Finally, the computer-controlled leaders speak in the native languages of their nation, which is Middle Persian in this particular scenario, in comparison to English, which is used by non-playable characters in the previous live stream. These may be the main causes why the Civilization 6 live stream participants decided not to pay specific attention to these utterances and continue producing their turns.

4.2.6. Age of Wonders 4 live stream

The last live stream selected for the analysis is held by Thomas and Bas, who both hold similar positions as Game Designers in the development company. Bas is given the role of the player, while Thomas is responsible for the communicative tasks of the host and following the live chat. On par

with the Victoria 3 live stream, the Age of Wonders 4 live stream has a total of 39 cases of double talking, although the ratio of overlaps and interruptions is considerably more even.

In aggregate, 19 turns produced by both live stream participants lead to brief overlaps. Bas is responsible for roughly 65% of these cases, as he overlaps Thomas's turns twelve times. In comparison to previously analyzed live streams where one of the participants has more overlaps than their counterpart, the absolute majority of Bas's overlaps do not represent minimal responses or supportive turns and are caused by his early initiation of the turns close to the transition-relevance places of Thomas's turns. Only three of Bas's turns that result in overlaps constitute minimal responses. Thomas's turns lead to brief overlaps only in six cases. Interestingly enough, despite his role as the live stream host which generally presupposes an active listening role, which is confirmed by the data from previously analyzed streams where hosts actively employ minimal responses which also lead to overlaps, Thomas rarely uses them in general. The analyzed extract contains only one response, and that minimal response actually overlaps the turn of Bas. The other five cases are explained by the untimely initiation of new turns. The multimodality of interaction between Thomas and Bas must be noted here, since they, similarly to the DayZ live stream participants, often give each other non-verbal signals by turning their heads during the production of their turns, which leads to overlaps.

In two cases, detected overlaps are caused by the events happening on the screen. Due to the nature of the game, which requires players to keep in mind a variety of different values and make certain in-game selections based on specific values, it is not uncommon that players need to read the text containing important information, which partially resembles the gameplay process of Victoria 3. In example (40) representing the gameplay-driven overlap, Bas and Thomas are both looking at the screen, trying to decide what technology they are going to research. Both speakers find the information they want to share at the same moment of time, and they initiate their turns simultaneously:

- (40) Bas: I got my thing over here **opening the research menu** I need to set a research
uh::{*looking at research options on the screen*} (.) [oh:::]
Thomas: [storm spirit] is a good idea=
Bas: =storm spirit is definitely a [good idea]

In total, 20 interruptions are found in the analyzed extract of the Age of Wonders 4 live stream, which makes it the only examined live stream that has more interruptions than overlaps. By contrast with the distribution of overlaps, the majority of interruptions are initiated by Thomas, who interrupts Bas 14 times, while Bas interrupts Thomas only six times. It must be taken into account that both live stream participants hold hierarchically similar positions in the development team, hence the professional status is unlikely to play a role in the distribution of rights to interrupt turns of the other live stream participant in opposition to the participants of the Victoria 3 live stream. Moreover, the

position of both Thomas and Bas is directly related to the process of game development, and it may be assumed that both speakers have comparable levels of knowledge about the game. What may be the influential factor that results in more interruptions made by Thomas is his experience of participating in developer live streams. The inspection of the official Age of Wonders 4 YouTube channel shows that Thomas is a regular participant in the game's promotional live streams, which might provide him with more rights within such interactions, especially considering the fact that the analyzed live stream is the only one that Bas participates in. The higher status of Thomas, which affects the frequency of interruptions may also be confirmed by cases when Bas attempts to initiate the turn but quickly recognizes the alleged authority of Thomas and stops the turn, while there are no similar examples from the side of Thomas.

An interesting interruption by Thomas, which represents an attempt to repair the turn of Bas, can be found in example (41). As it was discussed previously, Age of Wonders 4 has a text-based quest system that requires the player to read rather large passages of texts. When Bas is reading one of the quests, Thomas notices that the former skipped the article before one of the words and quickly interrupts his counterpart, and Bas repeats this short fragment. This is the only time when a turn constituting the reading of a passage is interrupted:

- (41) Bas: which invokes the power of the storm crow to slowly turn your domain into grassland where your bonebirds thrive{reading from the screen} [that's tr-]
 Thomas: [uhm uhm] {pointing at the underlined text on the screen} where your **the** bonebirds thrive
 Bas: where your **the** bonebirds thrive yeah{laughing}

A total of four interruptions are caused by in-game reasons, such as a sudden discovery of a rare structure in the game during the turn which is not concerned with the said structure. In example (42), Bas is discussing the introductory system of the game while also moving his units around the map:

- (42) Bas: you'll always you'll always get that when you play primal culture *moving to another location* just [in case to hey that's how it works]
 Thomas: [yo:::::] {looking at the structure on the screen}
 Bas: {looking at the structure on the screen} [well]
 Thomas: [we got] we got a gold ancient wonder near our starting location [it's]
 Bas: [so]
 Thomas: it's literally just (.) you're not going to be able to claim that for a while=

Once he goes to a different location, Thomas quickly notices the rare and valuable structure and draws everyone's attention to it with a long interjection. Even when Bas attempts to recover the turn order to him (even twice), Thomas continues to hold the turns to himself and speak about the discovered structure

4.2.7. Common patterns across all analyzed streams

The analysis of the selected developer live streams has allowed us to determine what factors might have an influence on the structure of turn-taking in interactions between developer live stream participants and what may be the reason for occurrences of simultaneous speech in developer live streams. Moreover, the closer attention to overlaps and interruptions that are caused by the gameplay gave a more accurate assessment of how a game genre may possibly affect the frequency of double talking in the context of the video game developer live stream.

The initial quantification of total instances of simultaneous speech and the ratio of interruptions and overlaps in developer live streams signaled that the strategy genre was likely to have a stronger influence on the frequency of overlaps and interruptions than the action genre, and this influence of strategy genre was more disruptive in relation to turn-taking, as the difference in frequencies between overlaps and interruptions was almost 10% lower in comparison to action game developer live streams. However, the introduction of the notion of gameplay-driven instances of simultaneous speech and the quantification of these instances may provide different results.

The analyzed action game developer live streams include a total of 14 gameplay-driven instances of simultaneous speech, which constitutes ~16.9%. The highest frequency of gameplay-driven overlaps and interruptions was found in the Assassin's Creed Mirage live stream (23%), while the lowest frequency was found in the Anthem live stream (11%). In comparison, the strategy game developer live streams include slightly more gameplay-driven overlaps and interruptions, which amounts to 15. Taking into account the total higher number of cases of double talking in the live streams devoted to strategy games, the percentage of gameplay-driven instances of simultaneous speech in Victoria 3, Civilization 6 and Age of Wonders 4 live streams is not significantly lower given the data volume, and it constitutes ~14.9%. The lack of difference indicates that a game genre might not have an influence on how often speakers initiate turns that overlap or interrupt their counterparts. Thus, it must be acknowledged that the original hypothesis regarding a higher frequency of simultaneous speech occurrences in the action game live streams is disproved. The equal frequency of gameplay-driven double talking in live streams devoted to both genres may be explained by the fact that the general complexity of game elements and mechanics, which is commonly acknowledged to be a characteristic of strategy games (especially in comparison to action games), has the same level of influence as the higher pace of the game and increased degree of randomness which are found in the action games.

The state of the game at the moment of the live stream may also be impactful in relation to the frequency of simultaneous speech occurrences. The quantification of gameplay-driven overlaps and interruptions in live streams of both genres indicates that the lowest numbers and frequencies of this type of double talking instances are found in live streams which are devoted to the current state of

post-release support of the game (fix of known issues, changes in regularly updates modes, etc.), i.e., Anthem (two instances (11%)) and Civilization 6 (two instances (9%)). These live streams are then followed by live streams devoted to big expansions or updates to the game introduced after the initial release of the game, i.e., DayZ (six instances (16%)) and Age of Wonders 4 (six instances (15%)). Finally, gameplay-driven overlaps and interruptions are found in live streams which are held prior to the initial release of the game and might be first live demonstrations of gameplay, i.e., Assassin's Creed Mirage (six instances (23%)) and Victoria 3 (seven instances (18%)), although it must be noted that the frequency of gameplay-driven double talking cases is not significantly higher than the same frequency in live streams dedicated to major post-release updates.

The active use of minimal responses is one of the most common causes of overlaps in the developer live streams. Primarily, the use of minimal responses is attributed to live stream hosts who do not play the game and perform a more supportive communicative role. The exception to this may arise if both live stream participants are a part of the development team and directly involved in the process of game development, which is observed in the case of the Age of Wonders 4 live stream, where minimal responses by the developer playing the game lead to more overlaps in comparison to the host of the live stream.

The active employment of non-verbal signals by live stream participants, such as turning to each other or pointing to a certain place on the screen, also influences the production of turns that result in brief moments of simultaneous speech. Although such cases are not found in every analyzed fragment of live streams, they regularly force the recipient of such signals to produce a short turn, which is particularly evident in the case of the DayZ live stream. It must be noted that this heavily depends on where live stream participants are located in relation to each other during the stream. For example, the participants of the DayZ live stream sit next to each other and at the same distance from the screen, which allows them to be in direct visual contact and produce non-verbal signals effortlessly. In comparison, one of the participants of the Victoria 3 live stream, namely Mikael (who is not playing the game), sits behind the developer who is in control of the game, which makes it more difficult to produce non-verbal signals, as the second developer has to make an additional effort to see Mikael. As a result, the number of non-verbal signals in this stream is significantly lower than in the case of the DayZ live stream.

The distribution of rights to produce interruptive turns during the live streams is likely to be influenced by various factors. The information provided during the DayZ live stream by the developer playing the game directly states that it is the person in control of the game who is given more rights to interrupt in comparison to the host. The data from the Assassin's Creed Mirage, Civilization 6 and partially from the DayZ live stream confirms this statement but the data from other live streams indicates that other factors may be more impactful than the assigned roles, and the host may, in certain

scenarios, have more rights to produce disruptive turns. For example, the data from the Age of Wonders 4 live stream, where both speakers hold similar positions and are both related to the development process, suggests that the experience of participating in developer live streams also gives more rights to control the turn-taking, as Thomas is a regular participant of promotional live streams, and he interrupts his counterpart significantly more frequently. The data from the Victoria 3 live stream signals that a higher position in the development team may result in more interruptions, as Mikael, who is a Lead Game Designer, produces more interruptions than Paul, who is a regular Game Designer. Finally, the higher number of interruptions performed by the host in the Anthem developer live stream may be attributed to his direct involvement in the game development process and, consequently, his higher level of knowledge about the game.

