



# Communicating Across the Gap: Consoles and Community

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## REPORT PREPARED FOR

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# 1. The Project

Christina Wasson

## 1.1. Introduction

This project, *Communicating Across the Gap: Consoles and Community*, was an exploratory ethnographic study to investigate how console gamers communicate with other gamers who are using different consoles. In general, this means that they are using devices such as mobile phones, tablets, or computers to communicate while playing together.

The research was requested by Diana Hubbard, Group Design Manager at Blizzard Entertainment. It was conducted by the students of ANTH 4110/5110 Design Anthropology at the University of North Texas in Spring 2021.

We hope this study can function as a demonstration of the value of qualitative and ethnographic approaches to user research. While the number of participants was fairly small – ten – they were carefully selected for representativeness and diversity. And we engaged with them in depth about their gaming practices, attitudes, and histories.

Diana Hubbard requested the overarching research question for this project to be:

- Do console (PlayStation/Xbox/Switch) gamers utilize devices outside of their console (mobile phones/tablets/computers) to communicate with friends/teams while playing together, and if so, what can we learn about these communication practices?

Within this overarching question, she asked a number of subquestions and related questions:

- What do they use today?
- What do they like/dislike about it?
- What are their biggest pain points?
- What would they prefer if they could have anything?
- How did they come to use what they do?
- Would they ever change?
- If so, what would prompt them to do so?
- If they don't use anything, but they do play with friends/teams, why don't they?
- Is it a personal preference or are there specific barriers that prevent them from doing so?
- How did they discover the game they are currently playing?
- If they were to look up information about the game they're currently playing, where would they go? Why?
- If they were looking for a new game today, where would they go? Why?

## 1.2. Study Participants

Students recruited ten study participants, mostly from their social circles. All study participants were given a pseudonym. We sought to ensure diversity in terms of age, gender identity, race/ethnicity,

and background/profession, as shown in Figure 1.1. We were successful in each area of diversity except for age; we were unable to recruit participants outside of a 22-42 age range.

We required study participants to be over 18; own or have regular access to a gaming console they game with friends remotely on at least 3 to 5 times a month; and connect with their friends during gaming sessions using devices beyond their console. They were offered a \$20 incentive for Blizzard products, although we did not identify the company until after the research was completed.

*Figure 1.1. Study Participants*

Participant Pseudonym	Age	Gender Identity + Sexuality	Race/ Ethnicity	Background/ Profession	Kinds of Games Played	Hours a Week Play?	What Year First Used Console?
Minous	30	Man	White	Software Engineer	Sea of Thieves, The Messenger, Final Fantasy 14	8	1994
Sophie	22	Woman	Asian/ Filipino	Student	Final Fantasy 14	10-15	2002
Quinner	25	Woman	White	Speech Language Pathologist	Animal Crossing	2	2004
Rubix	23	Man	White	Solar Panel Installation	The Long Dark, Warhammer Vermintide II, Terraria, Divinity: Original Sin	12	2005
Daniel	42	Man	White	Bartender, retired IT Engineer	Apex, MTG Arena, Among Us, Clash of Clans	20-40	1982 (Atari)
Washington	23	Woman, Lesbian	African American and Caucasian	Dept Assistant at Community College	Overwatch, Among Us, Rocket League, Sea of Thieves, and Red Dead 2	36	2004
Dollar	24	Man	Indian	Student	Animal Crossing, Cyberpunk 207, (Warhammer	10-20	1999
Eric	28	Man	Black and White	Mover	League of Legends, AFK Arena, Call of Duty, Apex, Pokémon	15-20	1995
Melissa	24	Woman	Asian	Product Designer	Fortnite, Call of Duty, Spiderman, Ghost of Tsushima, God of War, Assassin's Creed	20	2019
Flash	28	Man	Asian	Tech Analyst	Call of Duty, Streetfighter, Miles Morales Spiderman	7-10	1997

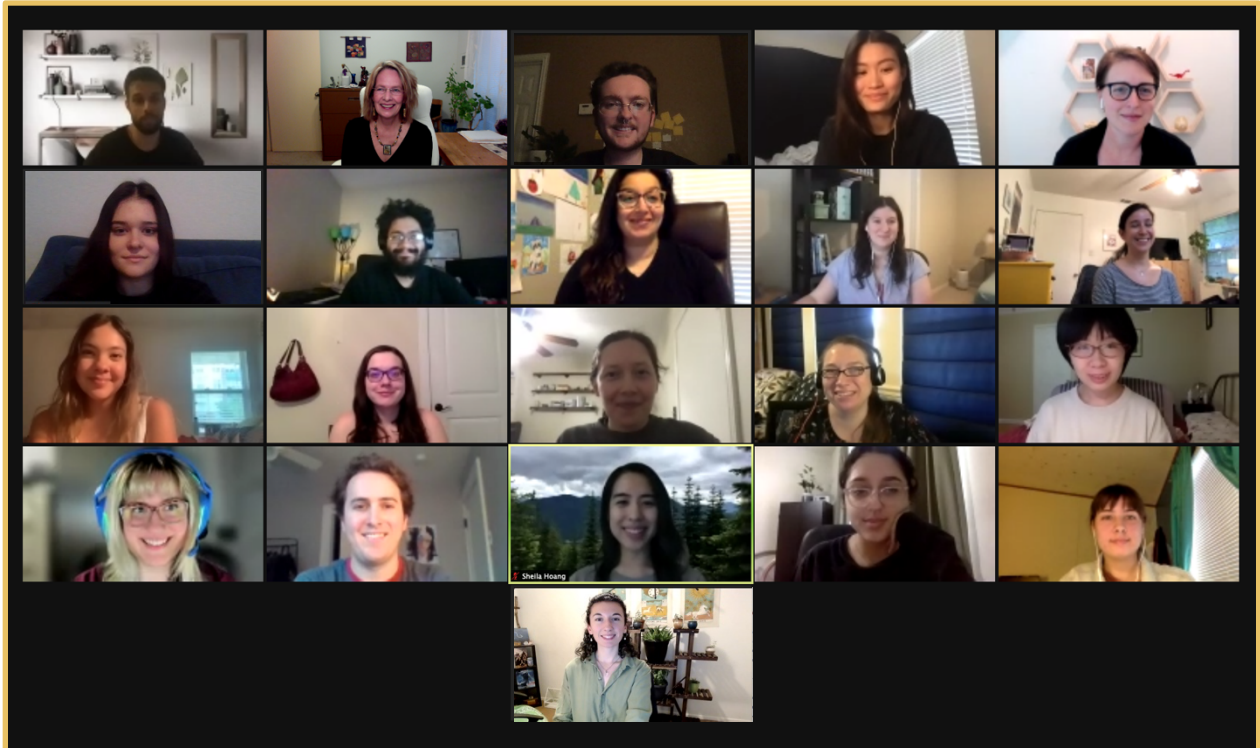
### 1.3. Students in Class

There were twenty students in this class, mainly at the master's level. I tried to ensure an even mix of anthropology and design students; enrollment was contingent on my approval. As a result, 10 were design students, 9 were anthropology students, and 1 was a PhD student in information science. Most were graduate students, except for two of the design students and two of the

anthropology students. This mix produced a productive interdisciplinary collaboration; the project benefited from the expertise of each discipline.

All of the students were insightful, creative, and extremely hard-working. It was a pleasure to collaborate with them! Figure 1.2 shows a screen shot of a class meeting on Zoom.

Figure 1.2. Class Meeting



#### **1.4. Research Methods**

Since this project was conducted in a class on design anthropology, we followed the methods characteristic of this field:

“Design anthropology” describes the practices of anthropologists who collaborate with designers and team members from other disciplines in order to develop new product ideas. The primary contribution of the anthropologists lies in the ethnographic research they conduct with users, or potential users, of the product being envisioned, in order to learn about the everyday practices, symbolic meanings, and forms of sociality with which a successful new product would need to articulate. Designers and other members of product development teams draw on findings from such research to develop design ideas that fit the lived experience of intended users (Wasson 2016).

### 1.4.1. Data Collection

Students conducted fieldwork in pairs, usually an anthropology student and a design student. Each pair of students did fieldwork with one study participant. The fieldwork included three parts:

- Pre-gaming interview (about 30 minutes)
  - Established rapport
  - Basic information and context regarding study participant's gaming practices, history, communication and devices
  - Pre-game walkthrough of environment/context, including physical space/room, various devices in use, process of preparing for game and chat session, etc.
- Gaming observation (about 30 minutes)
  - Observed study participant during gaming session
- Post-gaming interview (about 30-60 minutes)
  - Asked about communications during game, potentially replaying particular moments of interest to ask about those
  - Deeper dive into gaming/communication set-up, gaming culture, and game type preferences

The fieldwork was conducted via Zoom, and we used the transcription feature to produce transcripts of all the recordings.

The interviews were semi-structured, meaning that students started with an interview guide containing a list of topics to ask about, but also asked extensive follow-up questions that were not listed on the guide. This allowed the student researchers to pursue conversational topics that were illuminating to the project but that had not been predicted beforehand. The interview guides we used are included in the Appendix.

Our fieldwork recordings added up to a total of 18 hours and 15 minutes.

### 1.4.2. Data Files and Storage

Each fieldwork team prepared field notes for each of their three fieldwork activities, adding up to a total of 30 field notes. The field notes included the transcript and some additional information. Together all the field notes added up to 641 pages.

The field notes and the video recordings were placed on a Google Drive used by the class, so that all class members could examine them.

### 1.4.3. Analysis

#### *Sharing Fieldwork Experiences and Collaboratively Brainstorming Patterns*

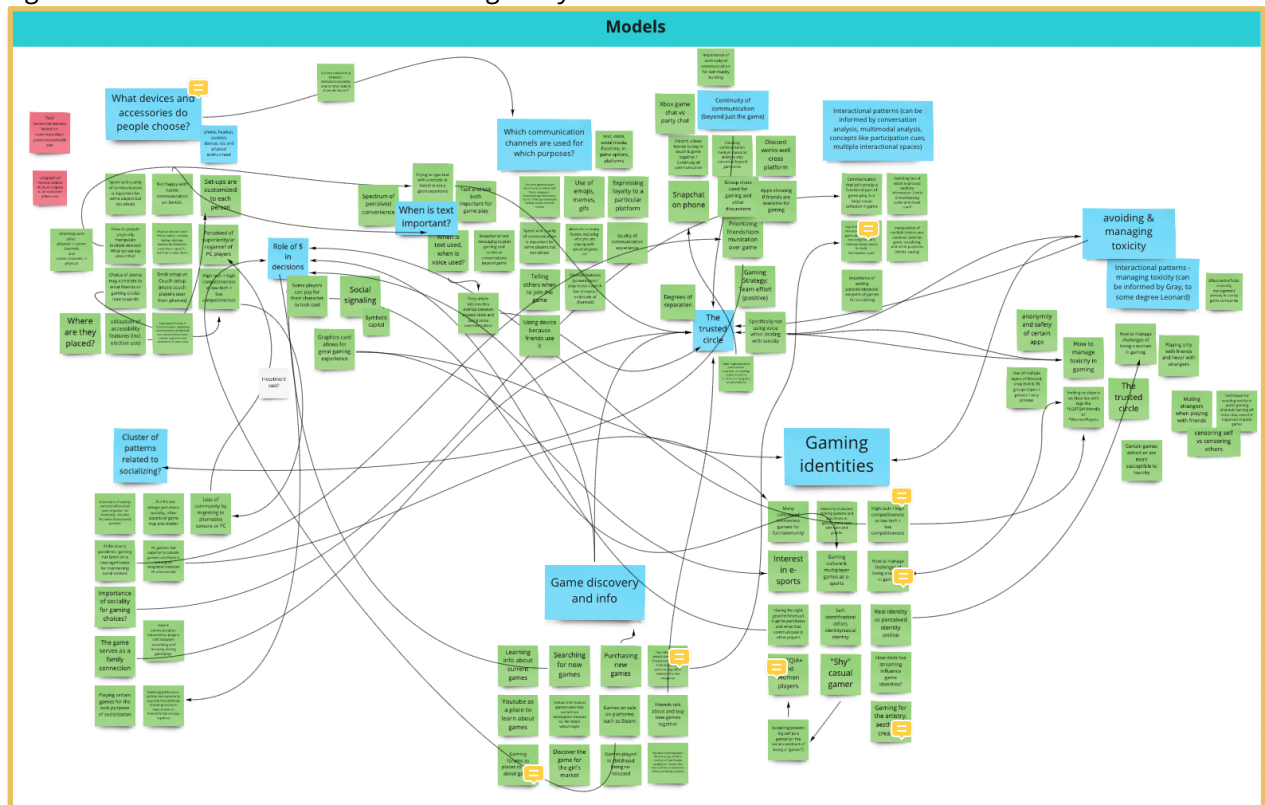
Initial analysis of the data occurred in class meetings, by all students working together as a group. Each fieldwork team did an informal presentation about their study participant and showed video clips of the fieldwork. Subsequently their classmates discussed and compared insights about their study participants, with a focus on pattern identification. These patterns were noted in a Google Document.



In week 11, the class collaboratively created a Miro Board to further play with the patterns and identify relationships among patterns (Figure 1.3). The Miro Board allowed us to cluster many observed patterns into broader topics, while at the same time using arrows to note wide-ranging connections among patterns.

This then helped us to identify chapters for the final report, and most students signed up to work on a chapter. Two students volunteered to work on the design of the slide deck and the written report rather than developing report chapters.

Figure 1.3. Miro Board with Brainstorming Analysis



### *Rigorous Qualitative Analysis Using Dedoose*

In order to subject their chapter topics to a rigorous and thorough analysis, students used a qualitative data analysis program called Dedoose. Dedoose is browser-based, so it works well for online collaboration. With Dedoose, students were able to quickly and easily tag every example of a pattern in the field notes. That allowed them to pull out all examples of a particular pattern and scrutinize just those excerpts, rather than continuously wading through the whole 641 pages of field notes. Students created 166 codes (= tags) in Dedoose, and applied the codes to 2662 field notes excerpts. Figure 1.4 shows a word cloud for all codes, weighted by how many times each was used.

In the final weeks of the class, students analyzed their chapter topics with the assistance of Dedoose, wrote the chapters, prepared visual representations of their ideas, and developed a slide deck for their final presentation.





## 2. The Influence of Community and Identity on Communication Practices

*Abril Caraballo-Marin, Sally Darling, Kelsey Faherty, Jessica Keller, Jingwen Wang*

### 2.1. Research Findings

#### 2.1.1. Community as Central to the Gaming Experience

Community was central to the gaming experience for all participants. Familiarity, mutual respect, acceptance, similar interests, patient cooperation, and a community-centered mindset were key elements that sustained strong and active communities for all ten participants. While for some players, competition, aesthetics, or other experiential aspects of a game were also important, for all ten participants, gaming was not just about the game itself but also about the communities surrounding gaming. The centrality of community to gaming was expressed by Washington, who stated, "it's more important for me to win games for everybody else, not so much for myself." Washington noted that those who value winning over community get frustrated about losing and end up leaving.

Our research identified community as central to the gaming experience of all our participants, so it felt appropriate to begin with an exploration of what community actually means to our participants. This chapter provides a framework and overview of topics that the following chapters will explore in more detail.

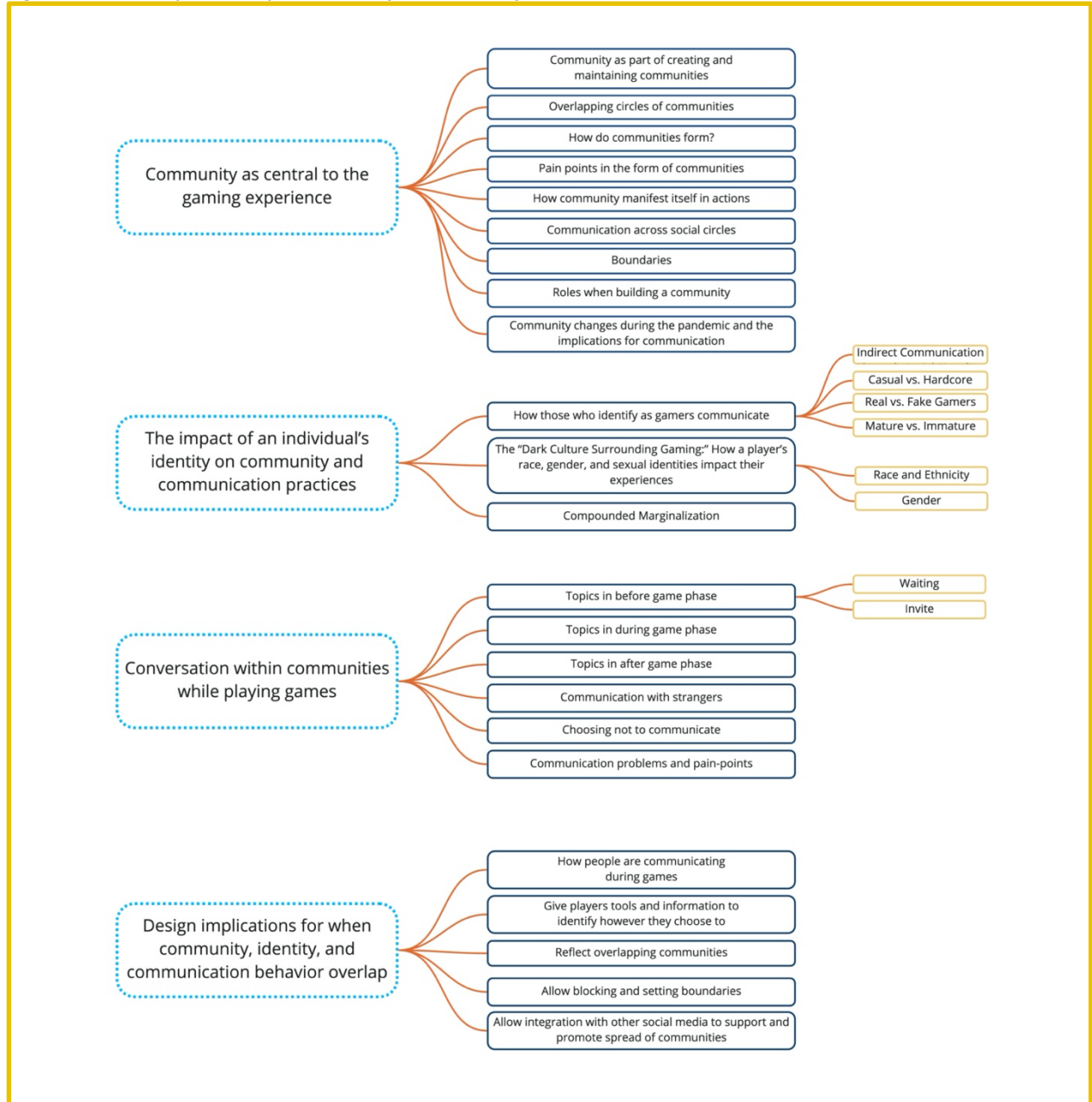
As Figure 2.1 illustrates, the idea of "community" in online gaming has many dimensions. To help organize the topic, we have divided our findings into three sections. Section 2.1.1 explores the shape, formation, and activities of online communities, and how those three elements impact communication practices. Section 2.1.2 explores communication through the lens of individual players identities. Section 2.1.3 looks at the actual communication practices of participants, and illustrates their communication needs at various stages in the gaming process.

#### *Communication as a Core Part of Creating and Maintaining Communities*

In online gaming, communication of various kinds is key to keeping communities together. The majority of participants played with people they already knew and had ongoing conversations with outside of gaming through alternate communication channels, including Discord, Snapchat, and Facebook. Communication with these overlapping communities was integral to the gaming experience for all participants. Minous, who has been playing with his community for almost 5 years, mentioned that the encouraging and respectful environment keeps him going back to that particular community. Part of the longevity is due to the "constant communication that kind of happens." This communication has kept Minous' community active and growing. For some players, conversations with their community members run deep, often into personal life matters. This happens for Washington, whose community consists of "lifelong friends," with whom she can talk about her mental health and topics that are "very hard to talk about" because "it's very nice to just have someone who will listen to you." For Washington and many other participants, trust, acceptance, and shared interests were common themes.

These consistent patterns of close-knit communities led us to formulate the concept of “trusted circles”. In these trusted circles, gamers find acceptance and a safe place to express themselves. Additionally, it is a place where influences and information are shared, like suggested video games and community-oriented events (conferences, live streaming, etc.).

Figure 2.1. The Influence of Community and Identity on Communication Practices



### Overlapping Circles of Communities

All of our participants were members of overlapping gaming circles. The circles might be concentric or they might be more like a Venn diagram. In fact, our participants used the word "community" in a variety of ways, alternating (often within the same thought) between referencing the "gaming community" as all people who game and using the word to refer to smaller groups of people who

gather around shared experiences or a common goal. As Minous said, "there is a huge community and then sub-communities and then sub-sub-communities... depending on how granular you want to go." The communities in which our participants were active potentially included the following categories of people, each of which might be appear in one or more circles:

- **Friends (In-Person):** Someone a gamer knows in the real world and has a strong relationship with.
- **Friends (Online):** Someone who a gamer met online and has developed a relationship with over time.
- **Friends of Friends:** Someone who is in the same social circle.
- **Significant Others:** The significant other of the gamer.
- **Family:** Family members of the gamer, typically siblings.
- **Strangers:** Someone the gamer has not had contact with before, either in-person or in an online space.

The communication methods our participants used often mirrored these overlapping communities. Some participants used Discord, which allows these overlapping layers of community and communication within a single platform. Others adopted two or more different communication platforms to help organize their various overlapping community circles. Some used more than one platform as a way to set boundaries around their communities. For example, Washington talked about using Snapchat as a way to keep some distance between herself and other people who were not in her trusted circle, saying, "If I'm not really sure if I can trust you... I'm not going to give you my phone number, you can chat to me on Snapchat and call me there perfectly fine without having that information."

#### *How Do Communities Form?*

Some participants described the formation of communities as an organic process. Daniel explained how a group of players found each other on Discord servers, saying, "it's almost viral, it's just kind of just, you know, spreads, you know, naturally." Minous also remarked on the viral nature of gaming communities, saying, "it seems made to just creep, collect people and grow, it seems to just naturally do that." Dollar also described this viral spread. He explained how he connected two of his friends who played Valheim who were looking for others to play with, though he did not play Valheim himself. This comment exemplifies how a community can spread even between previously unconnected nodes in a social network.

For other participants, the process of forming a community feels more deliberate than viral. Sometimes this intentional formation is done by one or more moderators who decide who can join a group. For example, Eric relates how he met someone in a group chat on Facebook and discussed with another group member whether he could enter their "room." Intentional gaming communities can also form out of a desire to play with others of the same skill level or out of caution for personal safety. For example, Washington feels that creating an intentional community around LGBTQ plus identity within a game is a way to reduce toxicity.

While some deliberately formed communities are socially based, others are more task-based. Sophie stated of communities within Final Fantasy XIV:

There are fellowships where you can collaborate with people who have similar interests. And it may not even necessarily be game-based. A lot of those may be like roleplay groups, a lot of those may just be like interests that you have.

