

The Labor of Fun: Understanding the Social Relationships between Gamers and Paid Gaming Teammates in China

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ABSTRACT

Online video games support the development of social relationships through gameplay, however, gamers often cannot cultivate and maintain relationships based on social factors such as personality when using in-game matchmaking services. To address this, teammate matching sites external to games have emerged and enable gamers to offer to play games with others in exchange for payment. The affordances of these services are different from other existing gamer social sites, e.g., live streaming. Interviews were conducted with 16 dedicated users on Bixin, one of China's largest paid teammate matching sites, to examine user motivations, practices, and perceptions. The interviews found that gamers selected paid teammates on Bixin using different criteria compared to in-game matchmaking services and emphasized the importance of real-life characteristics such as voice. To maintain connections, paid teammates often also extended communication to external communication services such as WeChat. Although most gamers expected to communicate with paid teammates as if they were friends, very few reported building real friendships with their matched counterparts.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**; *Empirical studies in HCI*.

KEYWORDS

gaming, gamers, social media, social networking, social relationships, online community

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1 INTRODUCTION

Online multiplayer video games have become a medium through which many users form and maintain social relationships. These online video games connect thousands or even millions of gamers from around the world within persistent virtual game worlds. In these games, gamers interact not only with designed game elements, but also with other gamers, who could be randomly encountered strangers or offline friends and family. These diverse types of collaborative play in online video games enable new kinds of social relations to emerge and develop [56], and have also been found to reinforce existing social ties for gamers [42]. Some online informal encounters with strangers in games can even develop and extend to the offline world, such that gamers become friends in real life and thus form deeper social relations [42]. However, it can often prove challenging for gamers to find other people to play with. Toxic behaviors such as flaming and trolling have been reported to be a critical problem for many online video games. To address these challenges, many gamers leverage other online platforms to find people to play with. For example, the streaming platform Twitch enables gamers to form communities united by common interests, which can subsequently lead to organized gameplay [20, 37, 42]. Game-related subreddits can also act as a hub for gamers to get to know one another and form groups to play games together. However, because these platforms are mostly anonymous, trust may be a critical issue in these communities.

A unique set of platforms that have been emerging in China, i.e., playmate recruiting platforms such as Bixin, enable gamers to meet their social needs of finding someone with traits beyond gameplay skills. The design of such platforms is similar to sharing economy apps such as Airbnb and Uber, but rather than matching users with hotels or rides, they enable gamers to find and recruit other people to play games with. On these platforms, gamers can create their profiles to attract potential gamers to recruit and pay for gameplay sessions. Although gaining traction, it is under-explored in HCI why gamers are using such platforms for finding other gamers to play games together, how they use such platforms to interact with others, and how the use of such platforms influence their in-game gameplay experience. By studying emerging gamer behaviors on such platforms, the community can develop a deeper understanding of gamers' social needs within and out of video games and how these needs may or may not be addressed by sharing economy

platforms. Such knowledge may lead to the design of better in-game mechanisms or other social platforms that enable gamers to develop social relationships with ease and build trust. We are thus interested in the following research questions:

RQ1: What motivates gamers to hire or to become paid teammates on teammate recruiting apps?

RQ2: What type of interactions do paid teammate recruiting apps afford according to dedicated users?

RQ3: What benefits and challenges do users of paid teammate recruiting apps experience?

We conducted an interview-based study with 16 paid teammates who had extensive experience using Bixin (i.e., they had used Bixin for over 6 months and used at least 4 hours per week). Our results revealed that social interaction is the major motivation for gamers to play games with paid teammate and to become paid teammates themselves. We identified several strategies paid teammates adopted to present themselves, emphasizing certain traits that may attract potential customers and hiding some that may not. The paid teammates also managed a diverse range of communication channels to keep engaging potential customers, leaving them an illusion of a relationship between stranger and friend. The analysis also revealed that voice is an important way the paid teammates disclose themselves. Drawing on our findings, we discuss the formation of a relationship beyond gaming between paid teammates and gamers. Our work contributes to the understanding of a new type of sharing economy of paid teammate's gameplay, under the unique social and cultural contexts of China.