The interaction with a live chat appears to have no influence on the occurrence of simultaneous speech. There are no cases when the host of the stream, who has almost the exclusive right to initiate turns related to the information from the chat, initiates a chat-related turn that leads to an overlap or an interruption. The host always manages to fit these turns after the end of the previous speaker's turn. Presumably, it may indicate that the turns related to the interaction with live chats are of significantly lower priority in comparison to game-related turns.

The reaction of live stream participants to the utterances produced by non-playable characters may significantly differ due to a variety of factors. While some live stream participants may stop initiation of their turns until the end of utterances from computer-controlled characters, or at least initiate their turns between such utterances (which may be comparatively easier due to the presence of subtitles on the screen), other live stream participants may continue producing their turns and even initiate new ones. Among the factors influencing the decision of stream participants, the state of the game, the language of non-playable character's utterances and possible variety of such utterances may be highlighted as the most influential.

The case of turns related to reading long paragraphs from the screen is rather interesting, albeit uncommon. It appears that a temporary greater level of authority is assigned to speakers producing such turns, as they primarily read these paragraphs aloud without being overlapped or interrupted. Committing a mistake during the reading may be one of the few reasons for the second live stream participant to initiate a new turn to swiftly fix the mistake.

It may be stated that live stream participants attempt to avoid overlapping or interrupting each other's turns because of the in-game events. On average, almost 15% of instances of simultaneous speech are caused by gameplay-related reasons, which is not comparatively significant, yet it is high enough to be taken into account. A variety of external factors influence the distribution of overlaps and interruptions between the live stream participants, which goes in line with the theory about media

and institutional discourse, but the game itself and its genre must be included in the discussion during the analysis of similar communicative interactions.

4.3. Discussion of findings

The analysis of the data from the selected developer live streams provided interesting results not only in relation to the issue of video game live streaming, but also relevant types of discourse and operation of the turn-taking model in said discourses.

The data opposes the highlighted importance of the chat rooms of the live stream discussed by Hamilton, Garretson and Kerne (2014: 1317). As noted earlier, the opportunities for social interaction between the streamer and the audience are more limited in the case of the developer live stream and appear to be in exclusive control of the developers. It can be explained by the underlying goals of the developer live stream, which include the promotion of the products being developed and the subsequent collection of feedback to further use it in the development process, and these goals generally leave little space for interaction during the stream.

The analysis of the turn-taking system's adaptability to the context of the video game developer live streams demonstrates that the majority of the system's features successfully adapt to these communicative scenarios. The institutional and media nature of these live streams affects the overall functioning of the turn-taking system in ways similar to other examples of institutional and media-based talks. The multimodality of video game discourse discussed by Shalamay (2022: 89) also influences how developer live stream participants construct their turns around what they may see on the screen and adapt the content of their turns and turn-allocation techniques accordingly. It primarily concerns the visual and auditory modes, yet the importance of the procedural mode introduced by Hawreliak (2019: 228) represented by the reaction of virtual worlds.

The findings appear to confirm the idea of discrepancy in status and distribution of rights between the live stream participants in media and institution types of discourse discussed by O'Keeffe (2006: 15) and Freed (2015: 811). The developer live streams held by an actual developer and a person performing other work duties in the developing company, e.g., in the Anthem live stream, showed a clear difference in the abilities of live stream participants to control turn-taking.

The presence of various modes of communication in the analyzed developer live streams, i.e., verbal, non-verbal, gestural, textual serves as a basis for further exploration of multimodality of video game live streams in general and developer live streams in particular in greater detail.

Furthermore, the developer live streams involving dyadic interaction of developers may include at least two layers of audience. Following the notions of the participation framework by Goffman (1981: 226), one of the live stream participants represents an addressed recipient, who has more opportunities to respond to the speech producer via visual, verbal, gestural and other means, while the second live stream is given a productive role. The data suggests that the live stream participants

regularly switch producing and receiving roles during the live stream. In comparison, the viewers of the stream may serve as unaddressed recipients who are always present – and live stream participants are aware of them – yet their ability to participate is limited to exclusively textual interaction (at least in the case of developer live streams) with live stream participants and each other only at specific periods of live streams established and controlled by the said live stream participants. Moreover, the game itself may become a producing party, as it happened during the Assassin's Creed Mirage and Civilization 6 live streams. Although briefly, the games turned into speech producers that – at least in one case – affected the structure of turn-taking, having made the live stream participants adapt to new circumstances of the conversation.

The analysis of the data refuted the original hypothesis established prior to the study. The comparison of live streams devoted to either action or strategy games revealed that both genres equally influenced the structure of turn-taking and the frequency of simultaneous speech occurrences in the developer live streams held by two live stream participants. However, these results provide opportunities for further exploration of various genres and subgenres of video games regarding their influence on interpersonal communication to determine whether certain game elements create foundation for increased frequency of double talking.

5. Conclusion

Although the topic of video game live streaming has been a subject of interest for a variety of researchers across different fields, developer live streams have rarely been approached for analysis, particularly from the perspective of the turn-taking model. The video game developer live streams represent an interesting case of communicative interaction that combines various features of media and institutional discourse.

This paper attempted to investigate how the turn-taking model would adapt to this particular type of interaction and what features distinguished it from other types of communication. Furthermore, the research sought to determine how influential the factor of the game genre would be in relation to the frequency of instances of simultaneous speech. To achieve these goals, extracts from six developer live streams devoted to strategy and action games were transcribed and subsequently analyzed in detail with the use of the Conversation Analysis method. The application of the turn-taking model's basic features developed by Sacks, Schegloff and Jefferson (1974: 700) was discussed in relation to the developer live streams to determine how successfully the model could adapt to these communicative scenarios. Further, the notion of gameplay-driven overlaps and interruptions was introduced to reveal the level of influence that the events on screen would have on the structure of turn-taking.

The results of the analysis revealed that the features of the turn-taking model primarily fully adapted to the communication between live stream participants. The institutional and media natures of this type of interaction affected the structure of turn-taking in a manner similar to other types of interactions classified as institutional or media-based. It was found that the factor of playing a video game also had an impact on the speakers' manner of constructing the turns and turn-taking within the conversation. Further analysis of gameplay-driven instances of double talking demonstrated that the in-game actions both in control and out of control of the player occasionally led to occurrences of simultaneous speech. The comparison of live streams devoted to strategy and action games indicated that these particular genres had a similar level of impact on the production of overlapping and interrupting turns. Furthermore, such factors as the assigned roles, position in the company, experience of participating in developer live streams and relation to the game development process were highlighted as the most influential in relation to the distribution of rights to control the turn-taking structure and produce disruptive turns. In addition, the state of the game at the time of the developer live stream was also noted as possibly impactful on the overall frequency of gameplay-driven overlaps and interruptions.

Several limitations of this paper must be considered. The extracts transcribed for the purposes of this paper include a variety of data, but they constitute only a small fraction of the live streams they are taken from. Hence, further research of developer live streams (or analysis of different fragments) may provide important additional results that may change the presented findings. Moreover, it remains unclear to what extent the developer company regulates the communication between the live stream participants. A study that would include interviews with live stream participants may shed light on the issue and provide additional information related to the topic of turn-taking within developer live streams. In addition, the selection of genres for this paper is rather limited, and its results are unlikely to apply to live streams devoted to genres other than actions and strategies. These two genres may also be further classified into a variety of subgenres, whose analysis may also provide different outcomes for the topic of turn-taking. Finally, the focus of this paper was exclusively centered on dyadic interactions. The examination of various developer live streams revealed that developer companies regularly hold live streams that include three or more participants, which would naturally have a significant impact on the structure of turn-taking and the frequency of overlaps and interruptions. The lack of research in this area opens up a number of possibilities for further research into the issue of developer live streaming from the perspective of the language.

6. References

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7. Appendix

Table 6. Transcription key

Symbol	Meaning
{ <i>laughter</i> }	Nonverbal information
<u>xxxxx</u> { <i>laughing</i> }	Paralinguistic information qualifying the underlined utterance
[xxxxx]	Beginning/end of simultaneous speech
(<u>xxxxx</u>)	Doubt about accuracy of transcription
* <i>aiming</i> *	In-game action performed by the player
** <i>new turn began</i> **	In-game action out of player's control
bold print	Speaker emphasis
-	Incomplete word or utterance
?	Rising intonation
uh::	Lengthened sound
=	Latching
(.)	Micropause
(1); (2)	One-second pauses or longer

Assassin's Creed Mirage live stream transcription

Link: https://www.youtube.com/watch?v=jFLH_BOpBoE&ab_channel=Ubisoft

Timecode: 1:19:21 – 1:29:20

Participants: Chris (Senior Communications Manager) and Youssef (Communications Manager)