However, as Sophie noted, people can also find community with others based on a more casual interest. She describes a fellowship in Final Fantasy XIV based on, "going out for a smoke." As Sophie describes this community, "it's just a bunch of people who are just like, 'I stepped outside for a cigarette.' And that's it. There's nothing, there's nothing more to it than just like, a little joke around that." These smaller social circles seem inconsequential, but they reinforce the game's social nature and enhance the gaming experience.

#### *Pain Points in the Formation of Communities*

The "viral" or spreading nature of communities can cause discomfort for people who are very intentional about the tone of their communities. Washington described friends of friends joining groups and how the group's tone can shift, creating a less comfortable space. She said, "sometimes people who know other people invite their friends into parties, and they're like, 'hey, this is my friend, blah, blah, blah, blah, blah,' you know, and they might have their own views on some things, then what you have us on, and that's okay, but sometimes it can be not okay." This viral spread creates a situation where someone like Washington, who is very aware of her personal safety and comfort online, can find a virtual space shift from one where she is comfortable to one where she is not. A communication system that would allow her to signal to others in her core group or flag behavior or language that makes her uncomfortable would be a design feature that would improve on her existing communication system.

Just as the viral nature of a community's formation can cause pain points, deliberate cultivation and shaping communities can also negatively affect some players' experiences. Minous described a side effect of keeping tight control on communities, noting the presence of "gatekeeping" within the gaming community. He says of some gamers, "they protect their community, and it's not always in a healthy way, so in gaming communities where you have those collections, and they start to sever or degrade because there's individuals amongst the group that feel very strongly." For Minous, this manifests in clashes between "hardcore gamers and casual gamers" who "butt heads" because the "hardcore gamers, they tie that so much to themselves that if a casual person comes in and just plays it all willy nilly it kind of makes them devalue the very thing that identifies them." This gatekeeping is, according to Minous, "essentially pushing casuals out. That's a whole thing, right?... keeping casuals away, that's gatekeeping right, you have to be hardcore yeah and I think that that's a shame." (This idea of gatekeeping and identity is explored more later in this chapter).

#### *How Community Manifests Itself in Actions*

The strong social connections in a gaming community can manifest in behavior such as community-driven efforts and movements. Sophie shared a story about an in-game march "of hundreds, if not, like 1,000 people just marching in memory of this person who was an active member of the Final Fantasy community." This tells of the power of community that extends beyond in-person interactions. A communication platform that gives gamers the freedom to plan and participate in these types of events could be something that differentiates itself from existing communication and community-building platforms.

For some participants, gaming communities have become safe places, helping people with mental health struggles to not feel isolated. Washington shared that being a part of her gaming community helped her social anxiety. In return, she is very intentional with checking in on people. This level of care shared between members of her community manifested itself as check-ins on other players. Washington talked about a person in her community, saying:

[He] hasn't been playing with us for the past couple days. And he happens to have panic attacks. And I wanted to make sure that he was okay, because I haven't heard from him. And he told me that he [another gamer] tried to call him and he didn't answer. So, I messaged him and see if he was okay.

Participants described a sense of cooperation that was present when members of a community trusted one another. For example, Washington mentioned that her friends still included her even though she had to inconveniently communicate through her cell phone because she lacked the money to get a new controller. Decreased communication quality impacted her friends' experience, which could have made it harder for her to game with other people. However, because of their closeness, they had tolerance for this. She commented, "and thank goodness for the friends that I have that actually let me do that because I would have just not been able to play with anybody."

The gaming community has become a safe place for many individuals. Some communities are so strong that gamers are willing to open up their homes to those without one. Washington shared a story of a "gamer getting kicked out of their houses and trying to find a place to stay at... I've opened my doors." This shows the level of trust and acceptance that some do not experience in in-person relationships. Washington also shared that she would go to her gaming community with "hard things" before going to her partner. Her gaming community has become a trusted and safe place where she can process difficult things. Washington noted of her community, "we make sure that we have people in our group who are accepting of that and who won't make crude jokes." Washington's use of "we" makes it clear that acceptance and creating a safe place is a communal effort. When gamers feel unaccepted or isolated, they do not stay, and trust and the community breaks. This implies the importance of facilitating communication that reinforces mutual respect in gaming communities.

### *Communication Across Social Circles*

Several participants, including Washington, discussed using different communication channels depending on the groups they talked to or played with. Our participants often designated a specific social media platform that they would use to converse with strangers. This platform was not constant throughout our participants. One participant used Facebook to contact only close friends, while another used Facebook to join a group to talk to members of a broader community, usually strangers. Choice of platform can also differ between the intermediate circle and the trusted circle for a particular player. Sometimes there will be a large group on a particular platform. A participant will create a smaller group with the people they are closer with on a different platform or channel. They will alternate between the groups depending on who they want to play with or what they want to talk about. These smaller groups are often reserved for trusted members/friends. Eric noted:

We have a Facebook group. The Discord has everybody who's in our Facebook group who we consider our core. So we would essentially talk to our core first, which we just use Facebook, because it's more marginally used, but this is meant for quantity [pointing

to Discord on screen] so once we get here, then we're expressing everything we've said in our closed group to everybody who's involved.

### *Boundaries*

Controlling communication is a key way that participants set up boundaries. By only giving out certain contact information to specific groups, our participants can control who can contact them and when. This helps them to define very clear boundaries between their circles. There are two main types of boundaries that people can make in their community: personal boundaries and community boundaries. Personal boundaries are the boundaries that each specific player sets for themselves. These differed greatly between participants, and the decision about where to draw a boundary was unique to each participant. Participants develop these boundaries after being in the gaming community for a little while and learning what they are and are not comfortable with. Washington described screening new acquaintances, saying:

I have like a red flag system. And if they're asking too many personal questions too fast, I'll be like, like, either you slow it down, or we're not talking anymore. Um, and I also have a system of like, How many? How much do we play together? How much do I talk to you on a regular basis? Do you want to have more activity with my friends that we play the same games with? Are you only wanting to chat with me? If you're only wanting to chat with me, that's a no go. Because if you can't hang with my friends, you can't hang out with me... if you make very gross jokes, and you have all these red flags, we're not hanging. We're not like, I don't, it's very, it's very easy to pick out the bad apples that's all I'm saying.

While some participants set boundaries based on safety and personal comfort, others set boundaries based on skill level. Some players do not want to play with someone at a lesser skill level than themselves. They get frustrated that the player is not as good and feels that it brings down their game. Alternatively, this can make less experienced players not comfortable playing with advanced players for fear of "smack talk" or the feeling that they are not good enough to play with them. This causes gamers to try to only play with people who are at a similar skill level. Melissa commented on this, saying, "If you're playing with them on a different skill level and it includes a stranger, there might be more smack talk because they're just disappointed that they got a really amateur player on their team."

Some participants are very opposed to playing with strangers. One of the main reasons for this is the toxicity that can occur when playing with people who are not vetted. Toxicity in the gaming community was a central theme that we found in our research. It is discussed at length in Chapter 5. Still, it is worth mentioning here that participants use their communities as a way to manage toxicity. Participants sometimes retreat to their close community so they do not have to worry about dealing with other players who may be toxic. People often develop these boundaries against strangers due to the toxicity present in the overall gaming community.

Boundaries vary by community. One community's set of boundaries might not be the same as a different community, even if some of the players overlap between these communities. The players that are a part of these communities might create boundaries together, or sometimes these communities will assign a gatekeeper for their community to decide who they let in. Whether the purpose of setting boundaries is for safety or to define the skill level of the other players in the



group, the decision to create boundaries impacts the community. As described in the next section, setting boundaries can impact communities in both positive and negative ways.

### *Roles When Building a Community*

Some participants assume distinct roles in their online communities. For example, Eric mentioned that he is the **moderator** for a closed group on Discord. The server would show that someone requested entry to the group, but he or another moderator would have to approve that. Another person set up the group but, "he's given me the power... to set up rooms and stuff so I could do whatever." Eric would discuss new members of the group with this other moderator. However, having this kind of moderator role can feel alienating to some participants. Minous described how the power to control a group's composition could negatively impact a community when he talked about the idea of "gatekeeping" within the larger gaming community. He said, "you're making a decision about who can and cannot be in a community; you're essentially blocking people, and so I think that that's... an archaic system."

For other players, feeling that they have access to a community is not necessarily limited or controlled by a moderator. Rather, their experience is that a community can be self-selecting: players start in the role of **novice** (some of our participants used the term "noob") and work their way to the role of **expert** by devoting time and energy to the game. New players feel that they have to work to become part of the community. Sophie described her experience as a new player of Final Fantasy XIV, saying:

One thing that I want to note is there is a large barrier between being a new player and getting into these more well-integrated where people already have their aesthetic down, people already have their communities and friends like, I think that there are definitely people who are able to join, but it takes time, it takes effort it takes like actually investing yourself into the game before you're able to just jump in and be like, hey, I want to do this and not to say that you can't, like if you go in the party finder, you can find a bunch of people who are just trying to level up, who want to do erotic roleplay, for example... My point being that, uh, I feel like if you want, like, while there are a lot of experiences to be had, it's just like, it mirrors real life in that you need to actually find ways to incorporate yourself into communities before you can really actually say that you're a part of it.

Minous expressed a similar sentiment, saying, "when you're in a new community you might feel a little more hesitant to speak, especially depending on the topic that's happening. The more and more knowledgeable you get [about] a certain subject or community... the warmer and warmer it feels and the more confident you are speaking and communicating."

For Minous, Sophie, and other players who feel that they are new or less experienced in a game, part of what brings a community together is the sharing of information between experienced players and less experienced players. There is also sharing between groups of new players who are simultaneously discovering things in a game for the first time. In this case, information acts as a kind of symbolic capital. As some players like Sophie discover, people are often very willing to share this symbolic capital and allow others to raise their status in the community. The act of sharing reinforces social bonds between people in different roles in a community. Sophie said, "I think that there is a lot of collaboration of information, of tips of skills of all the sorts of things to ... join

everyone together in like, what they're doing... it could be as something as simple as just like, 'hey, how do I find this?' " For Minous too, communication and sharing are vital to a gaming community. He says, "when we talk about gamers interacting with each other, it's all based on... people with common interests discussing a thing they like... and everything else is...everything else comes off of that."

As gamers move through various roles in their gaming communities, their communication needs also change. For Eric, the moderator role he played in the Discord group influenced his communication. Seeing that someone wanted to join prompted a conversation with the other moderator. However, these more private conversations would not happen in the main Discord channel. In some cases, these conversations are taken off Discord entirely and moved to Facebook, where Eric has a more intimate group of friends. For Minous and Sophie, a role as a new person in a group also influenced their communication. For Sophie, it spurred her to seek out information to discover ways to integrate with the group. For Minous, finding a place in the community caused a change in communication, from more silent participant to someone who speaks.

### *Community Changes During the Pandemic and Implications for Communication*

The pandemic has helped strengthen relationships while also increasing the need for communication within online gaming communities. For some of our participants, the pandemic has drastically changed their gaming habits. For others, it has not changed much since they already had a strong online community. Gaming increased during the pandemic because many participants had more time and wanted a way to maintain contact with friends virtually. It should be noted that some of our participants already used gaming as a way to stay in contact with friends pre-pandemic. One participant noted that gaming is how he stayed connected with his high school friends when they went off to college. However, the pandemic increased the need for people to connect virtually, since face-to-face interaction was drastically curtailed. Gaming has allowed people to maintain and further develop all different kinds of relationships during this time. Quinner noted,

I think that gaming allows people, like we talked about with COVID, you know, it's allowed me to hang out with and talk with people that I have not been able to see, in like a year. It's helped me be stronger with my friendships in general or like my relationship with my brother. Um, it's a nice way to relax like... just having something that's kind of like mind-numbing, downtime, especially with everything that's going on right now, has been really nice.

Our participants mainly used gaming as a way to stay in contact with friends and family. Some of our participants also used gaming to develop new relationships in this time of social isolation. Flash noted,

So I will be introduced with, like, say if I'm playing with a friend of mine, and if they are usually playing with another friend or family member of theirs. And if I get invited to that party, I would be playing with them and their friends and I would have an open line of communication. There's a lot of friends I've made during COVID just through gaming itself just because of mutual friends.

The increased need for online social interaction caused some of our participants to upgrade their gaming systems and invest more into their setup. This led some participants to buy more games, consoles, and equipment for themselves or their significant others. Some participants are now more

willing to spend money on gaming since it provides social interaction that they have not been able to get in other ways during lockdown. Flash said:

I definitely invested more in it. I never used to actually think about getting a headset before COVID or updating my gaming setup... I usually would play more by myself. I wouldn't really be playing with people per se, and I used to just talk through my TV speaker, like, I had a mic hooked up to my PlayStation through my PlayStation camera. And I used to just talk through that. And I just thought that would be sufficient enough but ever since I started playing more, primarily *Call of Duty* because that's what everybody plays, and it's a game that kind of enforces more multi-platform gameplay so cross-functionality, so that allowed me to play with people that I usually wouldn't play with so Xbox users, PC users and with that whole conversion of talking through my PlayStation wasn't crossing over too well.

### **2.1.2. The Impact of an Individual's Identity on Community and Communication Practices**

Identity is a complex, interwoven aspect of a person's individual experience. What an individual hopes to convey about their identity is not always how others perceive that person's identity. In a community, the type of gamer and individual others think you are can be just as – and sometimes more – impactful than your own perception of your identity. Ultimately, all of these factors influence how gamers interact and communicate.

People have all the control to show you what they want you to see. So I know personally what they want me to know. – Minous

The culture of gaming is being able to hide behind the character you're playing. So no matter who you are in real life, all I know you as is your gamertag and who you're playing. – Eric

The identities a player reveals in a gaming setting can have dramatic effects on their individual experiences. These effects stem directly from the interaction between the individual player and the communities of which they are a part. Likewise, the identities – or the aspects of those identities – that players choose to not reveal can also strongly impact their experiences and influence the decisions they make when it comes to communication.

Daniel described how anonymity can impact player behavior: "It's just like they have a shield of, 'I don't have to behave because there are no repercussions because, 'you know, 'I'm on the internet and I have that barrier between me and reality.'" Because of past interactions like this, he explained:

I will know within the first 30 seconds or not whether I'm participating in voice comm with these people. Most of the time, I will keep myself on mute until I have something to say or until I get a read on whether I'm playing with mature intelligent human beings or, you know, a couple of kids, or a couple of racist people, or people I don't want to associate with or talk to or listen to.

#### *Identity and Symbolic Capital*

At the same time as gamers communicate directly with each other, they also communicate indirectly through the platforms with which they align themselves, the brands to which they remain loyal, the

gaming gear they possess in “real life,” and the items they collect (both in-game and out of game). The participants in this study revealed numerous ways they and their fellow gamers signal to their communities what type of gamer they are. Dollar enthusiastically associated himself with his love of Logitech products and identified himself as “a PlayStation die-hard since I got my first PlayStation.” Melissa - relatively new to gaming - expressed her surprise at realizing that, “to actually even begin to get involved, you have to spend money; that’s a big thing.” She explained that on *Fortnite*, “you look like a total noob if you have like the basic skins. Unless you have some like really nice skins, people don’t even like take you seriously. They’re like, ‘Oh, yeah, you don’t spend a lot of time on this’ or ‘Did you just get on this game?’”

We noted that information functions as a sort of symbolic capital in online gaming communities. We found that the social signaling related to in-game and material acquisition functioned similarly, often serving as a form of symbolic capital among members of both intimate and broad gaming communities. Gamers gain status, prestige, and recognition through their association with certain platforms and brands, through their in-game achievements and appearances, and by amassing gaming-related collections both in and out of the game itself. Through the accumulation of symbolic capital, gamers are seen to possess more clout and value than others with less symbolic capital. Our participants noted that people often prefer to game with other people who have a similar amount of symbolic capital. Symbolic capital can be accumulated across several related dimensions.

#### *Casual vs. Hardcore Gamers*

How casual or hardcore a gamer perceives themselves or others to be impacts how and with whom they play, and how they communicate in-game. In the gaming world, it feels as though there is an endless debate over which attributes constitute the “casual” gamer identity and which constitute the “hardcore” (or “competitive” or “professional”) gamer identity. Regardless of how each player defines these terms for themselves, the perception of these identities impacts communication practices within the gaming community.

Melissa expressed feeling as though “professional” gamers were less interested in communicating with their fellow players, stating that when it comes to what motivates her and her friends to play video games, “I feel like we do it more to hang out with each other than like to be professional gamers, so it’s more about community.” She also described instances in which a player’s skill or experience level seemed to affect how they communicated with the rest of their team:

The people that you have to talk to in *Fortnite* are on your team, so most of it is like team-building kind of communication or like working towards the same goal. But obviously, if you’re playing with someone who’s on a different skill level and it includes a stranger, there might be more smack talk because they’re just disappointed that they got a really amateur player on their team... They get mad that they keep having to play with you.

Some of the participants we interviewed detailed how the toxic communication practices of other gamers eventually drove them away from entire gaming communities. Minous explained:

I used to play more competitive games when I was younger, but those communities can be really toxic, and it’s just draining, and I don’t have the time to care about those children’s problems. So I got out of them. I said, “Nah, I put too much care into

something that doesn't give me enough." So I left those kinds of communities, and I have since found new ones that are a little bit more my speed.

### ***Real vs. Fake Gamers***

Others described how they have lost touch with friends due to perceptions about what "a real gamer" is. Washington revealed a desire for continuing to break down communication barriers between PC and console players:

I would like to see a lot more togetherness... Some people think that if you play console, you're not a real gamer which is not the case. I mean, we have basically all the same games as PC does. And it's kind of hard because you have friends who come from PC and come to console, or go from console and go to PC, and they come back and they're like, "Oh, why do you still play console? Why don't you get a PC? PC is so much better," all this kind of stuff. And it's like, "Well, I have my friends here. Like, I don't want a PC. I don't need a PC. I have fun playing on console." And I feel like there's a lot of separation on the different consoles or PCs that you play.

### ***Mature vs. Immature Gamers***

Consistent with Washington's statement above, some of the other participants in this study revealed that they view PC gamers as more mature than console players. On the topic of Xbox players, Dollar stated, "If I'm in the PC community and I'm playing a game, I have the sense that like the people on there are a little more professional with their etiquette and they're a little more mature. Whereas, if I'm playing on, you know, Xbox 360, it's going to be a lot- lot of the other direction."

Daniel shared a similar perspective while discussing his experience in the weeks following the release of the Xbox 360, describing those who purchased the console immediately upon release in November as "a very mature group. It was a very enlightened group." However, he continued his story, "As soon as Christmas hits, that's when the less educated, the kids, it's like a light switch went off. It was immediately like just like anywhere else on the internet, especially in the Wild West days of the internet."

### ***The "Dark Culture Surrounding Gaming": How a Player's Race, Gender, and Sexual Identities Impact Their Experiences***

"There is a lot of, like, dark culture surrounding gaming, and... I can't speak to like the history of that and why there's like a lot of underlying racism and xenophobia and misogyny, tons of it. They're rampant throughout the gaming community... Hurling racial slurs at people or like stupid insults on, you know, *Call of Duty: Black Ops* is not something I enjoy, so that would be nice if that could stop." – Quinner

We explore toxicity more deeply in Chapter 5. Here, we just provide a short overview, since it is an inescapable aspect of identity, community, and communication practices in gaming.

### ***Race and Ethnicity***

The majority of the participants with whom we spoke described instances of toxic communication behaviors – in addition to witnessing others' exclusion from communities or experiencing their own – due to race, ethnicity, gender, or sexual identity. Identifying as Black and white, Eric explained that when in a gaming environment: "I came here to have fun, not to be cussed at, racist." He expressed

that he believes that feeling protected due to anonymity is one of the reasons why this sort of behavior persists in the gaming community:

So you get someone racist who's able to not feel the repercussions of being racist, just other than hearing somebody else's rebuttal. So they're courageous and they're jumping into chat rooms that they don't know anybody. "The only way they're gonna find me is like reverse tracking my IP or something. So now I feel courageous to say whatever I want to say." Or if any sexist, racism, whatever you wanna go, politics, someone starts "Trump this," "Trump that," someone's not with it, because you have the internet blocking for you.

Daniel echoed this sentiment and stated, "I've heard a lot of nasty racist remarks. I've heard a lot of insults, terrible, terrible insults, things like that" while gaming. He explained how this behavior within the gaming community, even though he identifies as a white man, has impacted how he communicates:

That's why I use party chat or I don't use comms in games at all, because I just don't want to associate with those people. A lot of them, they'll say racist things; they'll say sexist things. I mean, I've been called every racist, racial epithet you could possibly imagine. A common term is "trash:" "oh, you're trash!" That's a new insult that people throw around a lot nowadays.

### *Gender*

"Being a woman on online gaming is very tough sometimes. I've been told, 'Go to the kitchen and make a sandwich for me, 'just by a random person that I don't even know. You don't even say anything to them. They think they're funny. And they'll hear you're a woman, and they're like, 'Oh, blah, blah, blah, blah, blah blah.' So it can be very sad and gross sometimes." – Washington

Similar to how racial and ethnic identity can impact a player's gaming experiences, the majority of participants in this study also recognized how gender plays a role in communication and gaming behavior. Explaining why she chooses to not participate in communities for games such as *Call of Duty: Black Ops*, Quinner said, "I think there's definitely like a gendered element of like not feeling like you can be in that community and it feels a little bit toxic." Despite this, she expressed:

I feel more included than I did growing up. Growing up, ... I remember just being told like, "Those aren't real games. Those are like girl games." So things like *Animal Crossing* and *Nintendogs* and like those kind of things, those are like, "girl games." So I never really identified with [gaming] culture. But now, I feel like *Animal Crossing* is kind of gender-neutral – if not more female dominated – and the culture is really positive. I feel like I can talk about gaming in that aspect without being labeled as, like, "Oh, she's just like a girly gamer."

The study participants who identified as men also recognized toxicity in the gaming community related to gender. Like Quinner described above, Daniel stated that he has also observed shifts in gaming culture over time. Despite noting that "women used to be taken advantage of, and victimized, and objectified commonly in culture, and now people are starting to catch up," he also



pointed out that the gaming community still has a long way to go when it comes to making women feel safe, welcome, and comfortable communicating:

Female gamers are *finally* starting to get a little bit of respect. I mean, it used to be the old boys club and girls would constantly be harassed or made fun of or insulted. A lot of female streamers on Twitch still get harassed and insulted, but it's slowly starting to kind of turn a little bit. They're becoming more accepting and becoming less sexualized, but again, it's the same as I would imagine just in, you know, common culture. Girls still get sexually harassed and sometimes physically molested and things like that.

Similarly, Flash stated that he hopes to see "more female inclusion" and, when it comes to the presence of girl and women gamers in communication channels, that "it's more normalized" and not stigmatized. Washington also looks forward to this, explaining that:

It's rare that you find females. And when you do find females, it's very fun, because like, you can relate on that basis of like, "hey, you're a female too, and we're gaming, and it's so cool," and all that kind of stuff. But there are a lot of toxic males in online gaming, where they'll hear you're female and they will make some like really gross joke or something along the lines of that. And you're just like, "Why? What's the point?"

### *Compounded Marginalization*

Identifying as a marginalized identity in a gaming setting is difficult. When a person identifies with multiple marginalized identities, they experience compounded oppression.