2 RELATED WORK

To anchor the contributions of this work, prior research on the sharing and gig economy is first reviewed, focusing on the motivations and practises found when participating in such platforms. Then, work related to studies and theories of relationship formation, self-presentation and self-disclosure in virtual worlds and games is reviewed.

2.1 Sharing Economy Motivations and Contexts

Information and communication technologies have transformed the ways individuals share different aspects of their lives, e.g., cars and skills, and has resulted in a "sharing economy"[50]. According to Koopman et al., the sharing economy is a marketplace where individuals are brought together to share or exchange underutilized assets [30]. Over the past few years, the sharing economy has grown rapidly and covers a wide range of items and services, from the sharing of cars (e.g., Uber) and households (e.g., Airbnb), to the assembly of Ikea furniture (e.g., TaskRabbit) and purchasing of groceries (e.g., Postmates). The sharing economy contains two primary types of users, those who use or consume the shared resources and those who provide the resources [40]. HCI researchers have explored the motivations behind participation in the sharing economy [4], the formation of social relationships within the economies [27], user experiences within these economies [15], and how trust is built between providers and consumers [15, 16]. As the on-demand, provider and consumer nature of paid teammate recruiting sites

closely resembles other sharing economies, the sharing economy is a useful frame of reference for analysis.

Previous studies have revealed that users join sharing economy for a variety of reasons. Economic benefits have been identified as the major motivation for both service providers and receivers on a range of different peer-to-peer platforms [4, 27, 41]. Building social connections has been found to be another important motivation for users to participate in sharing economy [5, 21]. For example, in travel and tourism marketplaces, users are willing to engage in accommodation sharing in order to interact with the local hosts [27, 52, 53]. Research has also found that on some sharing economy platforms, social motivation is less important than other motivations, even though some sites are initially designed for socializing [55]. For example, on peer-to-peer service sites such as Konnektid, a collaborative lifestyle system where users could offer their skills for hire by others, practicality has been found as the most dominant motivation for users, followed by socializing [55]. Kassi, an online gift exchange system originally designed for students to connect, help, and share resources with each other [48], was not used for social purposes due to the lack of management on the platform and the perceived low value of using it [48]. Socializing was also found to be the least important motivation for users of time bank services [10, 11, 46]. However, on many platforms, there is a gap between providers' understanding of consumers' motivations compared to consumers actual motivations [4].

On sharing economy platforms, providers' behaviors are largely influenced by the perceived usefulness, trustworthiness, sustainability, resource availability, ease of use, and investment they have within such economies [33]. Similarly, consumers' behaviors are also largely driven by trustworthiness, ease of use, and perceived usefulness, while inherent satisfaction and enjoyment of the activities on these platforms also play an important role [15, 16, 33]. However, most existing research on the sharing economy has focused exclusively on the *practical* use of these platforms, rather than on the entertainment or fun value of them. The present work explores the gig economy of paid teammate within the context of online gaming, a new type of sharing economy that focuses on consumer's paying others to play games with them. This work contributes a nuanced understanding of the context of this sharing economy, an under-explored theme that has broader implications in HCI [16]. The findings are also situated within the unique social and cultural contexts in China, where a large sharing ecosystem exists, with many unique platforms that do not have Western equivalents [16].

2.2 Relationships in Virtual Worlds and Video Games

Prior research on video games and video gamers has been a popular topic within HCI. Of most relevance to the present study on paid gaming teammates is research on the social interactions facilitated by games and match-making, the manners in which gamers present or obfuscate themselves online, and how a relationship formed under a game context can extend to the real world.

Prior work has shown that online video games can be used to form and maintain social relationships [20, 28, 37, 38, 56]. Teammate

matching systems provide opportunities to initiate new relationships [56]. While many teammate matching systems match users based on a rank that represents how skilled a player is, some take into account other player preferences, such as disposition to socialize, to influence the construction of a team. Prior work has found that competence, game outcomes, communication, and pleasantness all influenced how relationships were formed during gameplay [42, 56]. Often, a single game play session was not enough for relationships to form, so gamers needed to play together several times to establish a good relationship [56]. A positive outcome or a “win” in a game tends to lead to players to like each other more and encourages them to keep in touch [12]. Matching systems, thus, influence the creation of relationships by putting players in contact in ways that encourage communication, collaboration, and winning during games.