1. Chris Dervis he knows what's up he knows things
2. Youssef yeah
3. Chris but now he's just kind of like like still living that merchant life=
4. Youssef =yeah well and again Chris the nice thing too is that I don't need to always remember what [these things are I can]
5. Chris [laughter]
6. Youssef I can go into my you know history of Baghdad I've only uncovered one uh: at this moment because the history of Baghdad (.) are essentially collectibles that you'll find throughout the world but I still have my codex I ha- I have my database here of people locations citizens (2)
7. Chris oh yeah so [here's Dervis]
8. Youssef [do we ha-] do we have one on Ali yet?
9. Chris we [uh::]
10. Youssef [oh yeah] we have to meet Ali but we have one on on Beshi (1)
11. Chris oh nice and we got like like some concept or 2D character art to uh: [to cover]
12. Youssef [yeah right]
it's super cool but yeah he served as Ali's second-in-command?
13. Chris uh-huh (2)
14. Youssef alright=
15. Chris =we're working our way we're discovering the the webs of intrigue that we're slowly uh:: (1) kind of (1) making our way {looking at chat} into here in the early hours of Assassin's Creed Mirage (.) of course folks this game is coming out like (.) two we say two days but depending on where you are you know it could be less than the full 48 hours you can check the preload um and release times on the Assassin's Creed official Twitter I'm also putting that link in chat occasionally (2) and we appreciate you all hanging here to check this out with us get some drops and see Basim's early adventures in Baghdad
16. Youssef Chris one of the things I love about Mirage is that like it gives you that like that old school AC feeling of like you're in a densely populated city you can run around exclusively on rooftops {turning to Chris} like [you can like you can]
17. Chris [uh-huh uh-huh]
18. Youssef and the devs we've meet here on board have even spoken about this where they've they've inserted what they call like parkour highways {turning to Chris}
19. Chris uh-huh=
20. Youssef =uh throughout the city so like these are unofficial they're not marked or anything like that but they're just kind of intuitive pathways through the city that um you're kind of meant to to be able to navigate uh above above street level so every once in a while like you'll come across one here like oh man that string was just kind of awesome it's like [oh yeah that's]
21. Chris [laughter]
22. Youssef that's why you you hit one of those parkour highways (1)
23. Chris and then of course you hit a little plaza like this and it's not like there's a web of uh lines going [all the]
24. Youssef [yeah]
25. Chris way across you know you wanna you wanna explore on foot as well and check out these beautiful climbing flowers this is a one of the early things that um Jean-Luc Sala the art director [said]

26. Youssef [uh-huh]{turning to Chris}
27. Chris as we looked at one of the trailers was calling Baghdad this Garden City{turning to Youssef}=
28. Youssef =yeah=
29. Chris =and of course it's right by the river there's there's canals and irrigation all throughout and it's just you know a richly like dense but also the foliage the the palm trees{looking at palms on the screen} everywhere here we go{laughing}
30. Youssef ye[ah we ha-]
31. Chris [there's one] right there{laughing} a majestic specimen uh (.) just a beautiful place to explore{looking at chat} I've been seeing chat getting excited to explore and sort of uh **really** immerse themselves in this city
32. Youssef =yeah and like that's the really cool thing and I think I'm so excited about Mirage is that like at this time like Baghdad really was kind of like the the center of the world in many ways like it was a super multicultural city you have art and science and culture and religion all flourishing at this time=
33. Chris =uh-huh
34. Youssef it's really cool to be able to get to experience it because it's not um (.) you know at least at least here in the states it wasn't it wasn't a region I learned a lot about uh in school [which]
35. Chris [no]
36. Youssef we're now uh okay alright how am I gonna*struggling to perform an action in game*
37. Chris I think it might be just there (1) is it?
38. Youssef [no:]
39. Chris [or is it] still higher? oh I see [you gotta go]
40. Youssef [no I mean I can] I can break this if I you know=
41. Chris =I think you probably have to uh
42. Youssef no I think I think I can get [aro::und] *climbing the tower*
43. Chris [you think] you gonna you got a path?=
 44. Youssef =I think (1) *trying to control a character* again this is [something too]
 45. Chris [here you go]
46. Youssef that I know people were were kind of uh (.) missing from AC's past is that like Basim can't just climb absolutely everything there are paths (.) *trying to control a character* there are paths up that you need to kind of navigate=
47. Chris =uh-huh=
48. Youssef =so it kind of climbing kind of returns to that uh almost puzzle (1)*trying to control a character* um puzzle-like mechanic that we saw in earlier games as well there we go we found our way up=
49. Chris =here we are uh: I love a sync point{whispering} [{observing the landscape}] (5)
50. Youssef [{observing the landscape}] (5)
 every time I do one of these I'm like oh okay yeah so you can see there the round city{pointing Chris at the screen}=
51. Chris =yeah=
52. Youssef =you can see the whole wall=
53. Chris =yeah=
54. Youssef =and the palace in the center=
55. Chris =uh-huh uh-huh=
56. Youssef =every time I do one of these I'm like man {turning to Chris} (.) the world art team is just flexing{laughing}=
57. Chris =unbelievable [un:believable]{laughing}
58. Youssef [they're just flexing] (.) and I'm more than happy to let them

59. Chris oh it's so good{*laughing*} every time I love it every time (.) uhm{*looking at chat*} so chat I see a few you asking some residual questions about the giveaway uh we did give away some collectors cases for Assassin's Creed Mirage during the showcase just earlier in the broadcast that giveaway has been closed the winner has winners have been selected and so congrats to those winners and uh you know for the rest of y'all we do do giveaways on this channel from time to time so go ahead and follow the channel get those notifications on and you won't miss it anytime you see giveaway in the title of our streams you've got a chance to win something (.) but for now it's drops and early look **first** look at live Assassin's Creed Mirage gameplay
60. Youssef okay Chris I have a feeling I'm gonna need (1)**paying close attention to the screen** yeah I have a feeling I'm gonna need more throwing knives than the one [I have right now]
61. Chris [{*laughing*}] how are you gonna? so what are you gonna go find a knife merchant?
62. Youssef that's exactly what I'm gonna do=
63. Chris =all right fair enough
64. Youssef {*laughing*}
65. Chris {*laughing*}
66. Youssef you think there's some **knife** merchants in nine [century Baghdad]?
67. Chris [I:: I dunno there's] probably a fair amount of knife Merchants I feel like knives probably a pretty uh important tool in various (.) sectors of society (1) hello{*addressing the NPC on the screen*} greetings{*addressing the NPC on the screen*}
68. Youssef you got any knives?{*addressing the NPC on the screen*} oh here we go this is a trader
69. Chris wait oh that's a=
70. Youssef =oh he's around the corner=
71. Chris =yeah yeah yeah=
72. Youssef =selling boo:ks
73. Chris yeah there you are
74. Youssef and assorted
75. Chris **pressing a button to talk to NPC** oh I hope they have a uh
76. Youssef well met sir***addressing the player***
77. NPC so you can see merch- like if I had a merchant favor token [I could reduce the prices]
78. Youssef [oh:::] if you needed to like do a big shopping?=
=yeah
79. Chris here's what's come in***addressing the player***
80. Youssef alright what does this guy have {*looking at the in-game shop menu (4)*} so you can sell trinkets that you find uh from looting here and there all right dirhams is that for you?
81. NPC uh
82. Chris 45 dirhams?
83. Youssef 45 for three
84. Chris yup okay okay yeah
85. Youssef that'll do that'll do (.) uh you can see here outfit dies are also back too something uh (.) Zanj**reading from the screen and pointing Chris to it** yeah see there we go=
86. Chris =there it is nice
87. Youssef uh (.) we can't afford any of them right now again we're very early **closing the menu**

90. Chris oh can we see the costume?*{pointing at an in-game icon}*
91. Youssef oh sorry (.) *[sorry]{whispering}*
92. Chris [I mean] it'll just probably show us the little icon right?=
93. Youssef =yeah I don't think we'll get to see it bigger than we have it right now
94. NPC be well
95. Youssef all right there we go I feel good about our throwing that capacity now (.) health's a little low but that's okay that's okay I'm not planning on getting caught Chris (.)
96. Chris [not planni-]
97. Youssef [no plans] to get caught this time=
98. Chris =no I mean you know but you know what they say about **plans**?
99. Youssef uh they always go off without a hitch=
100. Chris =flawless victory=
101. Youssef =yup=
102. Chris =uh-huh
103. Youssef **mine** especially every single time*{laughing}*
104. Chris *{laughter}*
105. Youssef okay (.) let's scout**switching to another game mode*=*
106. Chris =let's scout=
107. Youssef =again it's important
108. Chris you look for the objective I'm looking at bird
109. Youssef okay well
110. Chris show show me bird
111. Youssef you want more [bird]?
112. Chris [bird] (.) give me some=
113. Youssef =okay wait key man we need key man always identify the key man listen (2) if you take one thing away from this stream chat (1) key man*{pointing the index finger to the camera}=*
114. Chris always find the key man=
115. Youssef =find that key man*{looking at chat}*
116. Chris uh: it's always a sneaky guy sitting down (.) **switching back to the previous mode** okay
117. Youssef *{laughter}* we've got a lot of hype outfit dyes I'm stoked (.) [for real]
118. Chris [oh the outfit] dyes?
119. Youssef yeah yeah that was a that's a big one
120. Chris and King of the North calling out*{looking at chat}* the Rostam dye cape that Rostam was a Persian Warrior
121. Youssef oh oh oh **trying to hide in the game**
122. Chris I trust this [king of the no-]
123. Youssef [there is to many there] is too many *{inhale}***trying to hide in the game** (.) okay we need to eavesdrop on these guards down here (1) I'm gonna get caught by the ones up to okay let okay let's just go into this hay=
124. Chris =you g-
125. Youssef oh
126. Chris and you have to like
127. Youssef yeah **pressing the button to initiate NPC's dialogue**
128. NPC 1 I saw this before are you and the scribe ever going to play nicely together
129. NPC 2 not likely the man thinks he can let loose his tongue just because of his rank
130. Chris not a fan of the scribe
131. NPC 1 and who will record the prisoners then? you? you cannot fasten your own bracers let alone write
132. Chris *{laughter}*
133. Youssef uh::

134. NPC 2 if it means we rid ourselves of his blithering I will happily learn=
135. Chris =descension among the ranks here between the various uh guard classes now there's two there were two uh guards right next to each other and here they're resuming their patrol someone was asking you know if there's like a double assassinations? {turning to Youssef}
136. Yossef [so]
137. Chris [he's] only got one hidden blade=
138. Yossef =he's only got the one hidden blade there you're not gonna get the dual hidden blade assassinations but there is a skill and you know **opening the skill menu** why not let's let's show off the skill tree a little bit I have a skill point to spend (.) um so the skill trees here are divided into three this is this is the entire skill tree um and Chris{pointing at and turning to Chris} I actually also want to point out to [the the]
139. Chris [uh-huh]
140. Yossef scorpion the spider and the eagle calligraphy that's in the background
141. Chris o:kay=
142. Yossef =these were all done by by Hatem Araf=
143. Chris =yes:=
144. Yossef =who we got to meet in and hear from in during that launch celebration uh again all custom works that are all super super cool
145. Chris and we saw him kind of doing uh uh you know fast motion version of that eagle on the right=
146. Yossef =yeah
147. Chris oh man{whispering}
148. Yossef **selecting a specific skill on the screen** so you have chain assassination here [so]
149. Chris [uh-huh]
150. Yossef performing an assassination uh after performing an a- assassinate a second nearby enemy or throw a knife at a distant one if throwing knives are available{reading from the screen} so that's what I think is really cool too is that it's you know if there's someone really near like close by you can do both
151. Chris uh-huh
152. Yossef but if there's if you want to get that that long distance one like we see there**showing an in-game video on the screen** you need to have a throwing knife in your inventory it's not just you don't take their knife it's unlimited throwing knives or anything like that you need to have that one in the bank
153. Chris you need to be planning for okay I've got the the resources to do this
154. Yossef yeah