In our interview with Washington, she revealed how the compounded effects of multiple marginalized identities impacts her communication in gaming environments. She noted that she has to be prepared and brace herself for what she knows to be inevitable comments:

When like the election and stuff like that was happening – all that crazy stuff – I feel like *Overwatch* was at its all-time high on toxicness. And that was a really rough time to play, just because I'm not only gay, but of course, an African American woman, and people have their views about that... So once people hear that you're that kind of person, they have a lot to say – *a lot* to say... It's just something that you have to get over and you have to get used to, and just have those situations in your mind ready, so that you're ready when it happens and you're not caught off guard.

Despite this, Washington also discussed how certain elements in the gaming community have gradually improved over time. She explained:

When I first started gaming, there wasn't a lot of minority communities online, just because of that toxic culture that was in place before. But I feel like, with all the movements that have been happening and everything that's been going on in the past few years, there's been a huge shift in the types of communities that I've seen online and it's very, very cool. I feel like I found more of a place online these past few years than I have when I first started out.

She also noted that "different communities sometimes stick together in online gaming, just so that they have their people and they don't have those toxic people join." Washington shared that,

although she often games with friends who identify in varying ways, it can be nice to know you are playing with people who identify the same or similarly to you:

In group posts in *Overwatch* for instance, there will be people who put “LGBTQ+” in the title so that they will have people in that community join, just because people can be toxic about that too online... Gender does as well. So like, in *Overwatch*, people put “gamer girl.” It just lists like, “this is a person who’s a female, and she’s playing video games or whatever, and she’s wanting a girl-based group.” So sometimes people make specific groups just so that they don’t have toxic people joining and it’s just people in their community.

Although all participants in the study expressed optimism about what the future holds for the gaming community, some participants conveyed a sense of resignation to the current state of affairs, despite remaining somewhat hopeful. Quinner stated:

I think gaming companies are trying to include those groups of people in their market so like, not just marketing to straight white men, but like trying to get these other communities involved. But at the same time, there is a huge gatekeeping complex, I feel like, in the gaming community of like, “This is our safe space, and like you’re trying to change it to be more accessible for everyone.” So... I don’t think it’s a thing that will ever be truly solved.

### **2.1.3. Communication Phases and Topics**

When our study participants played with members of their communities, the communication phases, communication topics, and communication channels were aligned in distinct ways. In this section, we focus on the communication phases and topics, to set the stage for Chapter 3, where we discuss the channels that people use to communicate. This section gives the reader context about why people choose the specific channels discussed in Chapter 3.

We grouped players’ main communication phases into the *before* game phase, *during* game phase and *after* game phase.

#### *Communication Topics in Before Game Phase*

##### *Inviting*

The communication before the game starts will usually consist of two different activities: inviting and waiting for the game to start.

Inviting is about the player inviting others to play with him or her, or accepting an invitation to play together. The main purpose is to discuss possible game times and game participants and make game invitations, but it also functions as a social space where players meet new friends and expand their social circle, and where players’ friends introduce new friends to play the game together. This meeting and expanding of social circles is not always without tension, as when Washington described a friend introducing a new friend to the game: “sometimes people who know other people invite their friends into parties, and they’re like, Hey, this is my friend, blah, blah, blah, blah, blah, you know, and they might have their own views on some things, then what you have us on, and that’s okay, but sometimes it can be not okay.”

Invitations to play with friends may occur on third-party communication channels, such as message or Discord. For instance, Quinner said:

So usually if I'm going to play with more than just myself, like if I'm going to play with a group of people, I will like to set up a time to play like "Oh, we should get on tonight at this time," so we'll all message each other and see if that time works and then for Animal Crossing specifically, you have to, like opening your "airport gate" which is basically the link that lets the other person go on to your island or vice versa.

Invitations can also happen in the social features that come with the console game, such as when Daniel described using the Xbox party system. He said,

So that is... that is what I use primarily because the Xbox has a built-in, they call the party system. So I can go on my Xbox and I'll see my friends online and I'll say, oh, they're in a chat party, basically it's a- it's like a chat room. So I'll either jump in or say hey invite me assholes... or if I see a friend online, I'll invite them to a party and the voice communications is seamless, it's built into the ecosystem on the Xbox.

Invitations to play sometimes happen in life outside of the game. For example, some participants keep their game social channels active outside of game time to hear invitations from friends at any time. For example, Daniel said, "My Xbox's in the background, and it's been popping up, 'invite me to your party.'. Shut up, [friend]. I'm busy. I can't play with you right now, so you know, I'm always online, and I'm always yelling at [it]."

### *Waiting*

During the waiting period, the participants' conversation was mainly about the game plan. In our observations, six out of ten participants had discussions about the upcoming game. For example, Eric communicated to his teammates about his next move before the game began, saying, "I'm like falling in and there's so many people around me."

During the Waiting time, participants also discussed their gaming equipment and settings. This type of discussion can also happen during active gameplay when there is a slow period. Sometimes in the middle of a game, players will carry out conversations about their current game settings and equipment, such as wanting to change to better equipment to make their gaming experience better. For example, Washington gave the following advice when she heard her friend in the game wanted to change the controller:

You want Genji. Oh, you don't want to open it. Oh, is Andre back. Okay, what's going on with your controller? Why don't you just get rechargeable batteries. Get new ones because those are bad. I have like the Walmart bought ones. They work really well.

While playing with friends, everyday casual conversations also occur while waiting for the game to start. For example, participant Sophie talked to her friend about her friend's wedding while waiting for the game to start: "Mulch and Audrey's wedding party. That's so cute. Just like ask people who are going to like an online wedding to just join us know our special day. Oh, you do. Love it, love it. Not need another housing area."

### *Communication Topics in During Game Phase*

During the game playing phase, conversations about the game's content, organization, and strategy dominate. For example, Minous talked to his teammates about a bug he encountered in the game and how he fixed it. While playing, he said to another teammate, "have you ever had a visual bug where you're sailing and all of a sudden, the wind doesn't show up for you, so you have to use your like your aft flag to figure out where the wind is."

Some communication during active play is about the expression of emotions and states of the participants while playing the game. For instance, Washington has a soccer commentator-like turn during the game saying: "Oh, there's a hog. Huh? Echo? All the characters are gonna stay in Overwatch two. Yeah, and then they're just adding new ones. Nah, don't say anything. Nah, nah, nah, nah, no."

In active game conversations, many out-of-game topics come up, such as the need to leave the game scene for a while, or some topic related to the context. For example, when lighthouse-related elements appeared in the game, a conversation between Minous and his teammates about the movie *The Lighthouse* appeared (we only include Minous' turns, not the turns of the other participants they were interspersed with):

Minous: You just saw the Lighthouse.

Minous: Yeah you can see two ships out there.

Minous: Yet if you look in the sky right above them there's the- there's the clouds dropping yeah so that tells you that what they were just doing was a skelly fleets event, they- they did not survive.

Minous: Don't watch that movie alone.

Minous: Is it because it's *the Lighthouse* a scary movie.

Minous: Is that a horror film, as I recall, it was a horror film.

During the game, the participants' topics often switched between game strategies and everyday issues, especially when they played with their friends. The richness of the topics and the smoothness of the switching are higher when the relationship between the co-players and the participants is closer. For example, when Daniel is playing with his best friend, one second they are talking about arrangements for Valentine's Day, and without a pause, the conversation naturally turns to the game in progress:

[To friend] What's that? We're talking about going out to dinner tonight. Cause yeah the weather sucks and we've just been kinda locked up in here. She told me it was supposed to snow like tomorrow, I thought it wasn't supposed to happen til Monday. [Game loads] I don't know what I'm supposed to do for Valentine's day. [Characters start loading into game] Oh I'm the jumper, Ok.

### *Communication Topics in After Game Phase*

Discussions during the *after* game phase can be about games that have just ended. At the end of one game and before the next game begins, players exchange details and anecdotes about the game they have just finished. For example, while waiting for the next game to start, Daniel discussed with his friend the death of the character he had just played in the previous game. He said:

What do you mean? You can't blame me. How the hell- you're the one- I was the jump master- you're supposed to scope out and you can see the parade trail on the guy that annihilated us. So explain to me exactly how I'm the culpable one, I'm responsible for landing on top of the perimeter.

And usually at the end of a game exchange, players will initiate a new invitation and also talk about their feelings about and details of the day's game. The invitation part is discussed in the invitation phase above.

### *Communication Topics with Strangers*

The above section described players when they were playing with people in their inner, close communities. But when playing with strangers, the participants' communication topics were more focused on the game itself. For example, when the participant Flash is teamed up with an unknown player for a game, during the game phase, he and his teammates have this discussion about the game strategy:

Flash: All right. I'm just gonna follow one of y'all; I'll just follow your lead.

Flash: Security? Alright.

Flash: I think we.

Flash: Yeah, I think we can pretty much get a loadout before.

Flash: So we can just raid this whole area.

This conversation occurred when the researcher asked Flash to play with a stranger; there are no examples in our data of communication with a stranger in a "natural state" of play.

### *Choosing Not to Communicate*

When playing with strangers, six out of ten participants chose not to communicate with randomly matched unfamiliar players by muting or blocking them. Some of the reasons they gave are that the rest of the people in the randomly matched combinations know each other and are already a group, or that they are speaking another language that makes the participants feel there was a boundary between them. Flash explains:

Researcher: And then, so, are there any times when you don't feel comfortable talking to people or overall just communicating?

Flash: Um, the only time that I don't feel included as part of the conversation is if the pre-existing group, and they're speaking in another language; which happens, a lot more often than you think.

For some participants, choosing not to communicate is based on their desire to manage toxic environments or because random matching in a game caused them to play with children. For example, when talking about being randomly matched with teammates who were small children in the game, Melissa said she would not communicate: "oh I don't talk to them, I just I can just hear them talk, yeah I don't want talk to kids, it just feels creepy."

Some participants feel uncomfortable communicating with strangers during the game, so they will adopt a similar approach of muting players who are not friends. For example, Rubix talked about how when he plays with friends, he mutes the opponents they are playing with, pretending they are just AI characters:

In high school when I played Call of Duty online I would play with friends against other online people, but those people that I was playing against are basically the same as AI in that instance because, like I'm not talking to them, they're not talking to me, I'm not listening to them, they're just like players that I am fighting so like they're in that scenario they're no different for me.

There are also cases where players choose not to communicate even when they are playing with people they know. For Melissa, communication is not necessary when she plays with her brother. She said, "if it's just the two of us we don't because we pretty much know how to play with each other. So we just don't talk."

#### *Communication Problems and Pain Points*

In some cases where the game is not played with strangers, players may also appear to have no communication. But that is often due to equipment problems or other communication conditions, and not by choice of the participants. Nine out of ten participants have experienced communication problems related to hardware devices. For example, communication problems due to the network's speed, hardware device non-functionality, and non-functionality of the communication channel. Daniel described this, saying, "Plus my controller inputs coming back and communicating in a multiplayer environment on the game itself it's way too much lag and way too much network traffic going back for this amount of line."

There are also communication problems that arise when the device comes with communication software that is not easy to use. For example, the Switch's communication design makes it very difficult to finish typing in the game and does not support voice communication. Another pain point is when the in-game communication channels malfunction. Washington describes this, saying, "with Xbox, sometimes the servers go down, and you're not able to talk to anybody. And you're not able to play with anybody or anything like that."

#### *Communication Devices and Channels*

Based on the choice of different consoles and communication channels, players will customize their game setup to their needs. Headphones were one of the most frequently mentioned hardware devices. Six out of ten participants mentioned the positive contribution of headphones to the gaming experience and communication experience, and two participants mentioned that they had made a significant investment in headphones. Cell phones, tablets and computers are also devices that are used frequently during the game and communication process due to the need to use third-party communication software.



For instance, when Rubix was having problems communicating, and he needed to switch devices and communication channels, this conversation occurred:

Really, would you wanna do Discord instead? Okay [glances at camera] I mean you could real quick. What? I think it does when we play with my sister like, I'm a, we would always start out with a call and then like change over to this Discord, but maybe that's different over [can't discern]. Yeah sure. I'm gonna hang up bye. What? [puts down controllers to Switch from a regular phone call to Discord].

[Rubix continued, now on Discord]:

Hello? Is that better? Yeah you sound clearer already. Why even bother using a phone, like Discord is just better.

Other participants mentioned that, to meet some communication needs such as letting friends playing together see their faces during games, they would use tools such as cell phone stands. For example, Melissa describes her communication setup:

And then this is the couch so, usually sitting on here playing and then this is what I have on because we used to play like we used to call on facetime, and so I would have this here holding my phone, so I could get eye level with the people I was on call with... So I put my phone here for calls.

The choice of devices and communication channels is discussed in more detail in Chapters 3 and 4 of this report.

## 2.2. Design Implications

### 2.2.1. Reflect Overlapping Communities

Some players may want certain communications to go to their core group while other communications go to the larger group. **Switching between these groups should be seamless.** Players could be allowed to order their groups themselves so they can easily access groups that are more important to them. This design implication could be realized in an interface that shows sets of overlapping groups/circles. This **allows for intersections of interests and identities**, but could also be used to allow users to only reach out to overlapping groups, **helping users who share similar identities to see each other while reducing their exposure to toxicity.**

Communication methods and needs change based on who a gamer is playing with, the genre of the game they're playing, and the game mode. A design that is useful for someone who often changes communication methods would make it **seamless to switch between voice, text, and something like a ping system.** It could also incorporate a way to communicate across other social media platforms within one interface, reflecting the needs of users who prefer to switch between social media platforms as a way to communicate with more than one community circle at a time.

Because gaming communities are about much more than the game itself, **players need the option to create a safe space where they can share about life beyond the game.** A platform that

seamlessly allows players to continue communicating after a game ends could foster this kind of community spread. This might be still game related, such as the story from Sophie about the 1,000 people marching in a game to honor the memory of another gamer, or they may be completely unrelated to the game itself but grow from a community of people who met while gaming. This could take the place of a menu that pops up when a game ends, and if all players indicate they want to stay in touch after a game, they would be visible to each other outside the game.

### **2.2.2. Allow Integration with Other Social Media to Support and Promote Spread of Communities**

There are certain topics that gamers are passionate about. When considering how gamers learn and connect with others through these topics, **looking at how they are discussed and shared on social media could be a place to start.** Some participants believe that a popular game often causes a viral marketing situation. For example, when some games become popular topics, they attract groups of people who are not originally gamers to join the game community. For players exposed to the game through social networks, being able to log in with existing social media accounts to an integrative platform would reduce barriers to entry and communication costs. **A communication platform that integrates with existing social media platforms could tap into and promote a viral marketing strategy.**

### **2.2.3. Allow Blocking and Setting Boundaries**

Some of our participants were only interested in gaming with their trusted circle and had no interest in gaming with people they do not know. Not wanting to communicate with strangers is a key design implication. Gamers should have the **options to either mute strangers or have no access to strangers at all, and should be able to toggle this setting easily.**

Players also want to set boundaries based on criteria such as skill level or age of other players. **Allowing players to set their preference within a game will allow players to feel more in control of who they play with.** Players could choose preferences like old players with new players, low-level matching levels, girl and women players with girl and women players, etc. **Allowing for players to state their preferences would give the pairing process more transparency,** possibly reducing the feeling of “randomness” when players are paired with children or people of a very different skill level.

Some players are less comfortable with an unmediated expansion of a community because they are cautious about letting toxicity into their gaming environment. A design implication of this is that **people need a way to signal to others that their comfort level has changed.** This could take the form of a flag, tag, or emoji to signal moods, and sent only to people they have indicated are in their core social group, and could allow for discussion of what changed.

Some players want to play with strangers, but they are not very comfortable to talk or communicate with people socially. **Players need the system to have some auto-response or communicative guidance words present in the communication channel** so that players can play with strangers in a polite and comfortable atmosphere.

**2.2.4. Give Players Tools and Information to Identify However They Choose**

It is essential for our participants to have the ability to shift and change and seek out both larger communities and smaller niche communities as their motivations, playing styles, and socialization patterns change. Their identities as people and as gamers are not fixed, and they do not want them to be. They want to immerse themselves in the experience of having a particular kind of community. However, they also want the ability to shift and change their communities and identities over time as their priorities change. The communication choices available to them should support such change over time.

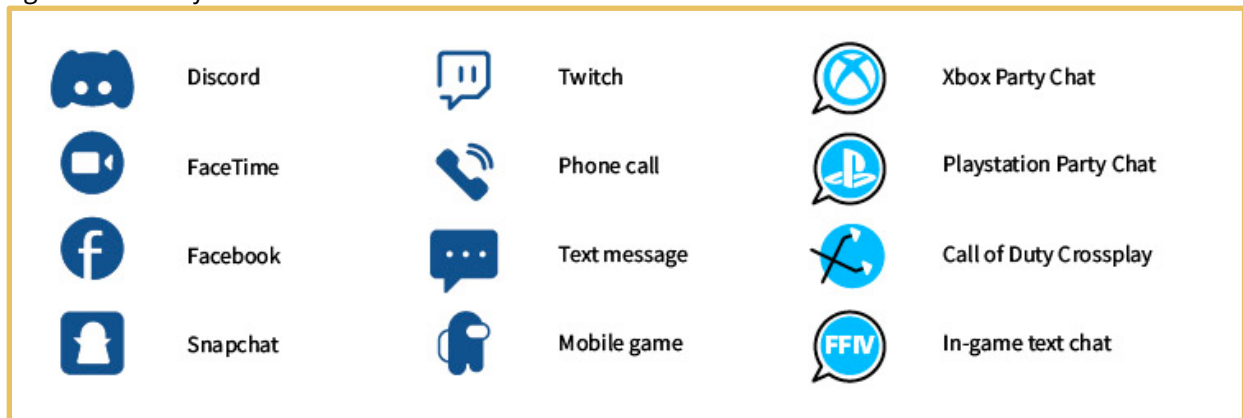
Gamers may need various ways and opportunities to define their identities. We recommend not providing predefined identities, but rather leaving that ability firmly in the hands of the players. This could be achieved by allowing people to create tags or badges for themselves that reflect their identities. These tags or badges could be used alone or in a group, and be made visible or invisible at the player's discretion. It would also help players find game partners that make them feel comfortable.

### 3. Communication Channels

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Having established in the prior chapter that for many gamers community and sociality is fundamental to the gaming experience, we now explore the **what** and **how** of cross-platform communication in gaming. In this chapter we discuss findings related to what channels gamers used to communicate and how gamers used these communication channels.

*Figure 3.1. List of Communication Channels*



While there is clearly one frontrunner in communication channels used for cross-platform gaming (namely Discord), our participants used a wide variety of communication channels to communicate before, during, after, and around gaming (Figure 3.1). In many cases, different communication channels served different purposes, and in several cases, gamers used multiple communication channels at the same time. Our research indicates that gamers move through phases of communication as they prepare for a gaming session, play a game, and continue conversations related or unrelated to gaming thereafter.

This chapter is laid out as follows:

- Research Findings
  - Building and Maintaining Relationships in Gaming Channels
  - Communicating through Phases of Gaming
  - Quality of Communication Experiences
- Design Implications

We first consider communication channels as they relate to building and maintaining relationships in gaming. As discussed in the previous chapter, community and sociality are central to cross-platform gaming. This section will continue that discussion with a focus on how communication channels support relationships in and around gaming.

Second, we explore themes related to phases of communication in gaming (i.e. before the game, during the game, after the game, and around the game). Many of the themes that emerged in our analysis of communication channels mapped onto a timeline of the gaming journey. This section focuses on the goals and activities of gamers as they move through successive phases of gaming.

The third section of this chapter focuses on the quality of participants' communication experience, including sound quality, the use of text, voice, and video, and other features available in specific communication channels.

We conclude this chapter with a discussion of design implications based on communication channel findings.

### **3.1. Research Findings**

#### **3.1.1. Building and Maintaining Relationships in Gaming Channels**

As discussed in Chapter 2, community and friendships make up a big part of the cross-platform gaming experience. The gamers we interviewed described how they use a variety of communication channels to talk with their friends. In this section we introduce some of our high-level themes of how communication channels are used to manage relationships and accomplish tasks related to gaming. We discuss how participants used multiple channels to communicate, how our participants viewed the experience of gaming with strangers, and how gamers utilized trusted circles and vetting to manage relationships in communication channels.

##### *Using Multiple Channels to Manage Relationships*

Whether participants talked about strategy, game mechanics, or topics unrelated to gaming altogether, our research clearly showed the importance of being able to communicate effectively with your gaming community. Minous said this about communication in gaming:

When it comes to cross console and communication in gaming, I think that that is kind of a foundational topic, right? Gaming without communication almost removes some of the point, because otherwise with some exceptions, you're not really gaming with somebody you know. I'd think it was that you're gaming at somebody.

Our participants used a variety of communication channels to reach out to and communicate with their gaming community. In several cases, gamers switched from one communication channel to another as they moved through the phases of gaming (i.e. before, during, after). In other cases, multiple communication channels were used at the same time to communicate with different gamers. At the beginning of the gaming journey, where gamers were finding other players to game with, the choice of specific communication channels was often based on the easiest way to get in touch with a specific friend or community.

Washington offers examples of using multiple communication channels to reach out to different communities and switching channels in different phases of gaming. During a gaming observation, Washington searched for gamers to play with using both Snapchat and a phone call. Once Washington had formed a team, they all joined Xbox Party Chat.

Some participants adopted communication channels based on what was previously established by their friends. Dollar said on this topic:

I mostly use Discord... just because it's really popular... and a lot of my friends have it as well and it works out pretty good from what we've seen so far.

Eric offers another example of using specific communication channels for reaching out to different friends. Eric used Discord before, during, and after gaming. He also used Facebook Messenger as a way to make gaming decisions with his tight-knit group of friends. The gamers we observed were adept at managing these multiple communication platforms across multiple devices.

The decision to use a specific communication channel depended on a variety of other factors, such as the size of the group, the game they were playing, the console the gamer was using, and the consoles and channels their friends were using. These concepts will be explored further in the other sections of this chapter.

### *Anonymity and Strangers in Gaming*

All of our participants expressed a preference for communicating with friends while gaming as opposed to communicating with strangers. Even when their friends were unavailable, several of our participants preferred not to game with strangers. Quinner stated:

Quinner: Half the fun in the game for me is that I already know those people and want to play with them, so like it's more of a relationship building thing than like the actual game.

Kelsey (Interviewer): So you just prefer to play with friends than strangers?

Quinner: Yeah. I don't know if that's like, I actively avoid strangers, I just, like, don't really prefer to play with them.

In the excerpt below, Eric also speaks to this preference:

Would you rather go walk in the forest with one of your best friends, or walk in the forest with some guy in a ski mask? Like that's who I'm essentially playing with, I don't know who you are, you have a ski mask on. You are covered by the internet.

As discussed in the previous chapter, when playing with strangers, a challenge that some participants discussed was related to differences in age, skill level, or political opinions. These differences created distance between our participants and the people they gamed with. In the below quote, Melissa talks about how differing skill levels created tension with strangers:

But obviously if you're playing with them on a different skill level and it includes a stranger there might be more smack talk because they're just disappointed that they got a really amateur player on their team.

Melissa also felt uncomfortable talking to younger boys:

Melissa: Oh I don't talk to them, I just I can just hear them talk, yeah, I don't want talk to kids it just feels creepy

Lareina (Interviewer): Why does it feel creepy?

Melissa: Because I'm 24? I also feel like because most of them are younger boys, so if they hear that I'm a girl, I feel like that would start making it weird. Yeah, I don't know I just feel weird about it.