Virtual worlds are a noted medium for both prompting, supporting, and sustaining online relationships. These relationships can vary in intensity from friendships to romantic relationships. For instance, the game World of Warcraft has been known to support the formation of romantic relationships [42, 57]. The formation of these relationships are influenced by the ability for the space to support meaningful conversations and provide reciprocal interactions in-game [43]. Within the virtual world of games, gamers can also form relationships with others without becoming concerned about attributes such as their appearance, gender, sexuality, or age [8]. These relationships often take on meaning outside the game, with users turning to personal communication technologies such as texting outside of their game accounts [43]. The mundane and repetitive nature of many games were what enabled games to support social interactions, as individuals turned to socializing to make games more engaging and enjoyable [43]. Gameplay is essential to forming early relationships because it allows small groups that come together to accomplish a task and then use their shared experience to establish long-term connections, often transitioning to a mixed-reality relationship that occurs in both the game and reality at the same time [42]. For example, friendship and trust was found to be built between gamers in World of Warcraft depending on the team’s ability to co-construct a coherent group identity and establish shared social incentives for participation [7]. Notably, many players in a multi-user dungeon (MUD) game formed online relationships, with a significant number choosing to pursue relationships with a player of the opposite sex [44]. This study continues this line of inquiry, exploring how personal relationships can form with a teammate who is recruited from a platform external to a video game. The findings extend prior work because they demonstrate that similar behaviors and patterns have extended to modern mobile games.

2.3 Self-Presentation and Self-Disclosure Online

Self-presentation and self-disclosure have been important topics when studying social interactions on social media. The concept of self-presentation, proposed by Goffman [22], explains people’s social behaviors in everyday life as a theatrical performance. In his view, individuals role-play as if life were their theater and they perform social interactions that are tailored to different audience

and social settings [22]. People act differently when they are in view of their audience, i.e., *front stage*, than when in more private settings, i.e., *back stage*, and hidden from their audience. Self-presentation is further complicated in online media, where social contexts could have different norms and expectations in the same space (i.e., context collapse [6]), and different versions of personal archives or histories co-exist [25]. In these situations, it can be difficult for an individual to navigate their social interactions, as the context does not provide a viable script to play out in interactions. Self-presentation is also relevant to the Chinese cultural concept of *mianzi* [34], wherein the outside ‘face’ that people use to show their “reputation, pride, or self-respect” to the outside world, shapes users’ unique self-presentation on social media in China [34].

Self-disclosure is the way that people reveal personal information to others [3] and try to maximize their social benefits, such as self-expression, relational development, social validation, social control, and validation gain [2, 9, 14, 45]. However, the ways that people disclose themselves may also bring potential risks, e.g., unintentionally revealing private information [3, 14], which leads people to disclose more on anonymous platforms [29, 35]. Anonymity is one of the principle factors of the dis-inhibition effect, which indicates that people will be more active while self-disclosing when they can separate their online activities from their real-life identities [26, 49]. People can reveal their “true self” on an anonymous platform or take on various personas [1]. These platforms thus enable users to act in ways that they would not be able to in other situations, or even express parts of their personality that are otherwise inhibited. However, the lack of responsibility associated with anonymity online can also lead to malicious or toxic behaviors such as trolling, hostile commenting [31], deception [23], or cyberbullying [32].

Of particular relevance to this present work is how users create and maintain personal profiles on social networks. Building a personal profile is an essential aspect of many online systems [54] because it provides a consistent identity for a user and can attract the interest and attention of others [51]. However, prior research has shown that users often provide deceptive information, especially on online dating sites, to control and enhance their self-presentation to attract potential matches [24, 39]. Signaling theory is often used to explain users’ self-disclosure practises when using online profiles. The theory considers how users express attributes that could not be observed directly and how they convince others to perceive the trustworthiness of their explicitly stated signals [17, 18, 47]. It provides valuable insights into our understandings of personal profiles online, e.g., how individuals produce and assess signals in online dating profiles [19, 51], and how Airbnb hosts’ describe themselves in their profiles [36]. This present work continues this line of research by exploring how users of a paid teammate recruiting platform present themselves to interact with potential matches on Bixin and how Bixin motivates the use of different signalling strategies than those commonly seen on other social platforms.