DayZ live stream transcription

Link: <https://www.twitch.tv/videos/1941599647?filter=archives&sort=time>

Timecode: 0:11:53 – 0:21:50

Participants: Matěj (Community Manager) and Adam (Creative Lead)

1. Matěj nice ripping sound*{reading from chat}* (.) thanks (.) okay they noticed pretty quickly *{turning to Adam}* [we didn't want to]
2. Adam *{laughter}*
3. Matěj to talk about it explicitly there is some sounds that we added [right]?
4. Adam [yeah]
5. Matěj and that's pretty cool
6. Adam we sort of like open this topic not so long ago actually we could see some fruit of it earlier in one twenty-two (.) but yeah we wanted to add more sounds to the actions
7. Matěj uh-huh
8. Adam like because like we will not always have resources to add custom animations *{turning to Matěj}* for everything but we just feel that adding more sound will make you feel more immersed *{turning to Matěj}*
9. Matěj uh-huh
10. Adam well actually here I feed beggar okay I'm doing this okay
11. Matěj oh yeah
12. Adam it just feels like shhhh*{rolling arms}* you know? *{turning to Matěj}*
13. Matěj yeah yeah I mean it's up to it (.) and all we ne- need is like some time from the audio guys from our team *{turning to Adam}*
14. Adam yeah=
15. Matěj =and like you know some rags or something
16. Adam *{looking at a car in the game}* this (.) I think this is a drivable car
17. Matěj oh my god that's such an organic (.) event*{sarcastic}*
18. Adam is that a drivable car?
19. Matěj oh I am I'm afraid some- someone got it stuck (.)
20. Adam is [it]?
21. Matěj [by] his like irresponsible driving
22. Adam let me try it **getting into the car(2)** can I start it? **starting the engine** [okay]
23. Matěj [nice]
24. Adam **unsuccessfully trying to drive the car forward** oh okay (.) [it's stuck]
25. Matěj [it's stuck]
26. Adam who parked it? who parked it like this?
27. Matěj I don't know it must've been someone right before the stream
28. Adam classic
29. Matěj ***zombie running towards the player*** oh my god
30. Adam **fighting the zombie** that's okay (.) that's one infected I can handle that
31. Matěj *{laughter}* sure you can Adam
32. Adam **finishing the zombie** see? and I also got some liver pate so
33. Matěj ni:ce=
34. Adam =what can I do with such a car? *{turning to Matěj}*
35. Matěj I don't know *{turning to Adam}* if it was a real life I would try to push it somehow (.) to the side [you know]
36. Adam [okay]
37. Matěj because cars are heavy but pushing it a little (.) seems that it should be doable *{turning to Adam}*
38. Adam uh-huh
39. Matěj guys do you think that this could be done?

40. Adam {turning to Matěj} I could craft a fireplace on top of it
41. Matěj {turning to Adam} (.) okay
42. Adam {laughter}
43. Matěj that's another way{laughing} [but oh my god it]
44. Adam *started pushing the car* [I could also] put (.) try to push the car
45. Matěj oh my god I'm so happy it worked [{laughter}]
46. Adam [{laughter}]
47. Matěj guys can you imagine how awkward it would be if it didn't work{laughing}?
48. Adam well yeah so (.) now if you manage to get your car stuck like I did {turning to Matěj}
49. Matěj {turning to Adam} {nodding}
50. Adam and I tried it few times and I always got it unstuck
51. Matěj yeah [but]?
52. Adam [okay] so it's not that bad actually [{laughter}]
53. Matěj [{laughter}] yeah it's just when you when
you you know uh when you stand next to it and you want the animation to look
nice you need to be very close to it otherwise it looks like you're using a force
field or something{pretending to push}
54. Adam *trying to put the car back* okay I can get it stuck if you want
55. Matěj I'm sure you can do it {turning to Adam}
56. Adam {turning to Matěj} {laughter} so it's not scripted okay
57. Matěj I'm sure that you will get the car stuck like multiple times during the
stream{laughing}
58. Adam you [know]
59. Matěj [and] half of it won't be script
60. Adam *got the car stuck again* very [nice]
61. Matěj [nice] (.) so as you can see like during the years
since the cars were added there were a lot of ways how to unstuck a car you know
(.) some of them weren't really like [something (.) atmospheric]
62. Adam [someone really gave] us a very fitted
car{looking at the car inventory menu}
63. Matěj yeah some of them weren't atmospheric I remember that was one of the most like
the biggest usage of bow back then was like actually shooting the car because it
started flipping{rolling with fingers} so fast (.) and now you also mentioned the
fireplace right? {turning to Adam} people had to [like]
64. Adam [yeah] yeah
65. Matěj yeah kinda do that (.) yeah so you know now there's a very official way (.) anyway
uh
66. Adam *starting the engine*
67. Matěj can we just confirm that {turning to Adam} that was all the intentional stuck-in
that you wanted to do this stream? so from [now on]
68. Adam [yes]{laughing}
69. Matěj so now it's very organic
70. Adam I'm just gonna be driving=
71. Matěj =a lot of people are saying to the north-west airfield{looking at chat} wait let me
check our map{looking at papers}
72. Adam maybe
73. Matěj I don't know
74. Adam where is the north-west airfield?{looking at Matěj's papers}
75. Matěj probably in the south-east=
76. Adam =I I only know where (xxxx)
77. Matěj yeah I know{laughing}

78. Adam {laughter}
79. Matěj so
80. Adam okay (.) {looking at the car's back door} and how do you like the red (.) {turning to Matěj} door?
81. Matěj yeah I like it's you know a personal touch
82. Adam yeah=
83. Matěj =it's basically car tuning
84. Adam yeah something like that{laughter}
85. Matěj {laughter}
86. Adam *looking around from the car* yeah so you can stuck like on these walls (.) the the push option that we are introducing in one twenty-three will hopefully help you get out of these cases=
87. Matěj =yeah like (.) guys let's let's be honest this is coming still to experimental so if you gonna play there and try it out you should probably give us feedback show how it works=
88. Adam =get your cars stuck {turning to Matěj}
89. Matěj yeah
90. Adam *crushing into the box* oof: (.) you know you should always{wagging a finger at the camera} be looking where you're [driving]
91. Matěj [exactly]
92. Adam because I looked at Matěj{laughter}
93. Matěj exactly yeah yeah it's only a split second
94. Adam yeah (.) drive safely
95. Matěj exactly
96. Adam *driving the car further* okay so I'm just gonna be driving to the inland [maybe we]
97. Matěj [oh yeah]
98. Adam we gonna visit this Letiste
99. Matěj oh yeah (.) this airport
100. Adam {laughter} (2) this password isn't related (.) secret (.) we streamed it I guess
101. Matěj {laughter}
102. Adam but yeah (.) okay I'm gonna have to focus more a bit I lowered down the volume it should be it should be very (.) [nice]
103. Matěj [uh-huh]
104. Adam the stream should still hear us hopefully (1) yeah I mean if we are now talking about the cars which I guess we sorta started with the push option (.) not the only thing that (.) {turning to Matěj} we are adding
105. Matěj uh-huh
106. Adam uh we've also looked at the the m3s truck we made it more off-roadly {turning to Matěj} more capable of [like]
107. Matěj [uh-huh]
108. Adam going up the hills and (.)
109. Matěj [nice]
110. Adam [so] generally more driving (.) we made it easier (.) more convenient we [also]
111. Matěj [wait]
{looking at the location to the left} quick quiz (.) what is this camp?
112. Adam {looking at Matěj in surprise (3)}
113. Matěj I totally interrupted you for no reason at all
114. Adam why:::==
115. Matěj =but the chat could know
116. Adam uh:: is that Kometa? {turning to Matěj}
117. Matěj yeah I think so {turning to Adam} (.) I wasn't actually sure of it{laughter}

118. Adam {laughter}
119. Matěj I think it's Kometa (.) it's Kometa right?
120. Adam {laughter}
121. Matěj {reading chat} guys Topolka come on
122. Adam {turning to Matěj} Topolka?
123. Matěj no they're like they're like [saying]
124. Adam [I **almost**] like smashed the sign
125. Matěj you know but you made it and we are stronger [anyway]
126. Adam [it's a]
127. Matěj sorry for the interruption=
128. Adam =yeah that very [rude]
129. Matěj [very] rude I know
130. Adam you you know that you're the host of the stream so I'm like I'm allowed to interrupt you {turning to Matěj} but not the other way right
131. Matěj well it's my stream I can end by pushing [this button]{laughter}
132. Adam [{laughter}] (.) oh we haven't really shown much
133. Matěj yeah no no no let's keep on going
134. Adam {turning to Matěj} I guess the most important feature was revealed early [so]?
135. Matěj [alright]
yeah yeah that's true (.) can you honk? {laughter}
136. Adam *pressing the honk button*
137. Matěj nice
138. Adam still there (.) [now I don't wanna be honking {laughter}]
139. Matěj [guys anyone remember honk] for uwaga {laughter}
140. Adam {laughter} (.) yeah that was good=
141. Matěj =yeah that was nice
142. Adam uhm so yeah so we looked at m3s truck increased its drivi- its driving capabilities (.) you are as a driver not suffering that much when you know like climbing uphill and driving over the terrain (.) what we also did was (1) we looked at offroad oh two (.) it's something similar so you still see the difference (.) and driving on a grass should also look more cheerfully and that's for the case for all the cars
143. Matěj yeah=
144. Adam =perhaps less slippery it's going to be like slower but less [slippery]
145. Matěj [uh-huh]
146. Adam you will test you know (.) when the experimental [comes out and feedback]
147. Matěj [yeah I guess people need to] yeah
get the feel for it
148. Adam yeah=
149. Matěj =yeah it's very hard to describe
150. Adam oh yeah
151. Matěj {pointing at the forest} this is a nice scenery with all the trees and everything you (.) [wink wink]
152. Adam [we didn't] forgotten the vehicles
153. Matěj uh-huh
154. Adam we're still very much trying to improve them (.) the push option will help a lot to remove some headaches {turning to Matěj} you know
155. Matěj [uh-huh]
156. Adam [when] driving through I don't know some forest and you stumble upon a stump and you're like oh no how am I gonna get my car [unstuck]
157. Matěj [uh-uh]