Here Washington found it difficult to connect with younger players:

The way they speak is a lot different. So sometimes you have to adapt to the audience that you're speaking to. And it's very difficult to relate to someone if you're not speaking their language, if that makes any sense.

On the other hand, Sophie adds that sometimes when she is having difficulty in a game, "More veteran players will step in and be like, hey, you should do this. You should try this. It's very, they're usually very helpful. And they make active use of the chat box." Sophie also mentions that this productive communication does not require voice; there are even actions in certain games, such as healing, that do not require any chat or voice-based communication at all.

Another theme that emerged in relation to gaming with strangers was the use of muting, which will be discussed at length in Chapter 5. Participants that used in-game chat sometimes preferred to mute strangers to improve their experience. Eric mentioned the ability to "shut out the external voices and just hear the group I'm playing with". Other than muting strangers to improve their focus, gamers mentioned muting strangers in-game when they felt like others did not engage in productive or respectful communication. One participant stated that "some of them will make poor cultural references or their attitude doesn't necessarily agree with mine ... interacting with them via voice is not really beneficial to my happiness and my experience so I just mute them". While all of our participants discussed their aversion towards gamers who were described as "toxic" (using racial slurs, discussing controversial political topics, harassment, etc.), all female participants shared experiences of gender-based toxicity directed towards them (see Chapter 5).

Differences in skill level, communication style, feelings of anonymity and distance, and age all contributed to gamers' mixed feelings of playing with strangers. However, recalling that gaming is a social activity, many of our participants have used communication channels to make friends with other players.

### *Vetting Newcomers*

While our participants preferred playing with people they knew, most said that they build friendships with strangers, especially when communicating while carrying out a task together in game. Sophie mentioned:

Sometimes I will meet someone on the game and like, you know, we may exchange Discord handles, and I'll just be like, hey, and then we'll like ask each other questions every so often.

When a gamer did meet a potential friend, they described a way of vetting these gamers. This vetting involved a number of communication channels, each with specific features that promote safe and productive spaces. When a member from the trusted circle invites a newcomer, they often use a separate communication channel to vet the newcomer before sharing an invitation to the trusted circle channel. One female participant, who expressed concern about her privacy, preferred Snapchat for this vetting process: "If I'm not really sure if I can trust you ... I'm not going to give you



my phone number, you can chat to me on Snapchat and call me there perfectly fine without having that information.” Many participants use Discord for communication and will invite a new friend to join their Discord server. When a new player does not “fit in” (“[they’re] toxic, cussing, or upset every time something doesn't go [their] way, or ready to just argue and fight and blame everyone else”), an external communication channel like Facebook or Snapchat might be used to discuss whether the person should be removed from the Discord server.

The prioritization of communication with friends and the ways different communication channels are used to vet newcomers relates to a concept we call the trusted circle. As introduced in the previous chapter, the trusted circle is defined as a close-knit group of friends that game together and keep each other insulated from outside toxicity/disruption from others (see Chapter 5 for more on toxicity). One participant, who identified as female, describes her trusted circle:

I feel most comfortable gaming when I have my group together. When I have my group of friends just because I know they have my back if anything were to happen, and I mean, like I said, I have a thick skin. And then I am able to defend myself if anybody were to say anything, but it's always really nice to have either one person or all of your people with you, just so that you're more in a more comfortable setting.

Another component of the trusted circle described by our participants involves a series of nested circles of closeness, with the closest friends forming an inner ring. Close-knit friends often had existing communication channels outside their gaming community. As a result, these trusted circles sometimes used existing channels for conversations related to gaming. One participant describes this process:

Discord has everybody who's in our Facebook group who we consider our core. So we would essentially talk to our core first, which we just use Facebook, because it's more marginally used, [then points to screen again] but this is meant for quantity [referring to Discord] so once we get here, then we're expressing everything we've said in our disclosed group to everybody who's involved.

It should be noted that the trusted circle did not look the same for every participant. Some used Discord, while others used Facebook groups and Snapchat. The main takeaway was that the affordances within each communication channel allowed gamers to forge tight-knit groups. For example, Snapchat protected Washington's privacy by not sharing her phone number. This finding speaks to the need for features that allow for privacy among gaming groups.

### **3.1.2. Communication through Phases of Gaming**

Communication channels are utilized to complete many different tasks related to the gaming experience. As described in Section 2.1.3 of this report, our research identified the different phases of communication as *before*, *during*, and *after* gaming. While in Section 2.1.3, findings reflected communication topics throughout the phases of gameplay, this chapter focuses more on unpacking the varying functions of communication channels in facilitating conversations, as used by our research participants. The *before* phase is indicative of what takes place prior to gameplay, the *during* phase pertains to what occurs while the participants are in the midst of gameplay, and the *after* phase reflects the immediate time period after gameplay has stopped. We also added an *around* phase to address the use of communication channels outside the gaming experience. The

journey map in Figure 3.2 presents an overview of 1) the communication channels our participants frequently used during different phases and activities in gaming, 2) the form factor of the communication channels used, and 3) the console most frequently used by the participant. As we further unpack this topic, we elucidate how communication channels were used differently during each phase of gameplay.

### *Before*

We first discuss what occurs in the *before* phase of the gamer journey and how our participants used communication channels to meet their needs. Before starting an actual game the main function of communication channels was related to planning and setting up communication for gameplay. As seen in the first phase of the journey map (Figure 3.2), this entailed tasks like scheduling, checking to see who was online and available to play, sending and responding to invites, forming groups for gameplay, and getting on the same communication channel with said groups. While explaining what they do during this phase, Quinner expressed:

Usually if I'm going to play with more than just myself like if I'm going to play with a group of people, I will like set up a time to play like "Oh, we should get on tonight at this time", so we'll all message each other and see if that time works

Although our participants were playing on consoles, in terms of planning, participants all opted to use either personal phones or PCs for communication. For example, our participant Melissa explained:

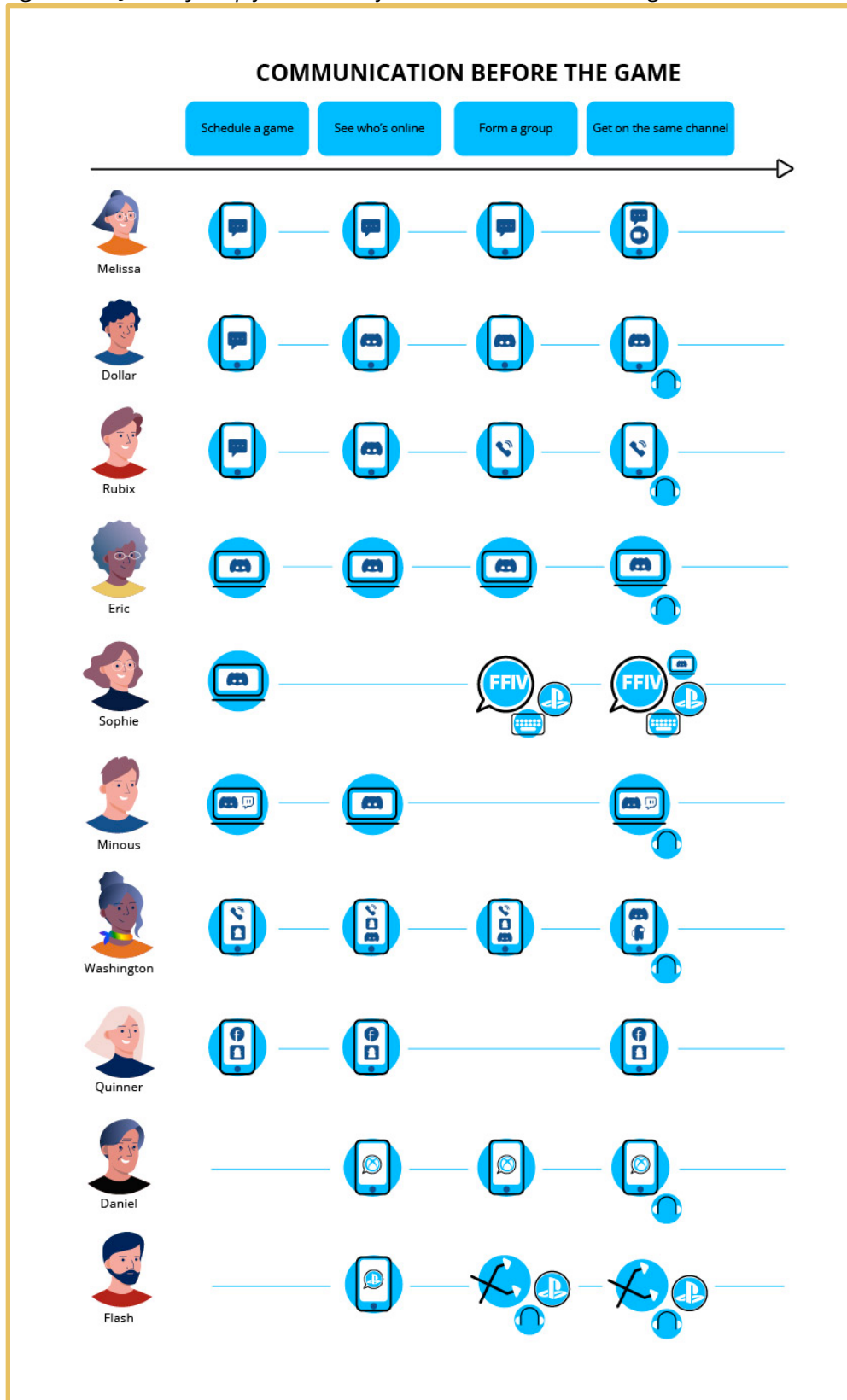
So I would take my phone out, text my friend group...one word and then they would usually reply "Yes okay I'm getting on" or like "in 30 minutes" and then based on that timing...

In this phase, a number of communication channels were used by participants including: Discord, phone calls, text messaging, the Xbox app, Xbox Party Chat, the PlayStation app, Snapchat, or Facebook. When it came to what communication channel would be used during this phase, some players noted that they would interchange/switch apps, not necessarily using the same channel every time they completed this task; this was contingent on the number of people playing, the trusted circle, and personal preference. When discussing how she chooses communication channels, Melissa said:

Usually if it's a larger group Discords better because it handles like more, like as many people as you want can join...but if it's just me, and like my close friends we're on Facetime because we can look at each other's faces and communicate...

While the phone or PC played a more central role in the beginning phase in terms of scheduling or seeing who was online, as the participants began taking steps towards transitioning to actual gameplay, some would shift towards using in-game or in-console communication channels if feasible.

Figure 3.2a Journey Map for Phases of Communication in Gaming: Communication Before the Game



**Note:** Legend can be found on Figure 3.2c, page 36

Figure 3.2b Journey Map for Phases of Communication in Gaming: Communication During the Game

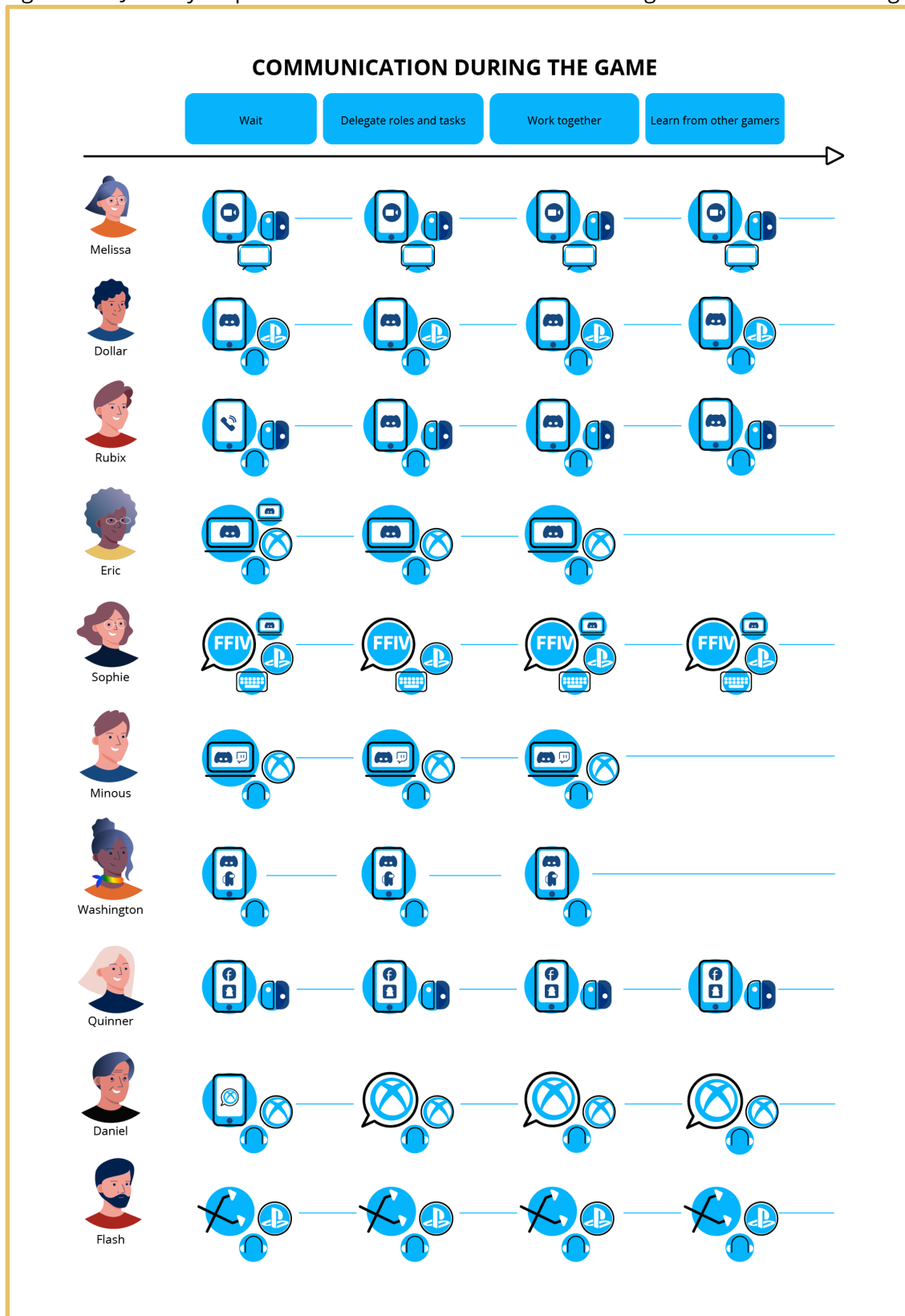
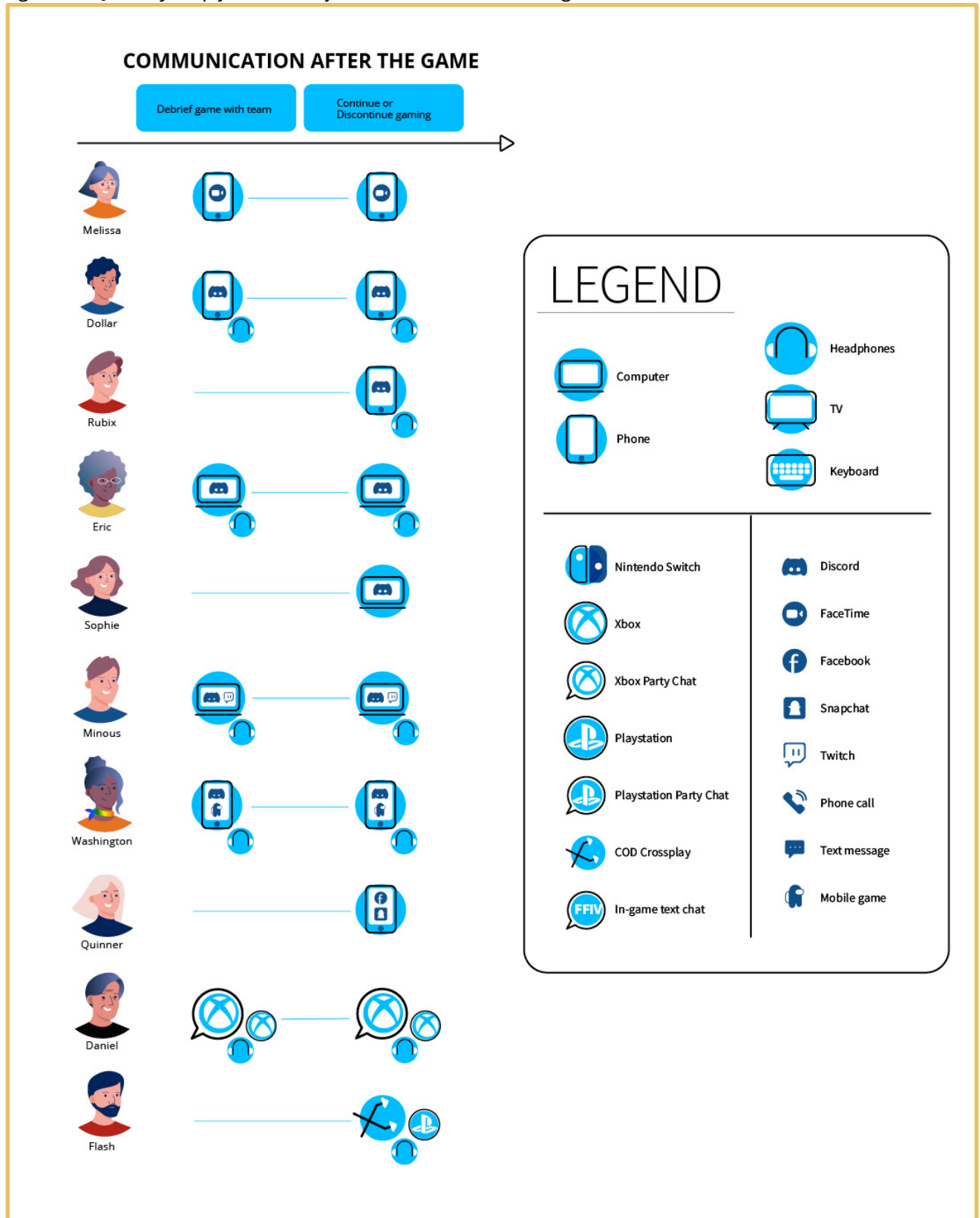


Figure 3.2c Journey Map for Phases of Communication in Gaming: Communication After the Game



### *During*

As participants transitioned to the *during* phase, their use of communication channels shifted from preparation to actual gameplay. Teams were now assembled and ready to engage in gameplay; before-phase activities related to planning, scheduling, and setting up a communication channel were complete. In the *during* phase of the journey map (Figure 3.2), communication was focused on delegating roles and tasks, game strategy, learning from each other, and, if the game did not require full focus or there was a waiting period, casual conversation. The participant Flash discussed conversations pertaining to strategy and had this to say:

It's very important to ask where they go mostly, what actions they take, and what their approach is towards opponents.

Another participant, Daniel, who discussed casual conversation during gameplay explained:

So, whenever you're in the game, usually my friends and I will be talking about football, weather, politics or whatever until we're actually involved or we encounter another squad or approaching a squad.

In this particular phase of the gaming experience, whatever communication channel that was utilized at the start of the phase was consistently used throughout the gaming experiences we observed. The only exception to this involved participants having to change channels due to issues with audio. Issues with audio quality will be discussed in the next section (Quality of Communication Experiences). It should also be noted that for some gamers, more than one communication channel was used at a time. One example was from our participant Sophie, who used an in-game text chat in combination with voice communication on her phone. She explained:

I would not be able to facilitate it as smoothly if I didn't have this external voice chat going on. I think that it would be easy to like go into the menu and then add them to my party because we're already friends...but it would be harder to like try to make sure that we are on the same page...

### *After*

Once a gaming session or round was complete, the next phase our participants moved into was the *after* phase. As seen in the journey map (Figure 3.2), this phase was the most varied among participants and depended on the type of game and group preference. Say for instance a group had just played a strenuous round or one that required a lot of strategy, their preferred communication channel was used to debrief and discuss the game or to strategize for the next round. One participant, Eric, mentioned that sometimes after a gaming round he and his group would debrief, particularly if they lost:

So we'll take a loss, talk about it, see where we messed up and try and fix it.

Other times, especially when participants mentioned playing with smaller groups or even playing a less competitive game, they would use the communication channels to decide whether to continue playing, move onto another game, say goodbyes, or shift to more casual conversation. For example, Eric discussed a conversation pertaining to switching games:

If we go from League of Legends to Among Us, or we were playing Call of Duty, we just “Hey man, I don’t wanna play this no more.” Cool, turn it off, “What do you wanna play?”, then we’re still chatting, systems off, then we’re like “Hey let’s go play Among Us.”

It should be noted that again, participants were consistent with using the same communication channel they began with in the *during* phase.

### *Around*

Our participants also communicated with their gaming community in a way that was not strictly before, during, or after gaming. The *around* phase has to do with how communication channels are being used tangentially to gaming; it reflects communication practices when participants are no longer preparing for, actively engaged in, or reflecting on gameplay at all. This phase is indicative of how participants have incorporated the use of communication channels in other aspects of their life that in some ways, may be unrelated to playing games. In this phase, participants used the channels much more casually, often using them to talk about life, work, family, and events, or to even just to share laughs. In discussing what they chat about away from gameplay, Quinner said:

So outside of that, we are all in like kind of medical world, so we all talk about our jobs, you know talk about life. Occasionally we’ll talk about Animal Crossing if one us needs something in the game, or something, but most of the time it’s not about games, it about just life.

In this respect, the communication channels were being used by participants to keep in touch with one another. With that said, communication channel use varied depending on, as has been previously touched upon, the trusted circle. Participants were a bit more selective on who they chose to communicate with during their time away from the gaming environment. For example, the participant Eric mentioned how he and his friends used a private Facebook group for closer friends that was based on a larger Discord server they were a part of:

Like if we bring one of these people in who’s not involved in our chat, then we can say stuff there comfortably about them. Like “Hey what did you think about this guy?”...so it’s like a comfort- a comfort place

### **3.1.3. Quality of Communication Experiences**

The quality of the overall gaming experience for our participants was closely linked to maintaining or enhancing social cohesion. A fundamental component of this was the ability to communicate with ease. One of our participants, Minous, stated it clearly: “communication is a foundational part of [gaming]... so I think that just speaks... to the foundational nature of gaming, which is to bring people together ... and communication is key to maintaining that.” When asked if he would choose to play a game without communicating with others, he answered:

I hardly choose to do that. And the reason why becomes very apparent when you have a game session with communication and a game session without communication. And we realized that without communication the game session is very frustrating and it’s not as satisfying or fun. Depending on the type of game you’re playing, the communication you need to make needs to be quick. And the faster you can communicate, the better you can do, especially if you’re playing competitively.



Our participants rated the quality of their gaming experience based on two parts: the quality of the specific features within the communication channels, and how these features enhanced the social aspect of their overall gaming experience. This section of the chapter outlines the determining factors shared by our participants.

### *Choice of Communication Channels*

As discussed earlier in this chapter, participants chose communication platforms based on the activities they were completing during each phase of gaming. The level or experience of the player, the type of game being played, and the player's social community also informed our participants' choices of communication channels. Most of our participants listed deciding factors such as easy access and use at minimal cost, and the ability to play and communicate cross-platform, while others chose a communication channel based on a comfort level from prior use.