3 RESEARCH CONTEXT: CHINESE PAID TEAMMATE RECRUITING PLATFORMS

The paid teammate industry began to emerge in 2014. It originated on YY and focused on PC games. With the growth of the mobile

games industry, YY transitioned from the web to mobile apps. Bixin is one of the most popular teammate recruitment applications in China. Most of the paid teammates who were using these services at this time offered to play multi-gamer online games (MMOGs). These games can either be PC games or Mobile games. PUBG mobile and Honor of Kings (mobile version of League of Legends) are the games most of the paid teammates played on Bixin platform.

The main page of the Bixin contains a list of recommended teammates that can be filtered and later hired based on the gamer's profile. The recommended teammates often have different gender yet play the same game. By allowing the application access to one's location, a gamer can use find potential teammates who are close to them in one panel. Gamers can select a potential teammate they interested in and view their profile which as a selfie, a short voice recording, personal interest, games to play, and the level in game. Bixin will ask the paid teammates to upload the id of their game account. However, the platform will not verify if the selfie is a photo of the paid teammate. On this page, gamers can check the ratings, tags and detailed comments left by other gamers about the paid teammate's in-game service. Tags are summarizing of the comments. Some popular tags with positive feedback include: nice voice, good gaming skills, good communication skills, nice collaboration. Popular tags with negative feedback are: unfriendly, bad gaming skills, not fit the profile. The gamers can choose to chat with a paid teammate by clicking the button at the bottom of the paid teammate. Aside from the potential teammate's profile, there is a story space contains the images and text posted by the paid teammate. Gamers can interacting with them by clicking "like" or leaving a comment.

There are two ways for gamers to find the paid teammates that meets their expectation. One way is to filter the paid teammates by the game type, gender, rating and game levels, then evaluate each paid teammate recommended by the system through their profile and story space. The algorithm Bixin used to recommend paid teammates is under mystery, but do relate to paid teammate's ratings. The other way is using voice chat room. Gamers often use voice chat rooms to find paid teammate with specific requirements, like "study in a college" or "sings well". After the gamer tells the host in the room about their requirements, the host posts the requirements in a section that only paid teammates can check. Potential teammates that recognize themselves as fitting the posted requirements enter the room and present them self though the voice channel. Gamers select the paid teammates in the voice chat room by the way they present themselves.

Gamers make payments using Bixin coin. Bixin coin is the virtual currency used only on Bixin. Each Bixin coin costs one Yuan to purchase. Each order is under the unit of 30 minutes of gameplay. Each PUBG mobile game takes around 30 minutes and each Honor of Kings game takes around 15 minutes. The prices of each order is regulated by Bixin. Each paid teammate has a highest price they can set. The more order the paid teammate received, the upper bound of the price goes up. The minimum price paid teammate can set is 1 Yuan. Some paid teammates choose to attract more orders by lowering the price. To become a paid teammate, there is requirement on the person's game level. The required game level differs by gender. Female has a lower requirement than male. All paid teammate's on Bixin are required real-name registration.

4 METHODS

To better understand the context, motivations, challenges, and opportunities surrounding gamers' use of paid teammate recruitment applications, a qualitative, semi-structure interview study was conducted. The study protocol was approved by the IRB of our institution. All figures in our paper were shared with us by our participants with permission to republish. P6 shared Figure 1, P12 shared Figure 2 and P4 shared Figure 3.

4.1 Interviewees

Participants were recruited by sending out individual invitations to paid teammates on Bixin who had received more than 50 orders. As few paid teammates were willing to participate in the study, snowball sampling was also used to recruit interviewees. In all, sixteen participants accepted initiations to be interviewed (N = 8 males; average age = 23 years, range = 19 - 27) and were interviewed from June to August 2020.