158. Adam and then there's like (.) wheel detaching you know and stuff like that so yeah the push action should hopefully [help]
159. Matěj [yeah]
160. Adam with all that (1) you're obviously not able to push a car *{turning to Matěj}* through the map like that*{laughing}*
161. Matěj *{laughter}* *{reading chat}*
162. Adam maybe to some extent but yeah it's it's not that powerful
163. Matěj people are asking about the new new glare of the windows
164. Adam it's [not really new]
165. Matěj [and I also don't] remember
166. Adam not new it's dirt=
167. Matěj =really?
168. Adam yeah
169. Matěj is there like a car wash where you can clean it?
170. Adam no *{laughter}*
171. Matěj *{laughter}* (.) damn it post-apocalypse is hard
172. Adam don't think it's really new **showing the car** it's just the car is really pristine*{laughing}*
173. Matěj I'm sure you will *{laughter}* you will find a solution*{laughing}*
174. Adam **looking at the sun from the first-person view** oh this is cool that I just noticed that golden sun rays textures aren't visible in the car **switching back and forth between first-person and third-person modes** wha:: there is a (.) [wha::]
175. Matěj [there is] a filter?
176. Adam *{looking at Matěj in surprise}*
177. Matěj we can [talk it]
178. Adam [wha::]
179. Matěj like guys [as we always say on the stream]
180. Adam *{laughter}*
181. Matěj it's coming to experimental
182. Adam **but they didn't know**
183. Matěj we still want to like observe the game on our side and also like if you have the time it's always nice when you can jump in and try it out and let us know what you think yeah
184. Adam uh-huh definitely

Anthem live stream transcription

Link: https://www.youtube.com/watch?v=ZH99VybaSpA&ab_channel=AnthemGame

Timecode: 0:03:48 – 0:13:51

Participants: Jesse (Community Manager) and Ben (Lead Producer)

1. Ben {turning to Jesse} so the first thing=
2. Jesse =first thing=
3. Ben =first thing
4. Jesse {laughter}
5. Ben Jesse are you in a group? yes or no
6. Jesse uh no I'm I'm by myself right now {turning to Ben}
7. Ben but you do see {pointing to a button on the screen} hold y to start expedition?
8. Jesse I do (.) I [do]
9. Ben [so] that was one of the things requested a lot was hey like in a group that things there can I just have it all the time so that if you are you know picking up a contract from Yarrow you know kind of at the opposite end of fort Tarsis you can now push this button I'll take you straight in the [site]
10. Jesse [yep]
11. Ben of expedition so kinda cut out some of that travel time and there we go so I think we were gonna do free play today=
12. Jesse =yeah=
13. Ben =and mess around a little bit
14. Jesse and show some some cool things that we've been (.) we've been fixing *switching to difficulty selection menu* I [need to]
15. Ben [you're] gonna grand master three right?
16. Jesse uh::
17. Ben {laughter}
18. Jesse we're probably just gonna go to hard here (.) [so]
19. Ben [we're] joking because Jesse didn't give himself a high-level build
20. Jesse yeah=
21. Ben =and I was like we can't be playing hard on [stream]
22. Jesse [I]
23. Ben we're gonna be the pleb devs [who]
24. Jesse [so]
25. Ben don't know how to play the game
26. Jesse I I tried with the gear I've got on grand master one and it was (.)
27. Ben {making air quotes}
28. Jesse {turning to Ben} yeah a little rough
29. Ben {laughter} that's fine so
30. Jesse we can we can hop in here to expedition
31. Ben so some other things we did what was it last? man this week's been a bit of a blur I think it was last week we did some {turning to Jesse} loot changes as well=
32. Jesse =uh-huh
33. Ben so as well there was lots of frustration about mainly around I think infusions not being good enough like you could get bad rolls and so I'm sure if you're watching the stream you're kind of aware but we we uh did some posts to reddit communicated the problem what we to do and then we were able to get that in {turning to Jesse} I think it was the day next the other day after=
34. Jesse =yeah
35. Ben I can't remember I think it was Thursday

36. Jesse yep

37. Ben and the tldr of that is you know in inscriptions sorry yeah inscriptions should be more relevant to the weapon uh or the items specifically if they impact that item so the gear icon things which means it's just for that item are always good for for the uh weapon or item that it's on and then any suit bonuses that could apply to anything will they apply to anything so having a light- lightning damage or electricity damage bonus on a weapon is still cool because if you're playing an electricity storm build like that's still useful to you so=

38. Jesse =yeah

39. Ben I think that's been pretty good we're monitoring all of that uh you know uh we're always going to review things like drop rates and and that kind of stuff we think there are a couple things missing still so uh originally we wanted to remove uncommon and common so white and green drops from uh level thirty content we couldn't do that the the fast way or the server-side way but we have addressed that uh in the patch coming on March twelve so hopefully that makes that experience better I think people were getting frustrated they're doing super hard content and then you get us a stack of uh common and uncommon drops that's not really cool uh so we've addressed that for March twelve and then I think the part we haven't done yet and we'll just monitor it and we're talking into about some plans are you know gm two and three that's grandmaster two and three don't feel as rewarding as we'd like {turning to Jesse} them to be right now=

40. Jesse =uh-huh

41. Ben I think from an efficiency standpoint and from a quality of loot you get persp- uh perspective either through like the drop rates or even the types of items that are dropping the rarity and stuff like that so we're going to look into that that's not in this next patch but we're on top of that we're listening to the feedback so you know something like a consolidated thread on reddit would be cool if you guys feel like doing that that just kind of talks through any uh feedback you have for gm two and three we'd love {turning to Jesse} to read that feedback

42. Jesse {nodding}

43. Ben we're reading it but it's a bit spread out at the moment

44. Jesse *crashing the character into the ground* so I wanted to point out also if anyone was like oh a noob you overheated and crash to the ground then anyone notice how quickly I actually recover [from that right?]

45. Ben [do it again]

46. Jesse *taking off from the ground* [so]

47. Ben [I didn't] realize you were looking at me you were trying to time it to me talking

48. Jesse {laughter}

49. Ben but I talk too much

50. Jesse that's fine=

51. Ben =that's my fault okay let's [try again]

52. Jesse [so so] when you overheat now (.)

53. Ben [yeah]

54. Jesse [before] colossus players might have noticed it took a little while [to]

55. Ben [the] heavy hit reaction a [little brutal]

56. Jesse [ye:ah] so overheating running into walls if you you know happen to do that takes a little while but so if you watch now (.) *aiming into the ground* I'm crashing into the ground *crashing the character into the ground and recovering* you can move pretty quick [aft-]

57. Ben [if you] blink you miss it they say
{turning to Jesse} {laughter}

58. Jesse yeah so *{laughter}*

59. Ben but here's the thing there right stuff like this at least to me it's like little quality of life things=
 60. Jesse =uh-huh=
 61. Ben =if we get enough of them done again based on player feedback I feel like it makes a really big difference to like the enjoyment of when you play the game yes?=
 62. Jesse =yeah so it's a lot faster I I've been playing colossus and if you make a mistake and run into a wall you're *{turning to Ben}*
 63. Ben *{laughter}*
 64. Jesse you're a sitting duck for a while
 65. Ben so actually so I can't remember do you know if we did that just for flight crashes or is it all *{turning to Jesse}* heavy hit reactions?
 66. Jesse uh it's all heavy hit reactions *{turning to Ben}*
 67. Ben I think it's all yeah
 68. Jesse uh-huh
 69. Ben so so there are a couple other situations where you can get in a tough spot as a colossus where you can't bring your shield up in time *{turning to Jesse}* [because]
 70. Jesse [uh-huh]
 71. Ben you've got that little time out on the heavy hit reaction=
 72. Jesse =yep
 73. Ben now that should feel better
 74. Jesse yeah so gear you can use gear quicker after being taking a heavy hit uh makes it a lot quicker yeah like you said to pull up that shield **running towards monsters** and this is this is gonna be fun so other stuff
 75. Ben *{laughter}* (1) so other stuff I mean we almost suggest reading through not all the patch notes but a bunch of the patch notes we we went through the patch notes I think we fixed we made like three hundred changes uh about sometimes like five changes equals one patch note so it's not really does not usually work that way but just for context like mainly again our plans on what we wanted to do was like anything that would improve any kind of friction points or kind of play a feedback uh is what we want to do in this patch for next week so (.) some other things so I mentioned we had kind of our crash and instability strike team going and so they were focused a lot on on the specific playstation crashes but honestly looking at all of the the top crashes and uh connectivity issues so there's a bunch of stuff later to that that will go in the patch and so hopefully you know people have a better experience there uhm one of the other big ones that had come up both for social media just because like when we play the game was annoying is quick play wasn't going so great uh you would back fill into missions and they wouldn't progress *{turning to Jesse}*
 76. Jesse *{nodding}*
 77. Ben so we made a lot of improvements there so we kind of took most of the situations that got flagged with us so people were great about reporting specific missions and specific situations where they were hitting issues uh so we've addressed all the ones we know what on that doesn't mean we've fixed all of it I think there's some stuff with quick play we just we're gonna have to get better at and make it better but at least those big things that were reported we we believe we've addressed them it's like seven or eight specific situations that we've fixed uhm and our hope is that that means you know most of the time in quick play you

should have success there so that'll be good (1) another big one I'm sorry let me read *{taking iPad}* so I have this fancy ipad

78. Jesse *{laughter}*

79. Ben how do we? yeah

80. Jesse yeah

81. Ben so like this is twitch chat *{turning to Jesse}* with questions=

82. Jesse =it is *{turning to Ben}*

83. Ben and I get distracted very easily but I should probably read these uh little questions as well uh (1) so uh: (.) you know what? *{turning to Jesse}* I was about to fake it but I shouldn't

84. Jesse mhm

85. Ben which is like oh here's a question but it was actually my next question

86. Jesse *{laughter}*

87. Ben okay I shouldn't do that so no no faking [about]

88. Jesse [no] faking

89. Ben next thing I had and then I'll read for some questions (.) nice pad{reading from the chat} thank you man it's really nice to be safe next question well the next thing we wanted to talk about was uhm another piece of feedback was hey it's frustrating when I'm in matchmaking with the group of people that I don't know well I had not on on voice comms with and they don't notice when I go down and they don't resurrect me and I have no way to like do anything uhm so we really heard that feedback agree it was frustrating so what we've tried to do is we've removed as many of the respawn restriction restricted areas as we can from the whole game uh uh so and just add at a timer so for example like if you're in a stronghold and you go down there's a thirty second timer and so like ideally your friends come and repair you because that's what good friends do

90. Jesse *{laughter}*

91. Ben but if they don't it's just thirty seconds it's not like an unlimited time until they defeat the the boss or whatever you're doing at that point in time and so there are there are still a few missions where that has to be in there for like reasons it's just a long story but uh as many spots as we could remove it we have so that was great feedback as well so thank you all for that I think that will make people's lives better (1) alright so *{turning to Jesse}* so do you have anything you want to talk about while I read twitch chat?