For many of our participants, the choice of communication channel was based on their friends' preferences. Minous described the thought process to the researchers:

I have so many gaming console options out there and I can pick one, right? Can't afford to get them all, so which one do I get?... A huge reason for choosing one is where's your community at... so I think a lot of what drives actual purchases, is where your people are at. Where's your community.

The participants provided examples of both single and multiple channel use during game play. For example, the research team observed Washington using her phone to text, call, and Snapchat with friends in order to gather a group of players. Some players mentioned the desire to utilize the channel outside of game time in order to stay connected to their social community or gaming circle. Eric preferred Discord because the "players don't get kicked out at the end of the game" and the conversation can continue after the game is complete. As mentioned in Section 3.1.2 of this chapter, these conversations cover a spectrum of topics from scheduling game time to discussing gameplay and strategy, but can also be unrelated to gaming entirely.

### *Communicating with Large and Small Groups*

The size of the gaming community often dictated the communication platform used, as some channels are better suited for certain types of communication. When gamers played with larger groups, they often chose Discord and in-game communication features. Discord has the ability to support a large number of people. Gamers using Discord are often engaged with multiple servers, and each server has its own purpose or topic of discussion. Our participants were able to see if their friends were on a particular server and easily share links inviting new gamers to these topical servers. Minous told the research team the following:

I'm a part of, at this point, probably 30 plus servers; some of them are communities [that are] very large with tens of thousands to maybe more people in them... and then I've got servers that have less than 20 people in them. All for different reasons, some of them are communities for certain games. The ones I spend the most time in are probably smaller, a couple hundred and then- and then, a few to 20 people and then those smaller ones are the ones that I typically game in.

Gamers can join large or small communities grouped according to common interests. Washington talked about the benefit of these topical servers, as this helped her differentiate between gamers in her community. She discussed her preference for Discord over in-game communication accordingly:

It's an easier way to get to know people because I have a lot of people that I add on Xbox specifically to play Overwatch with. And sometimes it's really hard to remember names, and who everybody is. So it's easier to add people on Discord and have them in a group so that you know who's who and what everybody's there for.

In-game communication features such as party chat and cross-talk also support large group communication and foster team spirit. Two participants, Daniel and Flash, enjoyed using in-game chat to communicate while gaming. Flash kept his headset on for "some kind of communication audio with the people [I'm] playing with so we can communicate as a team." Again, the ability to communicate among players, whether in large or small groups, is an important factor to our participants. Minous said "it allows you to multitask, it allows you to get stuff out faster, and allows you to communicate... and I have played... rounds *without* communicating and it is the worst."

#### *Audio Experience*

The majority of our gamers preferred communicating with the active voice feature because it allows for hands free, real-time communication during game play. Our participants could quickly communicate gaming strategy when playing on teams with a shared goal. When asked whether he prefers voice or text communication while gaming, Minous replied:

Voice, and just because it allows me to communicate and think and talk, without having to stop what I'm doing. Unless the game revolves around that text-type or first-voice and speech. Also because I feel like... I'm able to articulate better. Voice gives you the ability to also give inflection - an emotion - something that's difficult to do over text.

Another participant, Dollar, agreed that he was more comfortable with chatting over voice instead of texting:

Oh, voice is definitely, because it's so convenient and reliable for me now, it's definitely my preferred method. And um, I don't know. It's just instant response from other people, that instant communication. It's just a lot more fluid for how gaming works, instead of texting somebody, having to type out the message, sending it, and waiting for a reply.

Dollar used the voice activity setting in Discord instead of a push-to-talk setting, stating that "it's just a lot more convenient. I like to have my hands totally free when I'm doing something."

Gamers often mentioned the quality and clarity of sound as an important factor to their gaming experience. In many cases, clear and high-quality voice communication was attributed to Discord. During an observation of a gaming session with Rubix, his friend's audio was choppy and unclear. After Rubix suggested that his friend switch over to Discord, the audio quality improved instantly: "Hello? Is that better? Yeah you sound clearer already. Why even bother using a phone? Like, Discord is just better." Rubix later said about his experience, "when we're playing on Switch, I'll usually just call first because it's like easiest, before Discord. And then sometimes if the quality is bad, we'll just use Discord like on our phones." He gave another example similar to the instance recorded on camera:

We'll... start out on a call and then 20 minutes into it, and be like 'hey can we switch to this Discord?' and immediately, like the quality, just like shoots up. Like there's no noise or anything like background noise white noise or anything, it's like just clear quality voice... I mean I don't really talk on the phone that often, but it was like night and day like difference in sound quality, it wasn't really bugging me until I noticed it was different.

When the research team asked Washington about high-quality sound within a communication channel, she responded:

I would say Discord. Discord most definitely... other than having a conference call on a regular phone, I would say Discord for sure, just because you're able to do other things while you're talking to people, you know, and it's very clear quality. Like if you're wearing a headset or not headset, like headphones, when you're talking to people, it's very clear, and there's no like, like, cutting or anything like that and what they say and stuff. So I would say Discord.

Another participant, Daniel, referred to the high-quality sound of Xbox party chat when he explained, "my friends and I over the years, we just default automatically to the Xbox party chat because the voice quality is spectacular it's, it's really, it's like they're sitting next to you." The excerpt below demonstrates Daniel switching to the console-based Xbox party chat after having issues with the audio quality on the phone app:

Well, I sound weird cuz I'm on my phone. Nah it's still glitching again. Damn it. Well. Hold on let me see if I can ahhhh... [looks at screen] I'm going to try something different. [To player] Hold on I'll be right back. [To us] My phone seems to be acting up today. But I have a possible solution for you. In that I can, I can use the Xbox comms party chat. I can actually feed the comms through the Xbox through the TV speaker so you guys will be able to hear if that's helpful.

Melissa preferred Facetime stating that "we can look at each other's faces and communicate" as part of her gaming experience. Our research team found that some of the gamers used their phones to call or Facetime with their friends, but this was more suitable for 1 or 2 people, and friends and family members who were already listed under the participant's contacts. It should also be noted that Melissa, Dollar, and Daniel expressed a preference for the ability to mute players during a gaming experience (see Chapter 5).

### *Text Experience*

If our participants were chatting with one or two friends, they often talked on the phone, video-chatted on Facetime, or used text-based communication applications such as Snapchat. This preference for text-based apps for small groups is seen in this excerpt from Quinner's interview:

If my brother and I are playing Animal Crossing, I will usually text him, because their chat feature stinks. It's awful, and like hard to get your fingers. I hate it so well, usually text, and then I have two other friends that we usually all play at the same time, and for that we have like a group Snapchat specifically for Animal Crossing. So that way we can all text at the same time and it's really fast because yeah the chat feature stinks.

A few gamers communicated via text in-game due to a personal preference or the type of game they were playing. Washington and Quinner preferred Snapchat over the in-game texting features. While a small number of our participants chose to text while gaming as their primary mode of communication, the majority of participants preferred voice communication over texting. Minous explained the necessity for real-time speech communication when playing with teams as “you need to be able to communicate with your team to know what's going on. Doing it in text form is just too slow and also requires you to use your hands, something that means you're not playing; you're typing.”

### *Communication Channel Strengths*

As evidenced above, the preference for communication platforms depends on the affordances of the game and its communication system. Discord was the popular choice among our participants and their gaming communities because players preferred communicating across multiple platforms. Minous explained:

Discord is a very popular tool for gaming communication, especially when you're talking cross-platform because that technology just doesn't exist for -- I'm sure, a myriad of reasons that they choose not to make that so easy... and then Discord got real big with the gaming communities, so Discord is what you'll probably hear a lot of people using.

Eric also shared his thoughts on this strength:

Discord just came in and put their foot down. And I mean, in my opinion, Discord just seems to be the most easily accessible. It's across multiple platforms. As you saw, I was on my computer using it [while] playing on my Xbox... It's pretty simple.

Another participant, Rubix, spoke to Discord's popularity stating: “I guess it's almost maybe encouraged through the community to just like do Discord like externally.”

Discord also makes it easy for groups of gamers to communicate via voice, text, screenshare, and live streaming. Minous discussed how Discord made connecting with others easy, fostering a sense of community in a high-paced environment:

Something that Discord does well is that they designed their app to be community focused so when you are on Discord you essentially join servers and those servers are focused [on] topics. So you'll join for a game or a series of games, or something like that and that's how you can meet people in these kind of text channels and [have] like-minded conversations like like-minded topics and stuff like that, and then, if you feel like gaming together and using voice, you don't have to go anywhere it's all within that channel, so they have voice channels right next to it, you just all join together and you're immediately playing... talking to each other, so it's it feels built around that kind of that fast moving... and... instant gratification the gamers look for.

This community-based focus is also seen in the layered chat room setup in Discord. Gamers can enter and exit general or private text chat rooms, general or private voice chat rooms, or go to one specific server and communicate with one or more people at a time. Rubix said “that's pretty much all I need. Even... if the games we play have like a built-in communication thing, we still just use

Discord because it's just so easy." Dollar agreed by saying it was "really, really convenient, so it makes communications happen more often and without... hassle."

Eric and his friends utilize this component of Discord to stay connected with each other outside of game play. He explained to the research team how easy it was to jump in and out of the Discord servers, using the phone application:

There's also times, where I'm at work and I won't be able to play [games], but we're all talking about something so I can just get on my phone and hop in and be a part of the conversation at least.

Minous commented on the quality of the Discord phone application:

It's an application so you can download it on your computer or your phone... and get the features either way. So, for instance, we have some console gamers we play with that don't have a PC, a good one, or one nearby. They can easily have the app on their phone and join the voice channel from their phone and talk to us like they called us.

In Section 3.1.2, we discussed the use of communication channels for scheduling game times. Eric also noted that assigning moderators to servers in Discord is a helpful feature in maintaining social cohesion during and after game play. While acting as moderator, Eric can send gamers a link to invite them to a particular server to play games or join an existing conversation. This creates a space for one's gaming community. According to Eric, Discord uses less bandwidth than other communication channels, which minimizes latency issues experienced by gamers. He explained:

Discord is essentially the best, in my opinion, because it has the least amount of latency issues. So me pulling up Discord is going to use less bandwidth than Skype or Zoom, or anything like that. So we don't have to worry about it affecting our gameplay essentially, like we're not lagging... Because everything, like I said earlier, it's about the speed, the faster we can do it, the more accurate it could be done, we're going to go for it.

This array of functionality at a quick pace, with little amount of latency issues impacts the ability of gamers to communicate in real-time during gaming and transition periods (as discussed in the previous section), and explains Discord's popularity.

Our participants gave examples of how some in-game communication channels helped to provide positive gaming experiences. Daniel, for example, complimented the Xbox ecosystem for their built-in reporting feature, and liked that he did not experience any "lag" during game play. As noted earlier in the section of this chapter discussing audio experiences, Daniel preferred using Xbox Party Chat due to its high-quality sound.

Some of our participants preferred having the option to communicate with strangers without actively speaking to them. Flash described the Apex ping system during the interview as an example of how non-voice commands allow desired room for anonymity. In this example, Flash related the benefits of communication through the Apex ping system without detracting from the objective of the game:

I usually use pinging a lot just to say what direction I'm heading towards; or just to point out something to another teammate like, say if I'm about to die and there's [an] enemy right in front of me, I'll ping the enemy, just so my teammates know exactly where.

Washington preferred communicating over Snapchat because she explained that the read-receipts feature and the option to not share her phone number provided her with the autonomy to ensure safety and anonymity while gaming.

### *Communication Channel Challenges*

The communication channels did present some challenges to our participants. Discord was named the most popular communication channel choice by the majority of our participants. However, some participants found the experience of Discord servers overwhelming or inconvenient. For instance, Flash preferred smaller groups when voice chatting: "I just don't want to be a part of that mix; it kind of hurts my ears. So whenever it's secluded and intimate where it's only like three [or] four people within the party, [then] I choose to talk." Rubix told the research team that getting on a Discord server required two extra steps, and he sometimes found it easier just to call friends on his phone. Again, we found that despite Discord's ability to host a large number of people at one time, gamers sometimes had difficulty searching for their friends among the many servers. One participant, Melissa, described her frustration:

We have so many different Discord channels sometimes we also text about which channel to get on. Cause if not we have to select through each one and try to figure out which one everyone is online on. Like I just texted everyone and said let's use the poop heads Fortnite channel.

Our participants also shared challenges experienced with in-game communication channels. Quinner further explained her frustration with the Switch chat feature as having a slow response time with a troublesome touchscreen, which spoke to complaints about the Switch device more than the actual chat feature (see Chapter 4).

Washington mentioned that the Xbox servers would go down, interrupting the flow of the game. She also pointed out that it was difficult to know "who is who on Xbox", which was why she preferred using Snapchat to contact her gaming friends. These participants' insights present the need for features in communication channels that enable gamers to easily navigate through large numbers of players in order to find their friends.

Based on the participants' gaming practices and challenges they encountered, our team discovered that an ideal communication channel is one that is convenient, easy to access and use at minimal cost to the gamer, and one that players can utilize cross-platform with good sound quality and no latency issues. Our participants also sought autonomy or control over their experience, and appreciated accommodations for disabilities.

## 3.2. Design Implications

### 3.2.1. Building and Maintaining Relationships in Gaming

#### *Using Multiple Channels to Manage Relationships*

We observed gamers using multiple communication channels either at the same time or in progression through the gaming journey. In a similar fashion to enabling cross-console gaming, cross-channel communication may be a desirable experience for gamers. **A cross-channel communication experience could be made possible with social media integration** (i.e. Facebook and Snapchat), such that gamers have visibility of online friends across a variety of channels. The **ability to send and receive announcements or messages from one channel to multiple channels** may also be an interesting feature for some gamers.

#### *Anonymity and Strangers*

Differences in skill level, age, and politics created distance between our participants and strangers in a game setting. **Giving gamers the flexibility to form groups with strangers based on common skill level, age, and common interests** may help gamers feel more comfortable talking with strangers.

#### *Vetting Newcomers*

To address concerns when vetting new gaming friends, **allow for flexible privacy settings to protect gamers' identity**. For example, exclude any information in users' public account that could be tied to their personal information or location. Whenever applicable, **make it easy to vet new members of online groups and provide functionality to moderate**. If possible, allow gamers to vet strangers before inviting them to a group to prevent potential conflict. This could be implemented by **allowing moderators to invite newcomers with a temporary status or invite newcomers with limited visibility and access to existing channels**.

Many participants used existing communication channels with their friends to organize gaming activities. Our participants identified a variety of uses for each communication channel in their gaming circles. **Consider that current communication platforms are often used to discuss topics outside of gaming**.

### 3.2.2. Phases of Gaming Communication

As the nature of gaming communication is transitional, **a communication channel for gamers should allow for continuity of communication before the game, during the game, and after the game**. In-game communication is often limited to gameplay itself, which leaves gamers to find workarounds for communication outside of gameplay.

#### *Before*

**Consider implementing a feature for scheduling gameplay**. This could entail having the ability to send ping reminders or notifications, the ability to turn on notifications or alerts for when friends are online, and sending invites with the option of saying yes, no, and maybe.

Our participants often used communication channels, like the Xbox app and Discord app, to check when their friends were online. The **ability to see when friends are online, as well as which**



**game and console a fellow gamer is currently using**, are helpful features that allow gamers to connect in real time.

One feature that was often discussed in relation to Discord is the ease of simply sharing a link to your server to form a gaming group or invite newcomers. The **ability to easily invite new players to a communication channel** should be available to gamers.

#### *During*

Broadly speaking, this implication has to do with improving the ability for seamless communication during gaming. **A feature for reducing distracting noise could improve gamers' experiences.** Since players sometimes opt to use more than one communication channel, **having the ability to switch between conversations in one place or app might be helpful.**

Research indicated that many gamers prefer voice chat over text chat while gaming. **Many gamers will appreciate functionality for voice communication.** In the case of text communication, **voice-to-text functionality that turns voice to text may also be popular for a more hands-free experience.**

Some gamers like to live stream their gameplay using Discord or Twitch. **Streaming functionality, as well as functionality related to sharing and marketing your stream channel**, may be interesting to gamers that like to stream.

#### *After*

Since the after phase is sometimes about debriefing there could be **functionality related to writing notes, tracking statistics, or gaming strategy.** This functionality would need to be shareable among groups of players. One of our gamers also discussed using Discord to screenshare with fellow gamers as they debriefed games. The **ability to screenshare** is another feature that gamers may be interested in.

#### *Around*

It's important that there are **features that offer a delightful experience even when gamers are not currently engaged in gameplay.** This is a broad implication, but considerations should be taken as to how communications channels like Facebook or Snapchat are used among gaming circles and why, especially because both channels were not necessarily meant for gaming but regardless have been used in this arena.

### **3.2.3. Quality of Communication**

#### *Communicating with Large and Small Groups*

Research shows that participants generally enjoyed the experience of having multiple servers for different topics. A gaming communication channel should consider the **ability to form servers or groups based on topical interests.** One participant struggled to remember the new gamers she invited to her communication channels. The **ability to organize one's gaming contacts into groups, or see labels/tags related to the contacts' interests**, may be helpful to some users.

A challenge of having so many topical interest servers is that it sometimes becomes difficult to locate which server your friends are using. It may be helpful for gamers to **show channels which are currently active, as well as which users are active within them.** Another way to approach

this challenge might be to **offer visibility across communication channels, showing where friends and gamers are actively communicating**. This would enable gamers to easily navigate through large numbers of players and quickly find their gaming circles.

Our research showed that gamers sometimes communicated with large groups, small groups, and one or two persons at a time. Functionality of communication channels should **allow users to easily communicate with large, small, and intimate groups**. In addition to noise reducing features as suggested earlier, some participants expressed the need to mute one or more players during game play. Consider adding a feature that **allows players to selectively mute other players**.

#### *Audio, Text, and Video Experience*

Gamers often mentioned the importance of a high-quality audio experience. When gamers experienced issues with audio quality, such as when using the Xbox phone app or on a phone call, they switched to channels with higher quality sound. Gamer communication channels should **offer consistently high-quality sound**, similar or better than console-based Xbox party chat and Discord voice servers.

One research participant had a preference for using Facetime while gaming. Some gamers may be interested in **communicating with a video feed, specifically a form of communication that allows eye contact and seeing gamers facial expressions**.

A few participants mentioned the **preference for a hands-free communication** experience that freed up hands for gaming and other activities. When participants used text-based communication, they **preferred typing on their phone or an analog keyboard**. Two participants preferred Snapchat over console-based text communication. When gamers are communicating via text, **consider the form factor and user experience for typing**.

## 4. Physical Devices and Environment

*Ben Clark, Kathryn Hays, Ammar Multani*

### 4.1. Research Findings

When looking at communication in gaming, it is important to consider gamers' devices and environments. In this section, we analyze device use, environment and setup, and alterations gamers have made to fit their communication needs. Devices are an important aspect in gaming communication, especially cross-platform communication, because they allow gamers to meet their needs and interact easier. The devices gamers use inform—and are informed by—their communication styles and needs.

#### 4.1.1. Physical Devices

##### *Devices Used*

During our research, we recorded participants using the following: desktop computers, laptops, smartphones, Xbox consoles, Playstations, Nintendo Switches, televisions, additional monitors, headsets, headphones, webcams, microphones, streaming devices, controllers, streaming devices, speakers, and more. The variety of devices, and the fact that no two gamers had the same setup, indicates that gamers customize their setups to meet their personal needs.

The devices we found gamers using can be divided into three categories: personal, consoles, and additional. These categories are useful in looking at communication because they group devices based on how and why gamers are using them. Figure 4.1 provides a visual overview of the devices used by our study participants.

- **Personal devices**—such as desktop computers, laptops, and smartphones—are often the main facilitators of communication when cross-platform gaming.
- **Consoles**—such as Xbox consoles, Playstations, and the Nintendo Switch—provide communication gateways and barriers when playing cross-platform, which informs console gamers' communication needs.
- **Additional devices**—such as headphones, secondary screens, microphones, and more—often respond to different communication needs, whether they are preferences, game-specific, or environmental.

Figure 4.1 expands on this concept of device types, while Figure 4.2 explains the distribution of device use among participants. This second figure shows the specific devices our participants used in their communication and gaming processes. It represents the variety of setups and shows the way our participants have selected devices to fit their communication needs.

Figure 4.1. Device Types

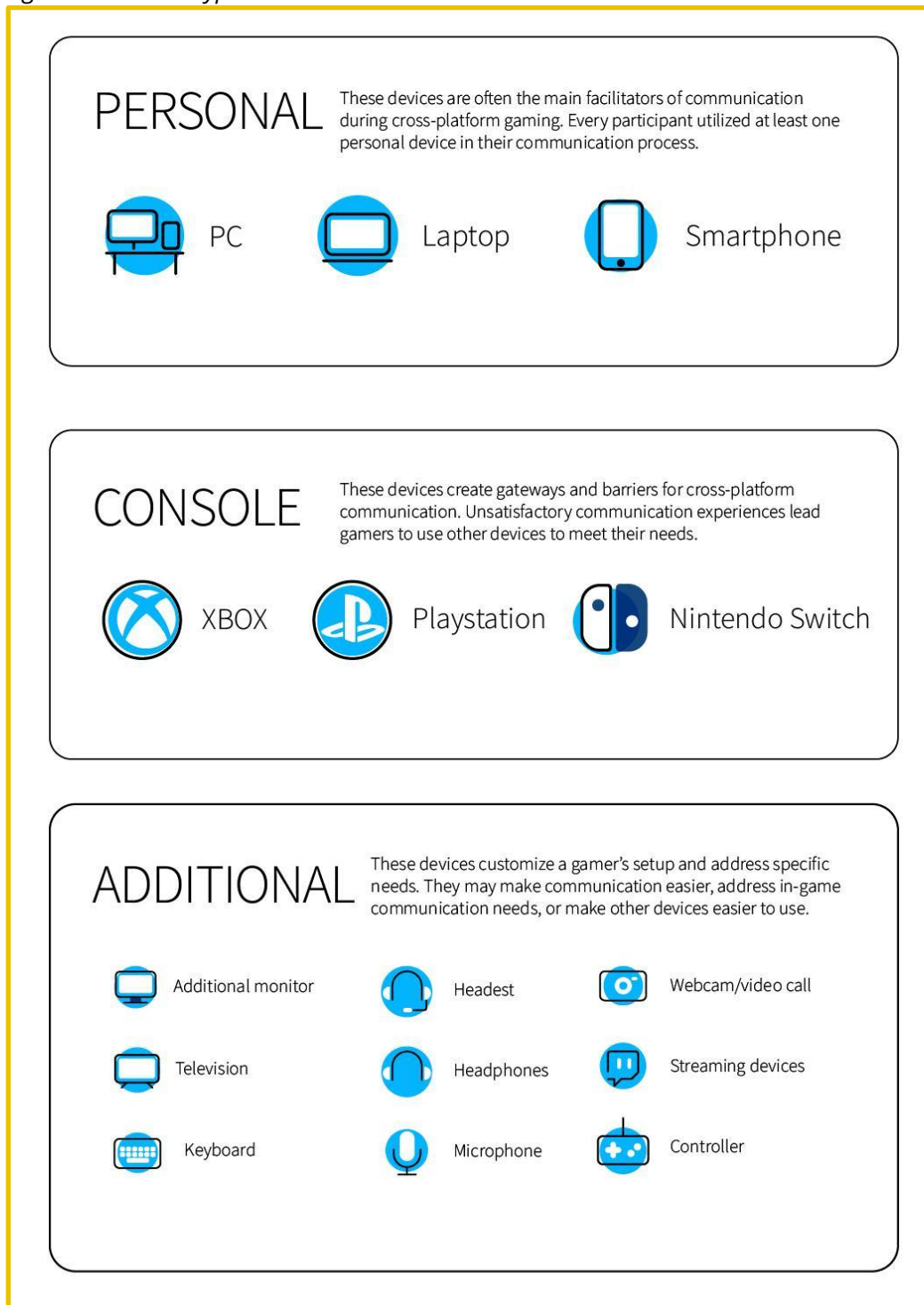
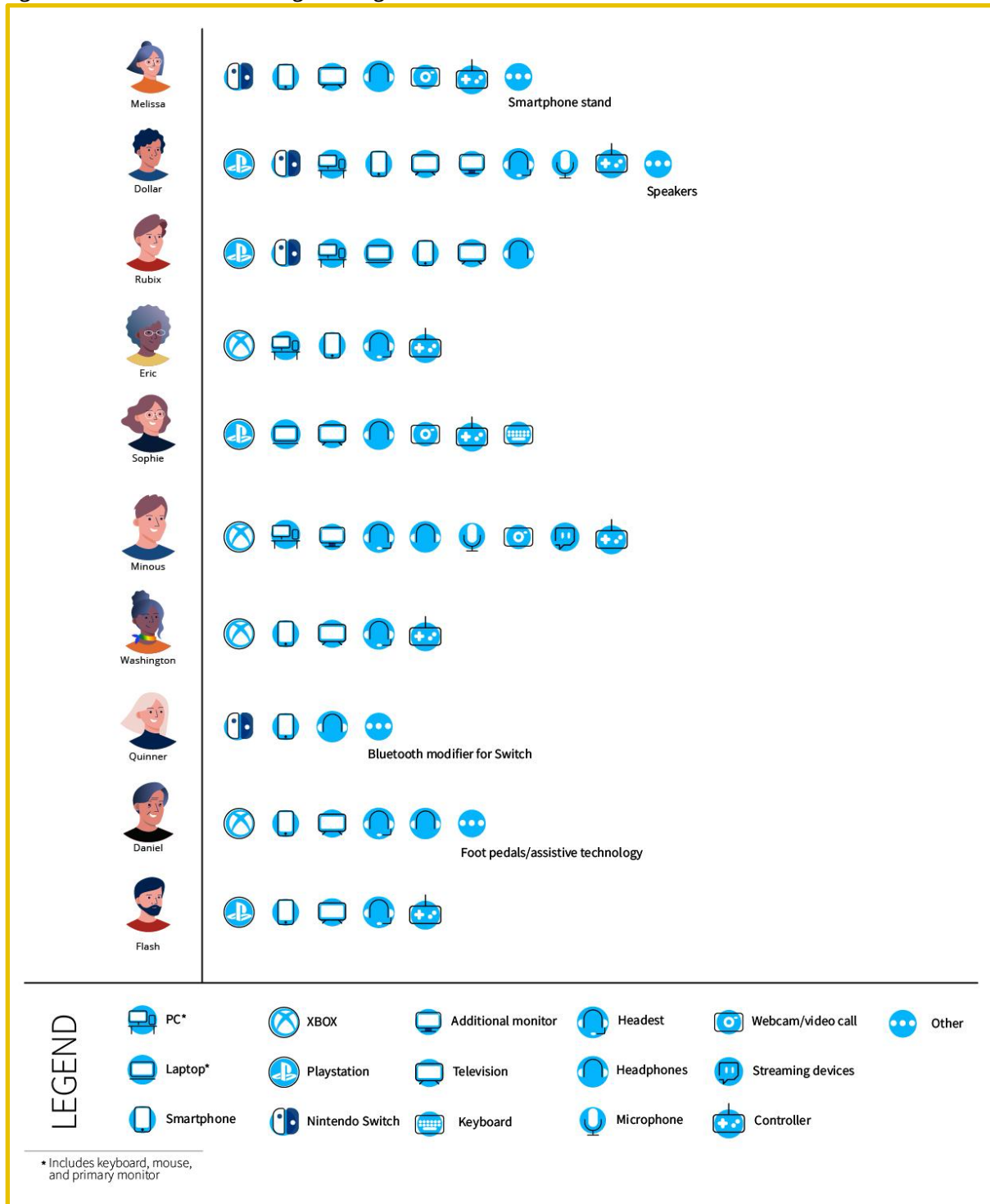


Figure 4.2. Devices Used During Gaming Communication



How and Why Participants Are Using the Devices

Many gamers have specific reasons for the different devices in their setups. Gamers often have to use devices from the personal category to facilitate communication. This can be because of weak in-game communication, lack of cross-platform communication, or a desire to communicate outside of

the game. In cases like *Animal Crossing: New Horizons*, communication was so poor that two participants expressed frustration with it. Frustrating communication experiences like this encouraged participants to look elsewhere to fill their needs. In cases like this, participants would use another device, often a phone or computer, to communicate more quickly or easily. Using a phone or computer also opened up the possibility for using a third party app, such as Discord, Snapchat, or texting, which some preferred. Participants liked aspects of these apps such as the ability to continue conversations after a gaming session or party has ended, having different levels of connection with people, and being able to set up groups and channels.

Speed is an important aspect of in-game communication, and our participants often opted for the solution that is fastest and communicates most effectively. Participant Sophie, who plays an MMO from her PlayStation, bought an external keyboard so she could meet her in-game communication needs. This allowed her to type faster, rather than struggle to write with the joysticks on her controller. Other gamers like Dollar and Flash found headsets necessary, as their in-game communication required speed that they didn't think could be achieved through typing. Flash also utilized a headset and made use of pinging, which let him communicate quickly in two different ways. Quinner and her friends would text during their gaming sessions, because they found that to be easier and faster than the in-game communication. These gamers met the specific communication needs of their games in different ways, working out the kinks so they could enjoy gaming and communicating more.

Specifically in the headset that I use, there's a button on there that kind of differentiates like, if I want more game action or more voice talk; so I can completely choose the sound quality and the balance of whether I want to hear my team or the game... within the headset itself, so it makes it really easy to switch on and off or switch in and out. (Flash)

#### *What's Available*

Availability and convenience also plays a role in the devices gamers use. We found some gamers, like Washington, might stick with a device that's already available to them, instead of upgrading to one that might make communication faster or easier. Eight out of ten participants utilized a smartphone at some point in their communication process, which indicates smartphones are accessible and easy to reach people through. Not limited to phones, we found every participant used a personal device of some sort during gaming communication. Figure 4.2 presents a visualization of all of the devices and consoles used by each participant in their gaming and communication observation. The varied used of devices shows that the design solutions cannot just live on the console, and must extend to computers and smartphones in a meaningful, useful manner.

Availability and cost have some overlap. Devices within a gamers' price range are more available to them than those that aren't. Participant Dollar desires an ultra-wide monitor, but cannot integrate it into his setup (and ultimately his communication practices) because it's too far out of his price range. In this instance, he ends up using a dual monitor setup. This impacts the way his game interacts with the screen and how an external communication app might look on the interface.

Availability and cost can directly affect gamer to gamer communication in the case of headsets. Participant Washington used an Xbox Kinect as her microphone, which caused issues for her and the people she was playing with. Eventually, she ended up purchasing a Turtle Beach headset that

retails for about \$20 so her teammates would stop hounding her. On the other hand, participant Daniel was passionate about his Astro A40 TR headphones and talked at length about their qualities he liked. He found the surround sound aspects of the headphones gave him an advantage while playing. Meanwhile, Eric used the Corsair Virtuoso wireless headset and stand, which retails for over \$250. He was less passionate about his headset than Daniel was, but seemed to enjoy the headset and appreciate the wireless aspects. These different price points seem to indicate that gamers can make do and appreciate the devices in their price range. Some gamers might appreciate staying on the cost effective side, while others prefer to spend more money on their devices for additional features.

#### **4.1.2. Environment and Setup**

When it comes to a gaming setting, a multitude of things play a role, including the setup, the available space and how it is arranged, and just how these all impact the user. In this section, we review the environment itself and the elements it includes.

##### *How the Setup Is Informed by Availability*

Depending on the console or gaming device, users select a constellation of supplementary devices in order to facilitate their gaming and communication activities. Even if they have a PC, they may opt to have a console as well. For instance, Rubix mentioned that he got a PC which enabled him to play games available on the Xbox. With the Xbox being a product of Microsoft, it has common software with other Windows and PC systems, one of which is Xbox Game Pass, a subscription service. Xbox Game Pass allows PC users to play the games that are available on the Xbox consoles. This enables Rubix to play a wider array of games.

Like, for a long time, I was a PlayStation person. But then like, in middle school, all my friends had Xboxes. I like PCs because they are most capable, I guess, at like, running harder-to run-games, like higher frames per second, more quality, but I also like the Switch because of the exclusivity. (Rubix)

##### *Portability Versus Permanence of Gaming Setup and Environment*

Gaming setups occupy various positions on a continuum from portability to permanence. Portability characterizes objects that users can move from environment to environment, such as a small console, headset, controller, or mouse. Whereas permanence characterizes objects that are hard to move, like a large TV or desktop hardware.

We had some participants like Quinner, a Nintendo Switch owner, talk about how they bring the console to other people's houses. However, Quinner mentioned that along with the advantages of portability, the disadvantages included that she had issues with the power since "it's battery operated". Unless she brought the charging dock, she risked running out of power. One reason that prompted Quinner to buy the Switch was her past experience with the Nintendo DS. With the Nintendo DS being a popular handheld and portable gaming device, Quinner sees a similar functionality with the Switch. But with wireless devices, you have to carry a charger with you after a couple hours of play. This is just a con about portable devices, alongside its many pros.

Another advantage of portability, mentioned by Melissa, was that "the Switch is very modular and you can pick up the controllers". With that, it becomes its own mini TV setup as you can detach the



controllers. It's incredibly convenient to pick up the system and go without needing to stop your game.

Other participants had setups that established permanence, such as living room arrangements with consoles, or desks with enormous PCs. For instance, Minous talked about how he has his "main consoles connected to the living room". Melissa too mentioned how if she is at home, she prefers to use her PS4. Realistically speaking, consoles and PCs are hard to move from place to place, if you were to be traveling or whatnot. Unless you own a Nintendo Switch or the new Xbox Series X, there is no other way to take a gaming system from place to place.

With regard to the communication aspects of the gaming setup, a few of the subjects would just use a headset to speak, and some, like Flash, had a wireless headset along with a stand to hold it. With a wireless headset, Flash mentioned "he controls everything from here [points at left ear cover], so all the buttons are right here and it's wireless so I don't have to worry about getting tangled up by wires or anything." Besides headsets, a couple of the subjects used Discord and for that, they would speak from either their PC or their phone. For example, Rubix talked about how he uses Discord straight from his PC, which allows him to hear the voice audio in the background as he is playing.

Aside from headsets, the main wireless communication device was a cell phone. Whether using it to check who is online or as a form of communication, all participants had benefits from the device. One participant, Daniel, mentioned the "Xbox app on my phone that I can use as a substitute to basically have voice chat, use it as a speaker microphone to access". With this, he can speak to his fellow gamers from the comfort of his phone. Which means that, in moments when he does not have access to his headset, he still has a means of communication.

Another participant who used their phone was Washington, who noted, "there have been times where my controller didn't work with the mic like it broke, and I didn't have enough money to pay for it. So I would have to talk to people through my cell phone basically, like I would be on a conference call for my friends while playing video games. Because I didn't have any money to get a new controller. And thank goodness for the friends that I have that actually, let me do that with because I would have just not been able to play with anybody." In cases like Daniel's and Washington's, the portability of a cellular device can provide great aid in the gaming experience.

Participant Rubix talked about the disadvantages of his permanent PC setup, for which he did not have a wireless headset, by comparison to his portable console setup.

So it is nice to be able to still be talking to people and, just like walk around with my headphones or my phone and still be able to like I can, get some food or something and like still talk to the people. Whereas like on my PC, if I'm doing that I would have to like be like "okay I'll be back in five minutes", and then, like either miss out on part of the conversation or just end it there and then we like start a new one and that's like fine, but it is a little like I wish we could, like make it more portable I guess.

At the same time, there are also advantages to this permanence. With wired gaming devices, you do not have to worry about the batteries dying and running to a charger. There are no issues with latency, so there would ultimately be no input lag when playing. There would not be any interference from other devices, especially when having a lot of technology in the same space. The

price is cheaper for a wired controller as well, compared to a wireless. With wired headsets, there are no security concerns, as there are with wireless headsets that are radio based and can be hacked and interfered with.

Many of the objects and elements that make up the environment around a gaming setup are fairly permanent. These include the furniture, décor, and lighting. For instance, Minous mentioned how they “have a lot of plants around the house”, with windows. With regard to the gaming setup itself, objects like displays and source of power are also relatively permanent. Some objects may be hard to move because they are wired, like headsets, keyboards, and mice.

The areas gamers play in reflect their character. In an interview with Flash, he mentions how he “always tries to make it seem special by adding a lot of figures and lights to kind of display my personality”. Sophie mentions how she prefers her setup up to be “organized and minimal”. Having a space that fits your personality can add comfort and ease.

#### *The Role of the Environment in Gaming Communications*

Our study participants noted that the affordances of the spaces where they gamed could impact their communication practices. For instance, Minous was concerned about the “public” aspect of placing his gaming set-up in the family living room. There was potential for him to disturb his family, and for his family to disturb him:

So when it comes to communicating- like i'm sitting here in my main living space where everyone's at and kind of taking it over. By being loud and talking and all that stuff, and if someone's trying to do something else they don't really have that option, while I'm here doing my thing. I'd like to be able to take this and put it back into a room where I don't take up a whole common space to do it.

### **4.1.3. Changes in Device Use**

#### *Satisfactions*

In the process of communicating across platforms, each participant had a part of their setup that increased their satisfaction with the setup as a whole. Most points of satisfaction that were discussed focused on physical devices within their set up, including having a big television (Melissa), a nice headset (Flash), or a specific graphics card (Eric).

Satisfaction with device use or their setup was regularly prompted by a sense of ownership or personalization. Three participants discussed building their own setups to enable their gaming preferences.

Washington and Quinner both mentioned the selection of devices to enable their preferred play styles. Quinner frequently mentioned her enjoyment of the Nintendo Switch’s portability as enabling her to play in a comfortable environment and move around as needed. Washington spoke about previous methods used for voice communication when playing with other or groups. She discussed different microphones used in the past that related to her preference for and perceived importance of verbal communication:

I would have to talk to people through my cell phone basically, like I would be on a conference call for my friends while playing video games. Because I didn't have- I didn't

have money to go get a new controller. And thank goodness for the friends that I have that actually, let me do that with because I would have just not been able to play with anybody. (Washington)

Participants that used messaging apps to communicate mentioned the satisfaction of having read receipt, which gave them a sense of effective communication. Wireless devices, like headsets, were also prominently discussed as enjoyable as they allowed movement and easy connection.

### *Pain Points*

**Handling multiple devices** was a difficulty in the game play and communication process of many participants. This extended to cellphone, keyboards, controllers, and even handheld devices like e-cigarettes. Many participants were observed trying to hold multiple devices or rapidly switching between devices.

I do think that it's kind of a hassle to like, have to play on my controller and the keyboard at the same time (Sophie)

When I play on Switch I always have to like get my phone ready, get my headphones ready, like have that on hand know where it is find it, etcetera. But like back when I had an Xbox, it was easier to just like my headset is there, I pick it up, I play. (Rubix)

In the case of portable devices – the Nintendo Switch – one participant mentioned that handling multiple devices sometimes meant charging multiple devices.

Right, yeah, instead of like having to hold two devices because that's really annoying too because then if both of them are dying now I'm plugged in both ways and that's really annoying. (Quinner)

Some participants identified **functional limitations of the console** as pain points. Daniel mentioned the need for a secondary communication device when using the Nintendo Switch rather than the Xbox.

So when I'm on the Xbox, I'm using the native Xbox communications, you know, it's the easiest thing to do and the audio is actually much cleaner too. They've done a great job. If I'm on my Switch, the Switch does not have built-in communications, voice, or party chat, things like that. So, I will either use my phone. You know sometimes well, there's an app called Discord. (Daniel)

**External noise or visual distractions** were discussed as inhibiting communication as well as game play. Multiple participants mentioned issues with their microphone picking up background noise or visual distractions in their periphery. Flash described an experience where audio feedback inhibited his communication approach.

The primary function of the gaming headphones is to filter out sound, so you don't have to hear the gaming, whatever's happening in the game. You could just hear- it focuses on the person's voice. Facetime doesn't have that distinction of whether it's your voice, or whatever outside voices. So whenever I'm playing a game I would hear an echo of the game playing as well, so it's kind of a distraction. (Flash)

### *Desires and Motivations for Change*

In talking to participants about aspects of gaming setups that caused either satisfaction or difficulty in play and communication, we were able to identify motivations and desires to change parts of their set up. Each participant expressed motivations to change in the future or explain past changes. Some participants described changes motivated by seeking comfort (Melissa seeking more comfortable headphones or a headset), cost effective changes (Washington upgrading to an affordable and functional microphone), or by necessity (Minous saying “it is set up the way that it is as a form of necessity”). Participants continually discussed a desire for changes to **increase the ease of using their set up and to increase customization to suit their needs**. For instance, Sophie said “I think, ideally, I would have a purely keyboard setup.

When discussing his custom-built set up, Dollar described a desire to add to his set up by “putting my hands on something super cool or next gen or whatever is being marketed really well” (Dollar).

Some participants expressed **desires for new functionalities within the devices they currently use**. Rubix described a multifunctional headset for using both Discord and the game communication or a headset specific for using the Nintendo Switch:

With Switch I don't think this actually exists, I know it does with PlayStation and Xbox is like you can get a headset and like **talk through the console** um, but with Switch there isn't really anything like that... That would be nice, though, to just be able to have like either one headset that I could move or a separate headset exclusive to the Switch that I could just like have on hand and like not worry about it because it's definitely like. I don't know.

Quinner mentioned a desire for a **voice to text option** on the Nintendo Switch, specifically to augment the in-game communication method for Animal Crossing.

Many participants expressed a desire for **more physical space** to use for their gaming set up and more comfortable or visually pleasing objects within their environment, like plants or lights.

### *Previous Consoles Used*

An area of interest that arose from our investigations was the question of whether previous console/device use might have an impact on preferences and behaviors of current/future gaming. This could even go back to the first gaming devices used as leaving an impression on players and shaping their perception of enjoyable game play.

Although not explicitly asked, all participants mentioned at least one previous console/device used in the past. Over half of the participants mentioned their first gaming system. One example from our participants is Quinner, who previously used a Wii and a DS - both of which are portable/movement based - and currently prefers using a Nintendo Switch and lauding its portability.

Figure 4.3 provides a summary of what we learned from study participants about the previous consoles they had used, and what they currently used.

Figure 4.3. Previous and Current Consoles of Participants

Participant Pseudonym	Previous Consoles	Current Consoles
Daniel	Atari, Nintendo ROB, arcades, various Xbox consoles	Xbox, Computer
Dollar	Super Nintendo, computer	Switch, PS5
Eric	Early Sega and Nintendo systems (not specified)	Computer, Xbox, PS 4
Flash	Super Nintendo, various Playstation consoles	Playstation 5
Melissa	Phone games	Switch, Xbox
Minous	NES/Super Nintendo	Xbox, Playstation, Computer, Switch
Quinner	Nintendo Game cube, Wii, DS	Switch, Xbox
Rubix	PS1, PS2, Xbox, Wii, Nintendo switch, computer	Computer, PS5
Sophie	Computer, Playstation	Switch, PS4
Washington	Nintendo Game cube, Gameboy, DS, Kinect, Xbox 360	Xbox

## 4.2. Design Implications

Not limited to phones, we found every participant used a computer device of some sort during gaming communication. This shows that design solutions cannot just live on the console, and must extend to computers and smartphones in a meaningful, useful manner. Our design implications include recommendations for cross platform applications and possible AR applications.

General design implications that emerge from our research findings are the development of:

- Heuristics for recommending tool use or setup specifications based on preferences/methods for communication. This can include effective setups or customizations for popular games and even extend to marketing devices.
- Physical switches (such as pedals, knobs, or switches) for controlling volume and muting. This can include personalizations and shortcuts/hotkeys that can save preferences.

### 4.2.1. Cross Platform Applications

We recommend that app development consider functionality on computers, smartphones, and consoles, so that it can reach the broadest audience of gamers. This will allow them to interact with the app in a way that is available and convenient. All applications must be both intuitive and customizable. Some recommended functionalities include:

- Connect to game and external communications
- Control different aspects of volume (like in-game noise, notification sounds, voice communication)
- Allow preset controls for personalization (Hot keys/virtual buttons; include chatting, competitive, focus in on one person, etc)
- Promote accessibility features to players who need them and to general audiences
- Visualizing sound and sound origins to reduce or direct auditory processing

### **4.2.2. AR Possibilities**

Augmented reality applications can incorporate new technology that utilizes spatial computing with our understanding of how players use devices and consoles to communicate. To visualize aspects of the game or communication process, development could include mobile AR, which utilizes the existing availability of smartphones, or heads up displays (HUD), which uses compact technology to present information mapped onto the real space. Some examples of possible AR applications include:

- A mobile AR application which you can point at your screen to display additional information like chats, memes, and statuses. This could encourage and reward the use of smartphones in gaming communication.
- A HUD (heads up display) with Discord or a similar app in periphery, which a gamer can use to mimic the second monitor experience. In this case, a gamer who plays on a TV would not need to rely on a secondary device to see information that an app like Discord might show.
- This HUD could integrate with a traditional gaming headset to create an all-in-one device. This device would include a microphone, headphones, sound control, and hear through capabilities, all while allowing a gamer to experience new visuals through augmented reality.
- This AR could change perception of the physical environment, by altering lighting, room appearances, and other aesthetics of the environment. This could allow gamers to feel more comfortable in their environment while playing.

## 5. Managing Toxicity

*Salvador Hernandez, Sheila Hoang, Martina Spangrud*

### 5.1. Research Findings

Many online video game players have commented on the toxicity of online spaces in the past, and our research participants were no exception. Indeed, nine out of the ten participants acknowledged toxicity to varying degrees with regard to gaming culture, with some having experienced toxic situations firsthand. One participant, Quinner, suggested that “a lot of underlying racism and xenophobia and misogyny” were “rampant throughout the gaming community.” However, participants like Daniel and even Quinner herself believed that gaming culture has improved over time with regard to toxicity. Nonetheless, some respondents noted that toxic experiences were still common. Of course, given the predominance of speech during interactions with other players online, many such situations involved the use of vulgar or discriminatory language.

The following chapter considers toxicity in the gaming community, as experienced or relayed by participants to this project. Although some of the content here is also presented in various forms across previous chapters, this chapter more directly explores the various forms toxicity can take during online play. For a more thorough discussion on how personal identity is connected to online experiences in general, please refer to Chapter 2 (Section 2.1.2).