92. Jesse uhm: I mean [we've]

93. Ben *[it's actually] scrolling to fast{showing iPad to Jesse}*

94. Jesse *{looking at iPad}* so if you scroll it if you hold the fingers (.) **boom** there you go

95. Ben but then what [happens]

96. Jesse [you can] pinpoint some question (.) so one of the things I've seen is people talking about the messaging that can pop up during free play of your servers gonna shut down uhm we've actually changed that (.) [so it]

97. Ben [not happening]

98. Jesse it does not happen near as often until the server is actually going to shut down pretty close to it uhm also another messaging people with the the cortex entry that kept popping up in free play it's like open the cortex and *{turning to Ben}*

99. Ben uh-huh

100. Jesse crack this thing that doesn't pop up anymore [so]

101. Ben [that's] cool=

102. Jesse =once you've completed that it won't pop up anymore it's a nice little quality of life improvement

103. Ben *{reading the chat}* getting a few questions about so that's cool with the removing restricted respawn but can you make that whole thing better yes we should do

that uh that's like a longer-term thing you know some of these things are what's a quick way to improve the experience and then what's a longer term item so on our longer-term thing I don't have a timeline for it we have things like you know if I'm down how can I experience be improved and there's all kinds of ideas I don't want to get into specifics uh uhm (.) but that's a great question and yeah we're gonna look at that doing what we did for this patch was a way we could do something like in a day and then getting in a patch quickly so it was at least removing that major friction point of like you know I can't use the map and I can't do anything and I have to just sit here so that's kind of that

Participants: Paul (Game Designer) and Mikael (Lead Game Designer)

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39. Mikael [yeah]
40. Paul find new people to go to the front
41. Mikael oh yeah uh because they lost some yeah?
42. Paul yeah a few people came home wounded a few people died=
43. Mikael =yeah
44. Paul uh: more than a few people died but so [right]
45. Mikael [a:nd]
46. Paul now iron is still being our major limiter=
47. Mikael =oh yeah=
48. Paul so we probably [want]
49. Mikael [but they] are making some money
50. Paul but we're at the point where throwing more people at it and the external margin is not large enough=
51. Mikael =yeah=
52. Paul so we're just going to need to (1) actually **going through the menus** (.) I don't know if it's in this I shouldn't mess with things but [hey]
53. Mikael [{laughter}]
54. Paul look at that alt click top of the construction cue=
55. Mikael =oh nice
56. Paul wonderful quality of life uh **moving to the other part of the map** (2) we have a vulnerable front yeah it's um yeah it's cleaning up a pocket
57. Mikael oh yeah (.) [right]
58. Paul [we have] managed to separate a few things=
59. Mikael =separated [(xxxx)]
60. Paul [the ottomans are] trying to (.) [to]
61. Mikael [to] recapture things from that little beach out there=
62. Paul =yeah uh this is kind of just a diversionary force if we're uh I'm hoping it's gonna do **moving to the other part of the map** (2) we're holding here much better than I thought we would (.) uhm
63. Mikael yeah I mean we have the uh technological advantage here for sure
64. Paul yeah and I mean that's a tech advantage which is holding on about a two to one=
65. Mikael =yeah=
66. Paul =um which {whistling} thank god
67. Mikael yup
68. Paul because once you start losing the Anatolian front (.)
69. Mikael yeah
70. Paul you lose it their next thing you know they're at Cairo and we have to concede (.)
71. Mikael [uh]
72. Paul [the one] luxury we have here is there's not a lot of infrastructure for them to push through
73. Mikael uh-huh (2)
74. Paul **moving to the other part of the map** why is Oman (.) oh Rwanda is fighting revolutionary Rwanda
75. Mikael uh-huh
76. Paul now I know this is an older build we don't have the flags change but I would love it if it was just the opposite stripes {laughter}
77. Mikael {laughter} yeah {laughing}
78. Paul that would be great=
79. Mikael =you can script that
80. Paul I:
81. Mikael {laughter}

82. Paul I guess I can put my money where (xxxx)=
83. Mikael that's right{*laughing*}
84. Paul {*looking at chat*} we well we don't have a uh tech advantage outright what it is is we are [paying]
85. Mikael [yeah]
86. Paul through the nodes by taxing our people to buy as many British and European artillery pieces as possible to fund our troops
87. Mikael yeah [what]
88. Paul [uhm and]
89. Mikael I mean by tech advantage is not like we we're better off in [military tech but rather]
90. Paul [this this little] thing right here{*pointing at the in-game graph*} is paying thirty thousand pounds a month or no this it's weekly um basically and we're spending half of it on artillery (.)
91. Mikael a week{*looking at the in-game text*} yeah
92. Paul [yeah]
93. Mikael [thirty] thousand pounds a [week]
94. Paul [week] (.)and that's also while pissing off our people by not paying them their wages=
95. Mikael =yup=
96. Paul =then we keep going do you want the gun you want to be paid well
97. Mikael yeah
98. Paul **moving to the other part of the map**
99. Mikael so uh yes so that that is that is definitely what I mean uh by tech [advantage]
100. Paul [steel]{*lowered voice*}{*reading from the in-game menu*}
101. Mikael it comes down to not only who has the tech but also who's making it and who's willing to pay for it [so]
102. Paul [yeah] (1) let us uh: it's this trying to make sure that we don't fall too low on the standard of living{*looking at chat*} yeah you can have your paycheck or you can have your bullets most people would go for the bullets um because the paycheck doesn't last then **looking through the menus** (3) let's see uhm going
103. Mikael we're behind but we're not so far behind in terms of war support how can we make them go down [fa:ster is the important]
104. Paul [uhm::]
105. Mikael thing {*looking at the in-game text*} (1) they will lose **one** per day (.) or sorry one per week
106. Paul their war support [loosing]
107. Mikael [we're loosing] only zero point sixty-four=
108. Paul **pointing at the in-game text with cursor** no this is them loosing zero point sixty-four=
109. Mikael =oh yeah yeah (.) [we're]
110. Paul [and we're] loosing (1) [{*searching for a number in the text*} one point four]
111. Mikael [{*searching for a number in the text*} one {*inhale*}]
112. Paul and that's because um radicals versus casualties I'm assuming
113. Mikael that's a lot of casualties=
114. Paul =radic- radicalization
115. Mikael they've taken substantially more casualties than we have but it's all percentage based right so?
116. Paul yeah [and also]

117. Mikael [they have] a larger population as well

118. Paul I'm not going to talk about balance on stream but there's that one thing I talked about of we're ticking *{looking at the in-game text}* (1) probably we're ticking uh casualties consistently as if they're all fresh (1) every tick is taking the two hundred casualties (.) if we put it off over a longer amount of time probably you [probably wanna decrease it]

119. Mikael [oh yeah I see yeah]

120. Paul but really it's our own radicalization [uhm:]

121. Mikael [yeah] that's a meme

122. Paul which is why I'm trying to decrease taxes **adjusting tax rates in the menu** like if we want to stall this and go as fast as we can (1) one I can actually since we're not fighting (.) just so cool let's just hold this front=
=yeah

123. Mikael =yeah

124. Paul we've we've it we've done enough we're holding forty-five troops here they're going to be unable to push that (.) now radicals *{looking at the in-game text}* uh standard of living is the big push political movements [uh]

125. Mikael [yeah]

126. Paul I'm not going to do national supremacy (.) the slaves are just not going to be happy regardless that's kind of understandable

127. Mikael what what what's the um yeah

128. Paul uhm people being fired from buildings probably because the economy has been thrown for a little bit of a shambles **going through the menus** (3) what we could do *{looking at the in-game text}* (1) is to offer them payments

129. Mikael sure do we have a lot of unemployment issues here?

130. Paul uhm (.) no=
=no?

131. Mikael =no?

132. Paul that's the problem

133. Mikael I mean welfare will also uh top up people that are being paid uh very poorly but uh honestly those people are probably government [wages or government building workers]

134. Paul [oh yeah it could be] it could be because we're just not paying them the wage I decided=
=yeah

135. Mikael =yeah

136. Paul **switching to the radicalism graph** (1) oh look at that it's starting to drop oh no no it's going up don't pay attention to that um yep

137. Mikael but yeah I mean wait if we want the war to if we want to last longer in this war at this point we: I mean we could cut taxes