This chapter is divided into two sections. The first centers on toxicity's connection with understandings of identity, and particularly focuses on certain aspects of identity that have become points of contention among gamers in the past, at least according to the participants. Such aspects include gender, age, and gaming style. The section concludes with an exploration into various strategies that some of our respondents have developed in order to mitigate or avoid toxicity in online spaces. The second section considers design implications we developed for Blizzard Entertainment to potentially consider as strategies to address some of these toxic behaviors. The first of these implications focuses on how artificial intelligence could assist moderators with regulating the content shared on social media applications commonly used for gaming, whereas the second considers a reward system for incentivizing positive and friendly behavior among online gamers.

#### 5.1.1. Toxicity and Identity

##### *Gender*

Toxic encounters with other gamers often center on various intersections of identity. One such intersection mentioned by our participants was that of gender: particularly, the uniquely negative experiences that woman players often encounter while gaming with others online. Three of the four woman participants mentioned instances in which they had personally experienced or feared such forms of discrimination online—or in person—with regard to gaming, with two men joining them with their acknowledgement that online spaces are sometimes hostile to women. Flash in particular noted that he wished women were more welcome in online spaces, stating:

Still to this day, whenever you play [Call of Duty], the first thing people will point out is, like, “oh, there’s a girl online,” “there’s a girl online.” . . . I hope a few years down the line,



hopefully sooner, that there's more women that are included within gaming culture and it's more normalized than it is now.

Daniel added that woman Twitch streamers and gamers would often be harassed in the past. However, he believed that gaming culture has since started to become more accommodating over time. Quinner shared in this sentiment, referring to her previous experiences with gender-based harassment, and noting that more recently she felt "more included than I did, growing up."

Nonetheless, most woman participants recognized the continued prevalence of gender-based toxicity in online gaming spaces. Although Quinner noted that in the past, more people would make fun of her and her little brother for playing so-called "girly games," she added that with games like Call of Duty: "I think there's definitely, like, a gendered element of, like, not feeling like you can be in that community and it feels a little bit toxic . . ." Furthermore, she noted that: "I definitely still feel more welcomed, like, in the, like, more 'girly games' for sure." With regard to "girly games," Quinner referred more specifically to games involving more domestic pursuits such as taking care of a pet, or kitchen games; as opposed to more "intense" games like Call of Duty or Fortnite.

Unlike Quinner, Washington directly referred to contemporary encounters with toxic players while gaming online. Such players often harassed her based on her gender, with Washington noting:

Sometimes, I'm, like, I've been told, go to the kitchen and make a sandwich for me, just by a random person that I don't even know, you know, and it's just, you don't even say anything to them, they think they're funny. And they'll hear you're [a] woman and they're like, oh, bla, bla, bla, bla, bla, bla, you know, um, so it can be very sad, and gross sometimes.

In general, Washington suggested that online gaming was "more male based," and that it was more difficult to find women. Although she did appreciate her engagement with other woman players online, she also emphasized nonetheless that "there are a lot of toxic males on online gaming," and that when they recognize that they are playing with women, they often proceed to make "really gross" jokes, or "something along the lines of that."

Although Melissa did not directly share any toxic experiences she had related to her gender, she nonetheless noted that she was wary of speaking with strangers in-game. Particularly with regard to Fortnite, she stated that she would feel "creepy" doing so given her age, while also stating: "I also feel like because most of them are younger boys, so if they hear that I'm a girl, I feel like that would start making it weird." Melissa did not elaborate on how gender was interpreted in such spaces, but her aversion aligns with the broader theme that other participants noted: that woman gamers are often harassed in men-dominated online spaces due to their gender.

### Age

Another point of contention that some participants noted was that of age. As previously noted, Melissa felt uncomfortable communicating in-game while playing Fortnite due to the age gap between herself at age twenty-four and the average age of most players she has encountered, stating: "When you play with, like, these kids, they're like nine or ten; sometimes, they, like, try to swear and act older, which is really, like, just, you don't need to do that . . ." Similarly, Dollar very

briefly mentioned how communities differ across consoles, making a passing reference to differences in maturity when he noted that:

I have the sense that like the people on [the PC community] are a little more professional with their etiquette and they're a little more mature; whereas, if I'm playing on you know Xbox 360, it's going to be a lot, [smiles and shakes head] lot of the other direction. [chuckles] You know?

Speaking more with regard to differences in game types, Minous implied that more competitive games tended to attract younger gamers, stating: "I used to play more competitive games, when I was younger, but those communities can be really toxic and it's just draining and I don't have the time to care about those childrens' problems." Along with Dollar, Minous, and Melissa's comments, Daniel added that a lot of "kids" will "say racist things, they'll say sexist things . . . I've been called every racist racial epithet you could possibly imagine."

In these cases, toxicity was directly linked with the maturity of other players. In this vein, Daniel particularly spoke of early experiences gaming online when the Xbox 360 was first released in November of 2005, claiming that when "the first party chat system was enabled," "there was me and mostly adults . . . So it was a very, it was a very mature group, it was a very enlightened group, and it was a lot of fun, we had a great time." To Daniel, the adults "didn't have to wait for Christmas presents to engage and talk and chat and stuff like that," but all of this changed shortly after Christmas when "the less educated, the kids" started showing up. Toxic experiences with younger players clearly had a notable impact on how many of our participants relate to the online spaces they inhabit, with their reactions to young players in general consequently ranging from merely humorous disdain, to outright scorn.

### *Gaming Style and Skill*

Along with the more traditional intersections of identity mentioned thus far, some online players often find themselves in toxic situations when they encounter other players who maintain differing expectations for how players should behave while playing certain games. As such, a player's individual gaming style arguably shapes their online identity, with this more performative identity potentially leading to conflicts during online gameplay. Further, some of these conflicts intersect with other categories of identity, and the expectations that toxic players maintain regarding these categories or toward certain game genres. As noted above, Quinner mentioned that she and her brother were often teased by others for playing "girly games," while also suggesting that more intense games were more dominated by men. However, she also noted that:

Maybe, like, not even just the gender thing but, like, I'm trying to think, like, maybe Fortnite or, like, some of those, like, 'top games;' it's kind of implied that only, like, real gamers, people that commit to this, are the ones that should be playing or can play, and it's like a competition.

Differing degrees of competence—especially in competitive video games—was often a point of contention between players, with many participants noting that disagreements resulting from such often led to toxic situations. As Eric succinctly stated: "Um, we could be in a game, and I could be doing bad, or my friend's doing bad, or someone's doing bad, and somebody starts cussing that player out."

Melissa mentioned similar situations with regards to differences in skill level with competitive games. Although she notes that most of her interactions communicating within a team involved working towards the same goal, things could be different if the team included “a stranger” of a different skill level who finds themselves “disappointed that they got a really amateur player on their team.” She was not sure about any details regarding algorithms in the game that pair players for teams, but she did note that “sometimes you can join a game and then get paired up with strangers and you’re, like, level 80 and the other person’s, like, level 150.” She added that such wide pairings often led to frustrations among team members, with some players outright leaving “in the middle of the game because they’re tired of playing with someone who’s not as good as them.” Interestingly enough, Melissa had also shared a frustrating experience in which she found herself playing with a teenager and his little brother, with the little brother “running in circles dying the entire game and... the both of us are just saving his little brother so, like, I don’t like playing with strangers.” Eric similarly noted that when his team is ready to remove a toxic player from their team, they “go to the Facebook group chat and say ‘hey, you know, this player is not ranked high, they’re not doing well when they play with us, they’re cussin’; so on and so forth, and they make the game un-fun.” As such, disparities between skill levels—especially through algorithms beyond the player’s control—not only contribute to toxic situations with other online video gamers, but also lead to unpleasant situations in general when certain players—be they perpetrator or victim of toxic situations—are unable to align with the expectations of their teams as a whole.

However, differing playing styles can also have a strong impact on how players interact with each other online. Minous mentioned that some online players have become very militant about excluding “filthy casuals” from their communities. In this respect, “casual” refers to players who play certain games more casually, as opposed to “hardcore gamers.” According to Minous, to hardcore gamers, “if a casual person comes in and just plays [a game] all willy nilly, it kind of makes them, devalues the very thing that identifies them.” Minous described such behavior as “a shame” in part because to him, casual gameplay is just “a simple deviation from a simple line.” Disconnect between playing styles was not merely limited to hardcore vs. casual either, with Flash noting that he often asks unknown players that he is paired with on Call of Duty about how they plan to approach the upcoming match, through questions asking if they are playing as a team, or if they already have any other plans with the game; so that he can adjust accordingly. Although he was not discussing toxicity relating to differences in this context, Flash’s comments further highlight how differences in playing style could result in conflicts of a potentially toxic nature with other players.

#### *Other Considerations – Politics, Race, and Class*

Albeit less frequently, the participants also acknowledged other forms of identity that could become points of contention with online players. For example, Washington mentioned how certain political situations can lead to the amplification of toxic rhetoric in online spaces. During the 2016 United States election, she particularly felt like “Overwatch was at its all-time high on toxicness.” Referring to her identity as a “gay... African American woman,” Washington added that “once people hear that you’re that kind of person, they have a lot to say.” Online understandings of wealth could also lead to toxic situations with other players. Such conflicts often take the form of someone perhaps being berated for using less expensive communication technologies, or the lack of any noticeable markers of wealth tied to their online gaming avatars. For example: according to Melissa with regard to Fortnite, “you look like a total noob [novice] if you have, like, the basic skins. Unless, like, you have some, like, really nice skins, people don’t even, like, take you seriously.” The symbolic capital

afforded by visible signifiers among online players is explored more thoroughly in Chapter 2 (Section 2.1.2).

Although explicit connections between wealth and toxicity were rare among the participants, Minous did mention the possibility that at least some online players could form opinions about others based on the quality of their audio, stating: “for instance, if you are gaming with someone who has very poor audio quality, you’re going to form opinions about that, right?” Indeed, participants like Daniel and Flash expressed concerns about the efficacy of their communication setup. During his gaming observation, Daniel quickly shifted to communicating through his Xbox when he found himself unable to communicate effectively with his friends over the Xbox app on his phone, although he explicitly noted that his concern in that context was more directed toward making sure that the researchers could hear what was going on. Flash more directly linked his concerns with his engagement with other players, noting that “I always make sure that my adjustment, my setup is adjusted and working, before I start playing because I don’t want to be the inconvenience to anybody . . . If there’s an issue with something, I probably won’t play because I don’t want to be a hindrance.” As such, although connections between wealth and toxicity were rare, at least a few participants did express concerns over what the technology they were using was communicating to other players. For a more thorough discussion on the connections between quality of communication and social cohesion, please refer to Chapter 3 (Section 3.1.3).

### **5.1.2. Existing Forms of Toxicity Management**

Communication in gaming is essential for team-building and effective execution of gaming strategy, in addition to reproducing gaming culture through game-appropriate jargon and allowing for spectators to interact with players. However, as a result of player anonymity and reduced consequences due to anonymity, gamers are seeing a rise in toxicity, which may take the form of racism, ageism, homophobia, and other discriminatory biases within spaces used for gaming and communication. This rise in toxicity has enabled gamers to find alternatives for communication and managing toxicity while gaming. These alternatives include muting others, gamers muting themselves, communicating only among a “trusted circle” or a group of friends, and other strategies used to avoid toxicity and maintain a positive environment.

#### *Muting People*

Muting others during gameplay was reported as one of the more common styles of toxicity management, followed closely by avoiding conversation with others entirely. This style of toxicity management can be completed through different avenues, such as physically muting audio received through voice channels and changing volume levels, removing the ability for gamers to see what other people might be saying in text-based channels, and blocking, or “muting,” other players entirely. Muting is also done in different modes of communication, too, as is observed in computer applications like Discord, game-based chats, and console-based platforms like Xbox Ecosystem.

One participant, Eric, described his experience with muting others while gaming, providing instances where he had muted text and audio functions.

So type, I mean I don't even have to hear their voice, so only thing I could really do is just block them, or block what I see from them... they could also end the game, which is initially killing themselves to make my game environment worse, but I know my friends will be there.

Anonymity may provide comfort to strangers, allowing them to say inappropriate or harmful things while gaming with others. This layer of anonymity prevents the reception of immediate consequences that would happen if gamers knew each other. Our participants not only muted strangers, but they might also mute people they were familiar with in real-life or other gamers they had encountered multiple times while gaming and had had negative gaming experiences with them in the past. Rubix, another participant, recalled an encounter he had with another player he had known since high school, which removed that protective level of anonymity.

I mean, one of my like best friends from high school if he were to call me those names I know his mom I could tell his mom and be like “hey your son called me this like what are you going to do”, and so like I guess one, I don't really make friends with those kinds of people anyway, but two, like that anonymity is gone. Like I know their full names, I know where about they live like, so I guess my culture for video games personally is pretty positive.

### *Avoiding Conversation*

Second to muting others, avoiding conversation entirely is another common strategy among gamers to avoid toxicity and may also be used to avoid the possibility of confrontation in the heat of a competitive game. Avoiding conversation, similar to muting others, takes on multiple different forms, such as a gamer muting themselves so that others won't hear them and avoiding the use of channels that allow text-based communication. Interestingly enough, this method of toxicity management was more commonly used by gamers that identified as women, who cited their discomfort of being perceived as “not good enough” or to avoid “making things weird” while playing with gamers who identified as men.

One participant who identifies as a woman, Melissa, discussed her experience gaming with others in the game Fortnite. She elaborated that Fortnite has a player base comprised of mostly younger men or adolescents, which made her feel uncomfortable as a result of their immaturity. Melissa stated that she does not mute others, but instead chooses to mute herself.

Oh I don't talk to them, I just I can just hear them talk, yeah I don't want to talk to kids it just feels creepy.

However, despite muting herself, Melissa continues to communicate with others on third-party applications, such as Discord and FaceTime.

### *Trusted Circle*

Another common strategy amongst gamers is utilizing the “trusted circle,” or a group of friends that gamers are familiar with and have played with before. This method promotes comradery amongst friends and eases potential anxieties that may be experienced while gaming with strangers. In addition, these groups are often exclusive and are moderated by those belonging to the group, who may decide as a whole to allow others to join or not based on previous gaming experiences.

Eric, a participant who has an established circle, discussed the role of group moderation when gaming, emphasizing that allowing others to join is a group decision rather than relying on a single moderator.

They can request to get in, but they can't [gestures with hands] get in. It would show like, hey we want to be in your chat. We'd have to okay that.

## 5.2. Design Implications

Based on our findings, we would like to propose two design implications for Blizzard Entertainment to consider as strategies to address the toxic behaviors found in online gaming culture. The first design implication is to use the technology of artificial intelligence and machine learning as tools to help admins and moderators flag toxic behaviors and conversations in party chats and chat apps, such as Discord. The second design implication is to create an award and badging system where players can give awards to others as a way to show appreciation for an exemplary post or comment. Although the two design implications share a common goal of improving the gaming environment for the entire community, the former idea mitigates negative behaviors, and the latter implication awards positive behaviors. Both ideas come with their own benefits as well as limitations. It must be noted that these ideas may have been previously explored in a variety of games and chat apps, so a further review of the literature and research may be necessary to refine the design implications.

### 5.2.1. Using Artificial Intelligence to Flag Toxic Behaviors

The use of artificial intelligence and machine learning to mitigate toxicity in the gaming community isn't entirely new. Most recently, Intel partnered with Spirit AI to develop Bleep, a software that uses AI to censor offending language in real-time during gameplay. A key feature of the software allows players to choose on a sliding scale between "none, some, most, or all" in categories of hate speech like "misogyny" or "sexually explicit language". Although the creators clarified that this technology will evolve and improve over time, there has been much criticism of Bleep. The idea that people would accept some hate speech, but not all hate speech came off as absurd to people online.

Similar to the functionality of Bleep, players have noticed a small moderation update on Blizzard's live servers, blocking messages entirely if it contains "reserved" words instead of redacting only the reserved word. Currently, the filter seems to only censor one racial slur and appears to only work for messages sent through the WoW game client, while the message with the reserved word may still be seen through the Battle.net chat to a player logged into WoW. This unannounced feature may still be in testing, and more words may be added in the future, as well as extending to other Blizzard games.

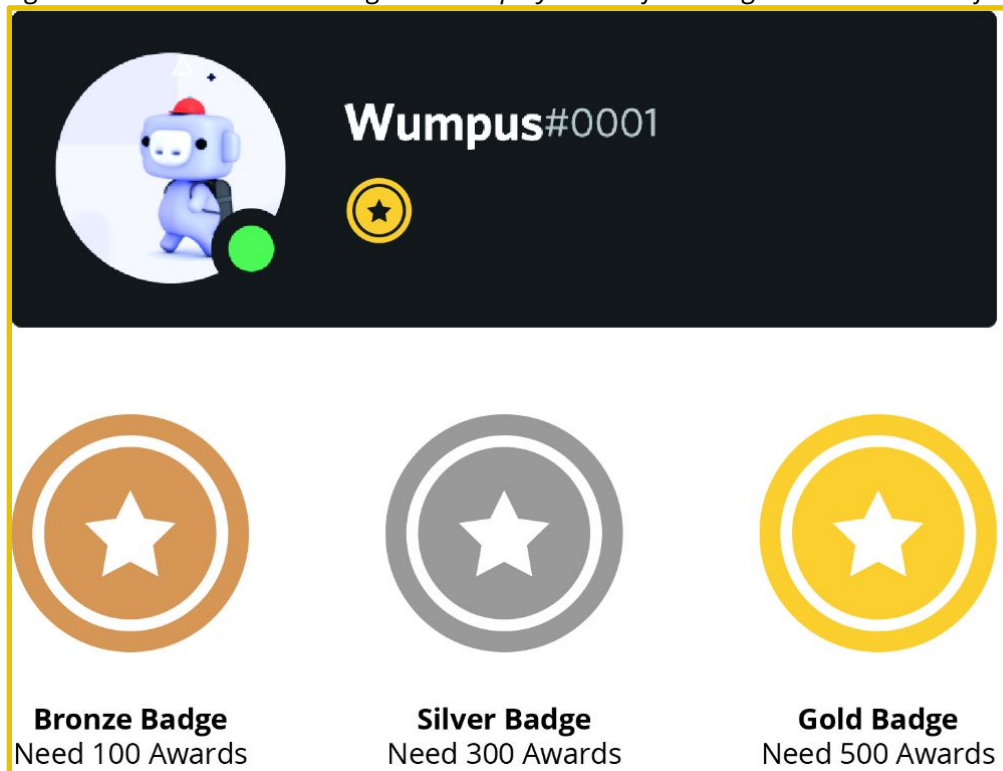
An area of concern of using AI and automated filters to mitigate toxicity is how it will recognize the subtle nuance of language and jargon within specific communities. For example, if there was a group of Black game players who freely use the N-word with each other as part of their casual banter, the AI must be able to distinguish between such use of language within that community versus when the N-word is used as part of hate speech in another context. However, an AI's machine learning is dynamic, so over time, the AI model will ideally learn to decipher the difference and make adjustments based on new information and data.

Despite these early criticisms, the use of AI to help admins and moderators of group chats is still promising. Many systems are currently addressing reports of toxic behaviors through a manual process that could be laborious. Instead of having the AI technology be at the front end for players to configure the settings, AI can work in the background to help screen large volumes of text and



flag offending languages and present critical alerts for the admins and moderators to address. If the admins feel like the flags are warranted, then they can send a message to the player who displayed toxic behaviors with the appropriate consequence. Using AI helps admins and moderators take a more proactive approach to mitigating toxic behaviors and languages, therefore allowing players to focus more on enjoying their games with their friends and less time worrying about playing in a toxic environment.

Figure 5.1. Users Can Earn Badges and Display Them After Being Given a Number of Awards



### 5.2.2. Award and Badging System

In addition to mitigating the toxic behaviors that are present in online gaming, implementing a system of giving awards and badges for exceptional posts or comments may also foster a more positive gaming environment for the whole community. This method has been similarly done in a few games such as Overwatch and their endorsement system that allows players to leave a positive review to their teammates and their rivals. As players in Overwatch receive more endorsements, they are able to level up and earn Loot Boxes. Unlike the endorsement system that has been created specifically for Overwatch, our design implication would work across all party chats in Blizzard games or chat apps. Figure 5.1. illustrates our idea. Using Discord as an example, at any point during a conversation, users are able to award others for positive and exceptional posts or comments. All players are given a certain amount of awards—let's say 50 awards—to give to others. Once users earn a certain number of awards, they are eligible to earn badges as a symbol for their positive contributions to the conversations in the gaming community. The badges will then allow users to earn premium features, such as those that are provided with Discord Nitro subscription packages: animated avatar, custom tags, and creating your own emojis. For example, if a player on Discord shared helpful tips on how to navigate through a difficult game, anyone who feels like the



comment is worthy of praise could give an award to the player of the original post. If that player receives at least 100 awards, then they earn a Bronze badge, which opens them up to a few premium features. If they earn at least 300 awards, then that levels them up to a Silver badge, which will then open up to more prizes. The goal of this design implication is to award positivity and hopefully push out toxicity within the online gaming community.

### 5.2.3. Connecting Players Using Tags

Another design implication that could help mitigate toxicity and foster a more inclusive gaming environment uses the concept of adding tags to help players filter and search for people and communities that they would like to interact with. Examples of tags could be, "LGBTQ-friendly", "they/them", "friendly-to-all-genders", or "anti-racist". The goal of adding tags to profiles is for people who have felt marginalized in the online gaming community to find players who they would feel safe to meet and play games with. To prevent people from creating customized tags that could make it hard to filter and search or tags that display negativity, a list of preset tags would be available for people to add to their profiles. If users cannot find a tag that they would like to use for themselves or to find others, then they could submit a suggested tag to admins to review and approve. Ideally, the process of adding tags, submitting suggested tags, and filtering through tags to find specific players should be simple and easy to use. Figures 5.2. and 5.3. provide mockups of the user interface as reference.

Figure 5.2. Users Can Add Tags Under Their "My Account" Settings in Discord

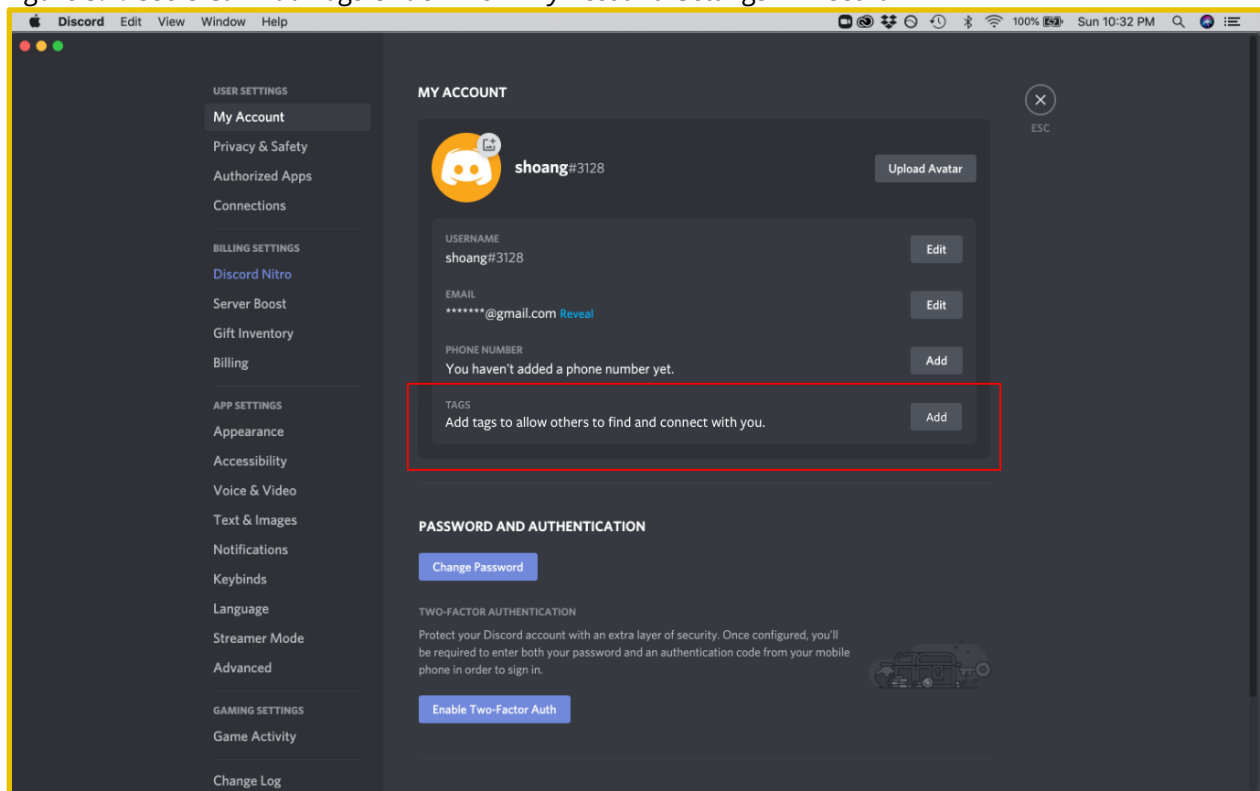
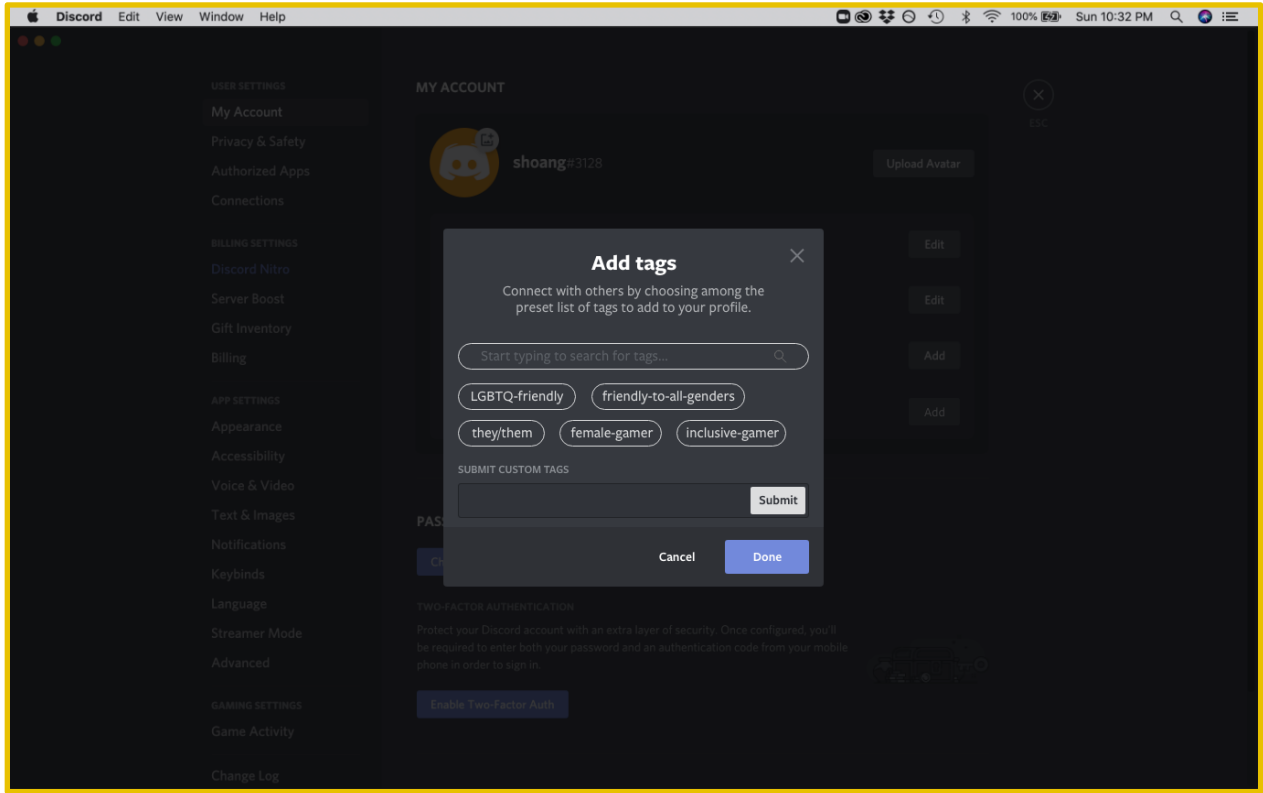


Figure 5.3. Users Can Add from Preatlist of Popular Tags and Also Submit Custom Tags for Discord Admins to Review



## 6. Game Discovery and Information

*Kennedy Burch, Vanessa Terry, and Lareina Yap*

### 6.1. Research Findings

In this chapter, we analyze the journey that participants were part of in their discovery of console gaming. We also inspect excerpts where our participants mentioned sources that they would get information from on how to play a game. This includes gameplay walkthrough, how to play better, and tips and tricks. In addition, we also talk about how they came to discover new games. Games were discovered through online stores, word of mouth, video formats and/or written formats. Most of our participants were not loyal to a specific route. Instead, they used a combination of different sources to discover new games.

#### 6.1.1. Learning the Game

Participants discussed various ways they came to gaming during their time with the research team. Many brought up their gameplay history and how their preference for types of games has or hasn't evolved through their gameplay journey. They discussed coming to gaming through friends as a way to stay connected and venturing into gaming research to enhance their playing experience. What became apparent through the interviews was gaming is both an independent hobby and a source for social interactions.

##### *Discovering Console Gaming*

The journey to gaming differed among the participants. Most mentioned having exposure to console gaming for years prior to agreeing to participate in the study; only one was relatively new to console gaming. Many mentioned playing as a "kid" or from a young age and having their game selections evolve with their interests or as technologies improved. One specifically called out the transition from the GameCube to an Xbox as the moment they "fell in love" with gaming. Four of the participants referenced a friend or family member as their introduction to gaming, and the rest expressed it was just a part of their childhood in one way or another. It was an inherent aspect of their lives, present without being intrusive. The one relatively new to console player mentioned not being allowed to play as a child. She was aware of them and her parents purposefully excluded them in her upbringing. She was introduced to gaming by a coworker and appreciating the social connectivity as a reason to continue to explore gaming. Console gaming was part of the participants' experiences: it brought them together and opened pathways to new friendships while staying connected with established friends and family.

Regardless of how the participant came to gaming, they each discussed how gaming has influenced their lives. Wasson and Squires discuss the influence of technology in culture in their 2012 book chapter "Localizing the Global in Technology Design." Participants commented on games and consoles always being a part of their lives. Examples showed up like when Sophie mentioned she could not really remember when she first discovered gaming but that she always "had consoles around." Or when Quinner recalled her brother having an interest in gaming but it was not until she was hanging out at one of his *Yu-Gi-Oh* tournaments and she discovered *Animal Crossing* that she found a path to gaming that interested her. Both Sophie and Quinner show games were a part of

their peripheral lives before finding an avenue for them. Gaming interacted with their culture, not in tandem but with their culture, shaping their human experience (Wasson and Squires 2012, 253).

### *Where to Go When They Do Not Know*

Playing video games provides players with a sense of belonging that drives some to enhance their playing skill through forms of casual game research. Types of research included word of mouth, watching player streams, exploring Discord and Reddit threads, and simply Googling. When discussing the word of mouth interactions, the participants gave examples of asking fellow players, friends, and family members about aspects of the game. This was often an informal ask during gameplay or even directed from other players coaching them along. This was observed during gameplay sessions as almost an organic leveling system where players would provide instruction during the live play to better the team's chances of achieving the mission. This went beyond participation cues (Keating and Sunakawa, 2010, 332) to mentoring for the good of the collective experience. Gaming was observed to be a collaborative and social virtual interaction, creating a tribe of strangers bonded by their preferred hobby. Personal investment propelled the participants to seek improvements to their skill levels through various methods.

Learning styles became evident as participants discussed their preferred methods for research. Some participants mentioned having more of a visual learning style and would seek opportunities to watch somebody else play through to gain a better idea of the functionality and expectations of the player. Others had more of a verbal learning style and would seek written direction or reviews to learn more. These participants discussed the pros and cons of Discord and Reddit as both platforms offer a slew of information while having to search through for content they are seeking. Three of the participants mentioned having more of a hands-on approach and dived directly into the game. These three also mentioned going to Google if they needed to learn something, while suggesting others might also try some of the previously mentioned methods.

### **6.1.2. New Game/Re-Discovery/Avoiding**

There are many different ways that our participants search for new games. Referenced ways include online stores, word of mouth, gaming forums, reviews, targeted ads, gaming journalism, Reddit, E3, YouTube, Twitch, trailers, GameStop, and games that are bundled with the console (see Figure 6.1). Below, we group these ways into broader categories and describe them further. The categories include online stores, word of mouth, written format, and video format. Each category has an introductory sentence that states what methods it includes. (The last two items, GameStop and a game that was bundled with a console, did not fit into any of these categories.)

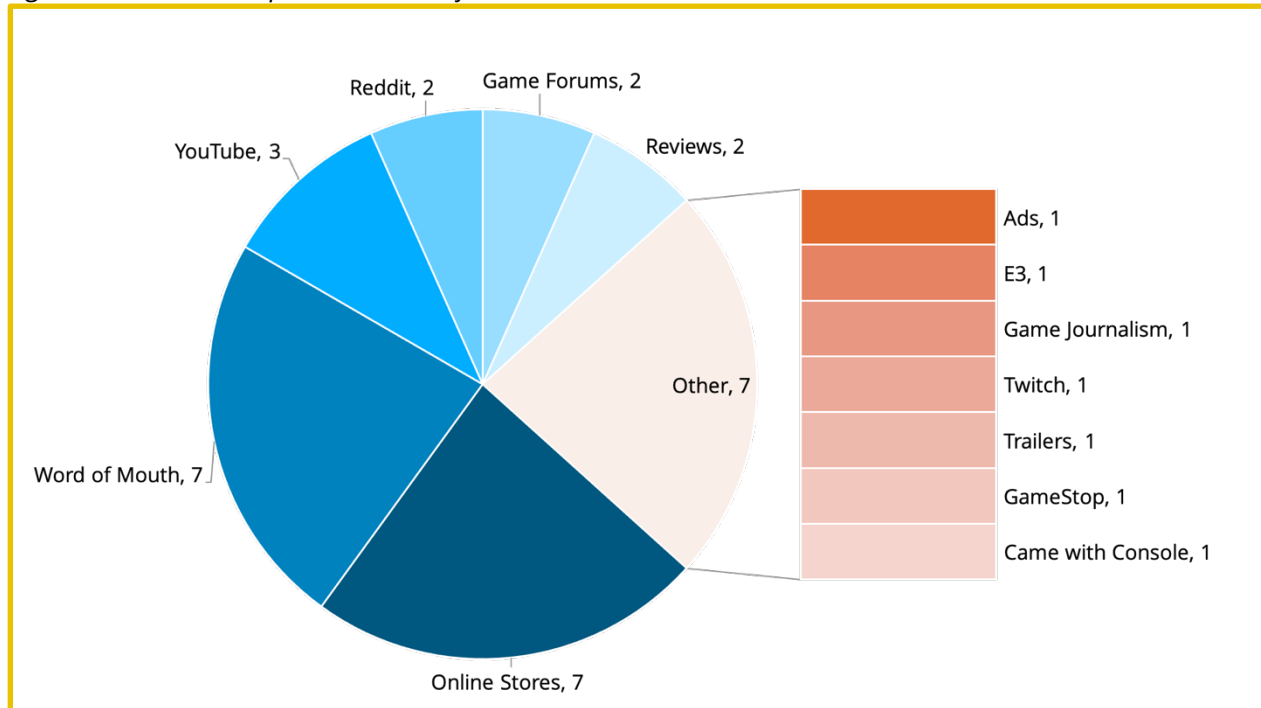
#### *Online Stores*

There are many different ways that our participants search for new games. Out of the 9 different ways that our participants referenced, online stores and word of mouth were tied as the most often mentioned route. One common platform referenced was Steam, a video game digital distribution service for PC games. Both Rubix and Eric mentioned this platform as their preferred method of searching for new games.

Other participants mentioned online stores specific to each console. Nintendo, Sony (PlayStation) and Microsoft (Xbox) all have their own individual stores that can be launched either via internet or console. These stores were mentioned by different participants. Quinner commented that she "was looking for a couple new games and just like went on the... Nintendo store" which is where she

purchased the new Animal Crossing game. However, she used this in combination with other methods. Quinner uses the online store as the place to purchase a game, but she also uses YouTube and Google to find the "best games of 2021... to see what's out there that people like first." This combination of the online store and word of mouth works best for her.

Figure 6.1. How Participants Searched for New Games



One participant, Minous, referenced their theory on why online stores are so popular. They mentioned that they trend toward digital stores these days "because of two things: instant gratification and... I don't care to physically hold anything. I don't have to wait for a store to open and decide to give me what I paid for." They said that the reason they preferred online stores is because of the ability to download and play the new game as soon as they'd like. This ability to purchase a game with the press of a button has made gaming accessible and efficient.

Another participant named Melissa also agreed that online stores were easier than in person. "I rarely go shopping for physical games, like I never leave the house with the purpose of buying game, if I ever do buy a physical game it's because I'm at target or something and we just happen to go past the gaming aisle and like oh I don't have this it's on sale let's get it."

However, some of our participants find in store experiences beneficial due to their employees. Flash revealed a recent scenario that helped him save money. "I was about to buy the new NBA 2K 2K21 and an employee at GameStop told me that, yo I didn't really hear good things about this only because, like, you're not really getting the full functionality of the PS5 in this game. And I thought he was talking more about graphics but he kind of explained to me like, you know, it's kind of lacking in the defense specializations and it feels like they rushed the game. They think the next one is going to be a lot better, because of their honest review of the game and telling me that, I kind of save money

and appreciate that." In store experiences can be beneficial if the participant is curious on other's opinions or advice about games.

### *Word of Mouth*

Word of mouth was another common way for our participants to discover new games. Washington explained that "most of my gaming influence comes from my friends. So, if they're like, hey, this new like multiplayer game came out, and it looks really cool. Everybody should get it so we can all play together." They said that situations like this were the main reason they would purchase new games. Daniel also plays multiplayer games, like Apex and Clash of Clans, and explained that word of mouth through friends was how he was introduced to new games. Another participant, Dollar, was introduced to Animal Crossing by his babysitter as a young kid in India. Ever since then, he's been a fan of the franchise. Word of mouth can be through friends, but it can also be general public knowledge. Melissa said that there are particular games that she's "heard about just for forever" like Call of Duty and Assassin's Creed, and the popularity of the two influenced her to purchase them. She stated that she got them "because if it's been around this long, there has to be something to it."

### *Video Format*

Other ways that participants discover new games are through video format on platforms such as YouTube, Twitch, and game trailers. Quinner spoke about looking up Youtube videos for games of the year, while Rubix looks up "Let's Play" video series on Youtube as background noise. Let's Plays are videos documenting the playthrough of the game and can include commentary about the game. Flash finds new games by judging the functionality through other people's playthroughs streamed to Twitch. He explained that he wants "to see it actually get played out by a professional player and see the functionality of it, and actually get played the way it's supposed to be played before I buy something."

### *Written Format*

Another way of discovering new games is through written format. Sophie stated that she reads a lot of gaming journalism and has particular journalists that she follows and takes their opinion "very seriously." Others, including Washington and Rubix, mentioned Reddit. Washington explained that Reddit has different gaming groups where one can find community, reviews, and information about many different games. That ability to see others' "thoughts and what they feel about the game" is beneficial before purchasing a game, according to Washington. Flash is a comic book fan, but when the Avengers game came out, he opted not to purchase it. "The reason I didn't buy the Avengers game, even though it follows everything I'm into, I just read the reviews and it just wasn't a good game... Whenever I buy something, I want to make sure that I'm making the best possible decision about that purchase." Reviews can help gamers save time and money if a game doesn't live up to its expectations.

Through this study on communication through the realm of video games, we were able to glean insights into how different gamers discover new games and the many different factors that can influence the decision to purchase a game or not.

## 6.2. Design Implications

### 6.2.1. Leveraging the Sociality of Games in a Variety of Ways

One of the main forms of discovery that was mentioned by our participants is through word of mouth. Games were mostly discovered through friends or family. Recommendations from friends or family were powerful as many of our participants play video games solely to play with their friends or family. Our implications explore ways we can boost the spread of new games using these connections. These implications are as follows:

- **“Currently Playing” on Profiles:** Displaying what their friends are currently playing on their profiles as statuses. This implication could be pushed even further by providing a feed for friends to look at. Under each “currently playing” status, gamers can choose to include a short clip from their gameplay to show their friends what the games look like.
- **Shared Game Pass:** Giving friends and family the ability to share a game pass. This game pass would be offered as a subscription service, where if one person buys a game, the rest of the accounts on the game pass would have the game as well. This reinforces game sharing and being able to play the same games with their friends or family.
- **Group Votes on Games Page:** A page on the console or gaming device system that lets players share games directly from the game store. Members of the page, most likely friends, would be able to easily access the page and see all suggested games and vote on which games they all want to buy together. This voting system can be as simple as members saying which games they want or a button that they can hit next to each game to vote, i.e. thumbs up, thumbs down.
- **Split Trial:** A trial service for games that allows players to split the cost of games. When split, they would only be able to access the game for a limited time to test it out together. After this trial period ends, they either get to return the game or each person has to pay in full to gain full access to the game. Instead of trying games alone, players get to try games with their friends.

These suggestions could be seen as marketing strategies as well as design implications. They are intended to obtain game exposure, allow for friends to be able to easily suggest games to one another, and make use of those connections. These connections are important to our participants and play a big role on their decisions about a game.

### 6.2.2. Personalized Play Store

There was also a huge emphasis on the online games stores as a main source of new games discovery. Almost all of our participants talked about browsing through the online store. This implication suggests ways to further boost the discovery of new games specifically through the online store but utilizes the connections our participants have with their friends and family when playing video games.

This would give players the ability to see a cumulative list of games that their friends had downloaded. We acknowledge that on some platforms, players can see games their friends play when visiting their friends' profiles. When talking about exploring games, our participants did not mention going into their friends' profile, but rather, the game store. Since 7 out of 10 of our participants discover new games through the game store, our implication merges that finding with



the credibility of suggestions from friends (word of mouth). Taking into account that some people might have numerous friends and might not want to see an exhaustive list of games, our implication also suggests only displaying games from friends who are listed as “favorites.”

Spotting their friends in the play store would hopefully make the experience of game discovery more personal and provide incentive for players to explore different games, since most of our participants trust recommendations from their friends and family. This implication acts as an indirect recommendation from their friends and family, without having to rely on word of mouth.

### **6.2.3. Streaming Events**

This design implication merges excerpts from participants who discovered new games through either (1) watching streamers on Twitch or YouTube or (2) attending gaming conventions such as Electronic Entertainment Experience, better known as E3. Since six out of ten of our participants talked about this, we deemed it important that an implication sprouted from these findings.

To boost the visibility and spread of a new game, game developers could potentially organize official virtual streaming events where they would invite popular streamers to play a new game together live. Instead of just watching one streamer play, the audience could watch several popular streamers interact with one another and with the game. This would bolster the spread of a new game to different audiences all at once.

Theoretically and ideally, these events would be held in a virtual space. Arranging a virtual event maximizes the outreach potential because space capacity is not limited. In addition to that, organizers would spend less money on a virtual event than they would if they did it in a physical space; they would not have to spend money on equipment, space rentals, etc.

## Appendix: Interview Guides

*Interviews will be conducted using an ethnographic semi-structured approach, so the questions listed below should be regarded as discussion topics rather than as a script that will be read. Participants' responses to questions will often lead to follow-up questions.*

### Pre-Gaming Interview (~30 mins)

- Can you tell us a little about yourself, just as context? What do you do?
- How long have you been gaming?
- Why do you play videogames? (stories?)
- What games do you mainly play currently?
- How did you discover the game you are currently playing?
- What console(s) do you use?
- What consoles do the people you play with use?
- Could you give us a visual tour of the space you play in?

### Communication & Devices

- How do you communicate with other players?
  - What devices/software/apps do you use?
  - What do the people you play with use?
  - What goes into the decision to communicate? Do you ever choose to play with friends without talking/texting?
- Do different games involve different communication practices? Why?
  - Are there communication features in certain games that help you?
- How would you describe the community of people you play with?
- Who are you communicating with?
  - Are these contacts you've met through gaming?
  - Did you know anyone prior?
- How often do you talk to people while you game?
  - Do you prefer using voice or text? Why?
  - Do you participate in chat when not gaming?
- What do you usually talk about?
  - Do the topics change when playing multiplayer or solo games?

### Customization / Assistive tech

- Do you customize any settings on your console or within the game related to communication?
  - Do you use any third party software or equipment to help with your communication?
  - How does this change your ability to communicate?
- Do you use any kind of assistive technology while you game (a modified controller, voice recognition, etc.?) Can you describe how you use it?

### Pre-game Walkthrough

- Could you walk us through your process of preparing for a game and chat session?

- “Could you tell me a little more about \_\_\_\_ “
- “Why do you use that?”
- “How did you learn how to do that?”

### **Gaming Observation (~30 mins)**

[Things to capture in the shot]

- The participant
- The console
- The communication device(s)
- Audio in the room

### **Post-Gaming Interview (30-60 mins)**

[Ask about different moments of communication during game session observed, potentially replaying particular moments of interest to ask about those]

#### *Gaming/Comm Set-up*

- How did you come to use your current gaming set-up?
- What do you like about your communication setup?
- What are the biggest issues with your setup?
- What would your ideal gaming setup be? Why?
  - Would you ever change your (communication) setup? Why or why not?
- Have you used any other forms of communication in the past?
- How has COVID-19 changed your gaming setup or habits?

#### *Gaming Culture*

- How would you describe the culture of gaming, within the games that you play?
- How would you describe the ways that players interact with each other?
- How included do you feel in gaming culture?
- Are there times when you don't feel comfortable communicating?
- When and where do you feel the most comfortable communicating?
- What would you like to see change in current gaming culture?
  - What do you see as the main challenges facing gaming culture?
  - What do you see as the main good points of current gaming culture?
- Have you seen cultural shifts over time in the gaming world? If so, please describe them.
  - Do you have any thoughts on how gaming culture may continue to evolve in the future?

#### *Game Type Preferences*

- Can you tell us a little about the history of the games you played?
  - What do you look for in a game?
  - Are there things that you try to avoid in games?
- If you were to look up information about the game you're currently playing, where would you go? Why?

- If you were looking for a new game today, where would you go? Why?

*Wrap-up Demographic Questions (if not yet answered)*

- May we ask how old you are?
- What gender do you identify as?
- What race and ethnicity do you identify as?
- What city do you live in?

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