138. Paul we could cut taxes we could also go bankrupt because of that

139. Mikael yeah yeah

140. Paul do you wanna stop constructing buildings?

141. Mikael *{laughter}* you know my weakness=
=I do know your weakness

142. Paul =I do know your weakness

143. Mikael *{laughter}*

144. Paul it's almost as if I've been a QA and I know how to get a developer to agree with me=
=yes (.) uh:

145. Mikael =yes (.) uh:

146. Paul we could do a multitude we could if we pause it everything's kind of fine [we]

147. Mikael [yeah]

148. Paul could be be like all right fine

149. Mikael now here's a here's a totally out there uh question could we win the war?

150. Paul uhm: with enough time we probably could [um here]

151. Mikael [I mean] I mean could we go on the offensive?

152. Paul um **moving to the other part of the map** (1) we already did kind of go on the uh=

153. Mikael =down there

154. Paul the thing about going on the offensive uh runs the risk of more casualties which also

155. Mikael uh-huh

156. Paul I mean more support

157. Mikael yeah

158. Paul well I say that as if attrition isn't the biggest killer um=

159. Mikael =attrition is a big killer [and so we]

160. Paul [we can]?

161. Mikael have lost as many people to attrition as to battles{*looking at the in-game text*} uh

162. Paul uh-huh

163. Mikael now they outnumber us more than two to one on that front

164. Paul yeah I'm

165. Mikael not terrific (.) uh but we do have better weapons than them

166. Paul do you really want me to click [offensive]{*pointing at offensive button*}?

167. Mikael [we could] try we could try one offence and see how it goes right?

168. Paul **going through the menus** (2) advancing (.) we'll send both of them

169. Mikael yeah sure

170. Paul they're gonna get stuck in a battle before they can advance which is fine they're clearly winning the defensive battles because [of]

171. Mikael [no]

172. Paul {*looking at the in-game text*} oh he's got he's got camouflage yeah no I said they as (xxxx) my [apology]

173. Mikael [yeah]

174. Paul don't use non-specific uh pronouns **switching to the other part of the map**

175. Mikael and I think we won our battle as well

176. Paul our battle hasn't st-

177. Mikael oh it is still ongoing but we are winning it {*looking at the victory window (2)*} nice nice oh that was a failed attack=

178. Paul =that was a failed attack

Participants: Pete (L&D Manager) and Carl (Game Designer)

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- helps with combat so that if if we do take uh one of these Persian cities we can assign him over immediately
12. Pete that would be awesome (.) uh so really right now what you're doing is you're sort of doing the usual shuffle where you're trying to get your units up to the front line but it looks like you've got a pretty good block of forces up there ready to go [and]
13. Carl [I]
14. Pete this is where Tomyris uhm abilities really sort of come to shine get [arm up fast go ahead?]
15. Carl [yes absolutely] no no yeah I've got I've got a bunch up there but yeah you can really see the these two saka horse archers just came out of the same encampment they were stacked on top of each other which normally you can't do but they get produced at the same time when you're playing as as Cyr- (.) excuse me as Tomyris so they popped out on the same hacks uh and so we're sort of staggering them as we move them across **moving across the map** you can see that I've got all these other units that I've been building I have every single uh unit production thing that I can that I can stack in if we take a look at our uh policies real quick **opening the policy menus** uhm I do have maneuver which is production towards heavy and light cavalry units (.) to help with that **closing the policy menus** I took the uh god of the forge pantheon which is another plus twenty-five percent production towards uh those types of units I have stables in several cities so we've got lots of bonuses sort of of playing in our advantage here to try to get this this army up and going **moving camera to the enemy borders(.)** and finally we're over here I think we're ready to start so let me go ahead and declare war on Cyrus **opening the diplomacy menu**
16. Pete and because this is a uh just a duel you and him somebody's going to win through war you don't need to worry about the [diplomatic uh ramifications of this because (.) what is diplomacy really]
17. NPC *[**talking in Middle Persian**]*
18. Carl [exactly in in this case diplomacy is the point of the spear]
19. NPC *[**talking in Middle Persian**]*
20. Pete uhm (.) just uh and and like please don't take this the wrong way do you actually care about how people perceive you when you play Civ?
21. Carl I do yeah uhm I actually [I have]
22. Pete [really]?
23. Carl I have a bad rep for being a warmonger
24. Pete you [are]
25. Carl [uh]
26. Pete a warmonger
27. Carl I I can be a warmonger Pete I'm not always a warmonger and I like to try to make friends before resorting to violence (1)
28. Pete well that is (.) different than your usual reputation and [I'm happy]
29. Carl *[{laughter}]*
30. Pete to hear that I'm glad to hear that you are you are approaching things in a new way (.)
31. Carl **moving units closer to the enemy borders**
32. Pete so are you going to try to establish a siege on the city what what is that there that he's got [his uh]
33. Carl [this is] this is the Persian immortal **pointing cursor at the enemy unit** which is uhm [Pers-]
34. Pete [their] unique unit

62. Pete oh oh what happened?

63. Pete uh I killed uh the Persian immortal within the radius of the great general so we got [a moment]

64. Carl [oh fantastic] so you got a little bit of era score for that=

65. Pete =yes I did=

66. Carl =and that was pretty cool too (.) so what unit healed up as a result of that do you know?

67. Pete uhm they were at full health already

68. Carl oh okay [so: the only]

69. Pete [sorry sorry]

70. Carl the only unit of mine that was injured was this scout back here and it's just going to sit back there I had it there for for visibility purposes and it's it's going to stay there in fact actually **moving unit to a different position**

71. Pete actually move him up top [just to save it]

72. Carl [we move it up top] move it around the mountain see what what up there **moving military unit deeper**

73. Pete yeah uh you're going to be able to get the most part of (.) ***the second city appeared on the map*** wow second city is right there [it is just standing there]

74. Carl [second city is right there] it also has walls uh and he has spearmen which are an anti-cavalry unit very effective against uh obviously cavalry (.)

75. Pete yeah

76. Carl my units so that's not so great

77. Pete uhm and there's a little siege icon lets you know you've just laid siege see it's a good thing you got the uh horsemen to that side of the river this turn because trying to attack across the river to get to that tile taking the huge penalty for that and then trying to attack an anti-cavalry unit with cavalry you would have really (.) [would]

78. Carl [yeah]

79. Pete have hurt would have gone badly

80. Carl the siege icon here that that Pete is talking about means that this city will not heal every single turn normally I'm dealing damage so you can see minus one health right there uh normally it recovers that health every single turn but while it's under siege uh it does not recover any health and siege is (.) I have to have every single hex around the city either occupied by unit or in my unit's zone of control (.) uh so I do have units on this side this is a zone of control tile this is a zone of control tile and then I have to have naval units I had to bring over some naval units because of this tile here in order to completely siege the city I had to uhm surround it there as well and I'm I'm actually going*{slightly laughing}* to stop attacking [from the sea]

81. Pete *{laughter}*

82. Carl and just camp this guy there [because (xxxxxxxxxxxxxxxxxxxx)]

83. Pete [yeah I was going to say kind of] took it on the chin

84. Carl there a little bit **moving camera to the owned city** I am building another one uh over in Kul Oba over here we got looks like two turns left **moving camera back to the enemy city**

85. Pete okay

86. Carl [let's see uh]

87. Pete [uh so he's] got a catapult in that city that's not gonna be great [and:]

88. Carl [no:]

89. Pete it's gonna to make it a little tougher to take to crack that nut

90. Carl but it does have a penalty attacking uh our units so that should help a little bit it would be worse if it was an archer
91. Pete uh-huh
92. Carl *{reading the in-game text}* uh so I'm looking at the city preview here (.) we got forty-one to forty I like those odds so we'll go ahead and make that attack

Age of Wonders 4 live stream transcription

Link:

https://www.youtube.com/watch?v=7gsZv0yTLcY&t=1881s&ab_channel=AgeofWonders4Official

Timecode: 0:26:57 – 0:36:56

Participants: Bas (Game Designer) and Thomas (Game Designer)

1. Bas we start with fulmination and ancestral harmony *{looking at the spell descriptions}* so we got a healing spell and a one-hex aoe (.) [uh:]
2. Thomas [fulmination] is a good spell spammable [spell for a wizard]
3. Bas [that is a great] starting spell yeah
4. Thomas it's really good for the uh spamming early on with the wizard
5. Bas yeah especially that okay *{looking at available units}* so we start with two darters and a protector we definitely need some more protectors
6. Thomas yeah you're gonna need another=
7. Bas =yeah **browsing through the menus** (.) uh just one more because I also need to build something and I definitely want to get my army [early uhm] **selecting a structure to build**
8. Thomas [get a] carver early
I'd [say]{looking at building queue menu}
9. Bas [uh-huh] (.) it's also one of the better ones to start with uh as the primal culture I find
10. Thomas oh it's it's one of the unique ones uh=
11. Bas =yeah I think so uh [please]
12. Thomas [it's one] of their unique structures it replaces the the regular draft structure
13. Bas **moving the camera around** as we can see there's already a lava to fight near us nice little lava lake and there's [quite a few: mountains]
14. Thomas [yeah if you zoom out all the way] I think you can get like a sense of where you are on the map
15. Bas **zooming out**
16. Thomas oh we're in [the middle]
17. Bas [oh we're smack] in the middle of things that's good
18. Thomas I mean it might be I mean with lava actually that is good [because with lava]
19. Bas [I like being in yeah]
20. Thomas (.) you have a lot of choke points
21. Bas indeed like right now I li- I might only have to defend like **moving camera and pointing to a place with a mouse** here and and outwards from here essentially so that's pretty good I like that uhm: **selecting and moving a unit** I can send you quickly **the map end is discovered** oh that actually ends so I don't even need to defend this way at all=
22. Thomas =perfect
23. Bas I can literally just go that way but there is an underground thing that I need to check out
24. Thomas can I can I take the mouse?**takes the mouse**
25. Bas yeah of course what's up?
26. Thomas uh just apparently **adjusting the audio volume** (.) *{moving away}* apparently the audio was a bit too loud there you go fixed it
27. Bas uh: there we go is that better for you guys?*{referring to chat}*
28. Thomas should be better (.) apparently the audio was a bit too loud
29. Bas *{reading chat}* no worries no worries it's good uh::

30. Thomas uh specifically music apparently but I suspect that's just the entire game audio in that case=

31. Bas =yeah **zooming in to a structure on a map** so here's one of those storm crow dens for your primal thing but I think you've already explained {*turning to Thomas*} the whole culture {*turning away from Thomas*} [by now right]?

32. Thomas [uhm yes] however we're now different culture so now we're storm crows (.) [which means]

33. Bas [that's true]

34. Thomas last time we were playing the tunneling spiders which means our dens only appear on the ground uhm=

35. Bas =uh-huh

36. Thomas and the storm crows I think they do appear in their like preferred biome so they do prefer appear in crosslands primarily=

37. Bas =uhm:

38. Thomas uh but they are all over the world and they are not found under the ground at all (.) uhm as far as I understand it=

39. Bas =mkay

40. Thomas so that's going to be a bit different and obviously the structures you get out of it are a bit different

41. Bas yeah (.) so uhm playing on hard uh I don't really want to get into fight right away because especially I don't want to do the early fights and and uh bore you guys too much with me [min-maxing]

42. Thomas [no no] you can you can hide you can take out {*pointing at the enemy unit*} that squad down there

43. Bas I'm gonna wait for my one protector to finish {*turning to Thomas*}

44. Thomas [alright]

45. Bas [and then] I'm gonna do it **moving the unit to a different position** so he's going to go up here and quickly just kind of explore uhm as my secondary explorer because he's going to go into the cave **opening the city menu** I got my thing over here **opening the research menu** I need to set a research uh::{*looking at research options on the screen*} (.) [oh:::]

46. Thomas [storm spirit] is a good idea=

47. Bas =storm spirit is definitely a [good idea]

48. Thomas [cause then] you can build up the army way faster=

49. Bas =yep (1) **ending the game turn** let's do that let's do that and then we end our turn and then we're just gonna wait for [magic]

50. Thomas [I think] it would actually be a good idea to grab the uh draft uh pick up down there (.) [because that will like]

51. Bas [I want that as well]

52. Thomas give you your unit immediately

53. Bas yeah

54. Game ***a new player's turn begins*** ***a quest menu is opening***

55. Bas {*looking at the quest menu*} uh you've let your bone birds uh ardent followers of the storm crow to a new realm when something catches your eye (.) not far from ur-un-well uh a wondrous tree pulsates with invigorating energy{*reading from the screen*} it's actually well (.) uh it strangely familiar energy inspires you even from afar a faint cackle on the winds calls to you (.) uhm your eyes fixed on the tree you discern a faint apparition of immense power could it be? is that the ancestral spirit of your bone birds? the storm crow himself? does the storm crow from whom your uh people immediately call high-squall{*reading from the screen*} high-squall is funny that's a good name{*laughing*} uh truly grace this

- realm? you should visit the storm crow den presently{reading from the screen}
(.) okay [cool]
56. Thomas [it's not] it's not a good as name as the
spider one I like (xxxx) is a way cooler name=
57. Bas =ooh: that is a good one
58. Thomas I I think that might be the best one
59. Bas *going to the storm crow den* let's go straight here *opening the quest menu*
hey we did it uh we made it uh the storm crow den the visage of the storm crow
that lured you there has disappeared yet you feel a cool breeze pushing uh you
onward carrying with the taste of thunder uh you examine the enthralling tree and
notice that faint astral currents flow from its branches high-squall's influence is
palpable here (.) you recall ancient legends that promise formidable boons to the
most ardent torchbearers of the high-squall claim this territory so that you may
build the storm crow temple which invokes the power of the storm crow to slowly
turn your domain into **grassland** where your bonebirds thrive{reading from the
screen} [that's tr-]
60. Thomas [uhm uhm] {pointing at the underlined text on the screen} where your **the**
bonebirds thrive
61. Bas where your **the bonebirds thrive yeah**{laughing}
62. Thomas we're good we have brought them back=
63. Bas =oh-oh {turning to Thomas}
64. Thomas {laughter}
65. Bas Michelle is gonna murder us tomorrow
66. Thomas oh yeah
67. Bas uh [wi-]{reading from the screen}
68. Thomas [and] we deserve it to be fair
69. Bas win high squal's{reading from the screen} uh we better enjoy ourselves here then
while we're still here uh win high squal's favor by securing at least two storm
crow dens and build storm crow temples the storm crow{reading from the screen}
that's that's a lot of storm crow in one sentence for me (.) [uh:]
70. Thomas [{slight laughter}]
71. Bas is guaranteed to notice your devotion for storm crow glory I will secure his dens
and build his temple *closing the menu* (.) alright (.) all hail [the high-squall]
72. Thomas [so that that]
entire quest is basically like a quick intro for the mechanic (.)[you'll]
73. Bas [yes]
74. Thomas you'll always you'll always get that when you play primal culture *moving to
another location* just [in case to hey that's how it works]
75. Bas [yo:::]{looking at the
structure on the screen}
76. Thomas {looking at the structure on the screen} [well]
77. Bas [we got] we got a gold ancient wonder near
our starting location [it's]
78. Thomas [so] it's literally just (.) you're not going to be able to claim
that for a while=
79. Bas =no=
80. Thomas =but it is nice cuz it's like secluded and nothing can reach it=
81. Bas =exactly and [uh:]
82. Thomas [actually] can you go to the right there?{pointing at the screen}
83. Bas uh I [don't know if]
84. Thomas [cause you're] just gonna be {looking carefully at the screen} [no]

85. Bas [well] there there
is something here but uh I I think this is literally it I don't think (.) [I can't]

86. Thomas [there might] be a
passage

87. Bas I can't really select this there might be a passage somewhere here but I'm pretty
sure there isn't I can't dig it out because of I'm not an underground player right
now uhm **moving to a different area** but uh we could get there later uhm I'm
going to hit your advice I'm going to go straight for this draft pick up and
hopefully get uhm my army up and running

88. Thomas {reading the chat} uh yes Matthew the two the the turn one spells they are indeed
randomized so you get two skills at the start of the game and they are randomized
from what you have available from your culture and from the start

89. Bas yes

90. Thomas and so it's kind of different like what acc- you have access to early on also (1) yes
we do like naming things but with with bone but in this case it's um it's just kind
of a running joke=

91. Bas =it's true yeah we're we're unfortunately um do a little a little bit uh: **purchasing
an item**

92. Thomas we're doing the bit{laughing}=

93. Bas =we're doing the bit all right uh I quickly bought myself that extra thing just to
get here and try to make another one so I have a full stack **attacking the enemy
unit** and now I'm going to take this on I should be okay ***a victory screen
appeared*** hey: look at that I'll take it cool uh that's that done and then we slowly
will crawl back and we can see actually here **showing the unit menu** that this
protector will immediately be finished and then we have our full stack we can
start on a murder spree uhm as you do at the start of a new realm

94. Thomas {reading chat} I'm I'm really amused at the suggestion for the title that is uh king
of wing [uh but]

95. Bas [that's] so good

96. Thomas that's simultaneously a really good title but also sounds like he's winning an
eating contest

97. Bas king of wing yeah because he goes to [KFC]

98. Thomas [chicken wings]

99. Bas and he's like empties a bucket in like five minutes or something

100. Thomas King Fried Chicken{laughing}

101. Bas **looking at unit skills** uh I'm going to get l- or crow primal communion {reading
the skill description} oh yeah the communion because he gets grassland walk as
well and uh if my whole army has that they they might just be slightly better in
that uh on the grassland (.) let's do that

102. Thomas {reading chat} uh WinSl- uh WinSlaya's asking if I (.) if we ever build darters
after losing them and I mean I do I like the I think they're pretty good you do
want to make have a good core of like melee units but uh (.) darters are pretty
good for just range damage [you]

103. Bas [I'll]

104. Thomas you never want to go all in on range=

105. Bas =yeah

106. Thomas at least in my experience you don't

107. Bas indeed I I like to have a good **mix** and I think having at least one or two ranged
units is is always handy especially uhm I mean I say this as the combat map
designer in some maps it's really handy to just have only a couple units in the
choke point and then have the other guys just behind there doing constant damage
uhm

108. Thomas you need something to screen uh
109. Bas yeah=
110. Thomas =like in my experience I like the balance of like having the meta units or three meta capable units like skirmishers can kind of do double duty in theory
111. Bas yeah {*looking at the choice-based event**
112. Thomas yeah {*turning to Bas*}
113. Bas here's one of our first kind of dilemmas are we good? {*turning to Thomas*}
114. Thomas size matters not{*reading the event name like Yoda*} (.) I mean are we going to eat they're fellow connoisseurs of food
115. Bas that is that is true [no]
116. Thomas [will] we really kill them? [I don't think it's acceptable]
117. Bas [no we will not] we will
in fact not {*looking at something off-screen (1)*} can we make uh uh tatata oh that was fourty minutes ago
118. Thomas yeah I already dealt with that=
119. Bas =yeah? cool=
120. Thomas =yeah I'm keeping an eye
121. Bas uh::: {*looking at options*}
122. Thomas I'd I'd say just be gone I think you [want]
123. Bas [draft]{*reading from the screen*}
124. Thomas to keep it cheap and you don't have to do if you don't have to fight you probably don't want to right now=
125. Bas =I'm actually thinking if I've just got my army up and running I don't really need the draft for a while and then I can just get some get some buildings up and running real quick and [I'm inviting]
126. Thomas [you could try]
127. Bas these people to build {*turning to Thomas*} like restaurants in my Emporium=
128. Thomas =like a giant pot in the city (.) a [giant pot]
129. Bas [let's do] it **selecting one of the options** uhm
what can we build with this we can build a storehouse yep they're going to get more food for us
130. Thomas my game doesn't advance turns this fast{*reading from the chat*} uh that's because we're playing on fast uh [mode]
131. Bas [yes]
132. Thomas at the moment just to make sure that some things happen uh during the stream
133. Bas go uh some more things over here ow we got a really nice start **moving units** I'm going to set these guys over at the sheep here and (.) [wait for]
134. Thomas [werewolves] with the undead transformation{*reading from the chat*} I mean we did actually have that last time
135. Bas yeah right?
136. Thomas in the menu we had the wolf people with the transformation I think if you wanted to make actual werewolves though you go with lupine form then you take um what's it called? is it called beast affinity or beast king? beast king I think
137. Bas uh-huh
138. Thomas and then double beasts you take super grove which is a lot later and then you put on uh the undead one
139. Bas {*turning to Thomas*} that's the goal
140. Thomas {*turning to Bas*} you get these giant like fur creatures like the skull masks
141. Bas uh-huh
142. Thomas it might be really cool

143. Bas one combination I really like with the white born or not white born uh it's when you have skeletons is the gaia's chosen because they have roots and flowers
{turning to Thomas} all over them
144. Thomas *{turning to Bas}* yeah that's pretty=
145. Bas =so they look like overgrown skeletons which is great
146. Thomas yeah I like that