4.2 Interview Procedure

Semi-structured interviews were conducted in Mandarin using audio calls. The audio are recorded and later transcribed. Each interview lasted between 45 and 75 minutes. The questions asked during the interviews related to motivation, self-disclosure on the platform, experiences had while playing with others, and the connections that were formed with gamers beyond game. As 13 out of 16 interviewees had experience placing orders with other paid teammates, these interviewees were also asked additional questions about their motivations for doing so and their experiences being accompanied by other gamers in game. We also used participation observer method in our study by looking into the recommended paid teammate's profile and story space, along with the 10 most popular voice chat room on Bixin.

4.3 Analysis

Two Chinese-speaking authors first coded 20% of the interview transcripts independently, and met to reach consensus on the coding. A unified codebook was developed and the leading author coded all the remaining transcripts accordingly. The codes were then grouped into 6 themes, with each theme resulting in a subsection within the Findings. For example, Sec. 5.6 describes the findings relating to comments with codes under the theme "negative experiences". The codes and data was then translated into English and analyzed with the observation from the platform.

5 FINDINGS

The semi-structured interviews revealed many interesting insights and themes relating to Chinese gamers' current usage of paid teammate recruitment apps. In what follows is a description of the motivations these gamers have for participating in this economy, the self-disclosure challenges they encounter when doing so, the techniques used by paid teammate providers to adapt their gameplay to the needs of their customers, the workflows gaming customers use to select potential teammates, the degrees to which the relationships that are cultivated between providers and customers extend into real life, and the negative by-products and risks that are associated with participating in these economies.

Table 1: Summary of participants interviewed.

ID	Sex	Age	Game Type	Full time/ Part time	Average hours per day	Education	Occupation
1	F	25	PUBG Mobile, Honor of Kings	Part time	5 hours	Bachelor's	Professional
2	M	23	PUBG Mobile, Honor of Kings	Full time	10 hours	High school	Paid teammate
3	F	25	PUBG Mobile, Honor of Kings	Full time	7 hours	College	Paid teammate
4	F	20	PUBG Mobile, Honor of Kings	Part time	5 hours	Bachelor's in process	Student
5	M	19	PUBG Mobile, Honor of Kings	Full time	8 hours	High school	Paid teammate
6	F	22	PUBG Mobile, Honor of Kings	Part time	6 hours	Bachelor's in process	Student
7	F	26	PUBG Mobile, PUBG, LOL	Part time	3 hours	Mater in process	Student
8	M	22	PUBG mobile	Part time	4 hours	High school	Professional
9	F	24	PUBG mobile	Part time	4 hours	Bachelor's	Technition
10	F	25	PUBG Mobile, PUBG	Full time	10 hours	Bachelor's	Professional
11	M	22	Honor of Kings, LOL	Part time	4 hours	Bachelor's in process	Student
12	M	20	Honor of Kings	Part time	5 hours	Bachelor's in process	Student
13	M	22	PUBG Mobile, Honor of Kings	Part time	4 hours	High school	Professional
14	F	20	Honor of Kings	Part time	3 hours	Bachelor's in process	Student
15	M	21	PUBG Mobile, PUBG	Part time	4 hours	Bachelor's in process	Student
16	M	27	Honor of Kings, LOL	Full time	3 hours	High school	Paid teammate

5.1 Motivations for Hiring Paid Teammates and Being Hired By Gamers

As participants included both those who paid teammates to play with them and teammates who offered their services for pay to gamers, the interview data provides a lens through which to understand both parties who participate in these transactions. A discussion of the motivations reported by gamers who hire paid teammates is provided first, followed by insights from those who offer their gameplay services on teammate matching services.

5.1.1 Gamers' Motivations for Hiring Paid Teammates. Interviewees reported a number of different reasons for wanting to hire other gamers to play with them, from wanting to "get face" in front of their friends, to fulfilling social interaction desires and wanting to improve their in-game opportunities. Each of these motivational themes is discussed next.

Fast-Tracking In-Game Progress. Gamers often choose to spend money on paid teammates because they view these purchases as ways to increase their own opportunities within games. For gamers who want to level up their characters in a multiplayer game, for example, having a strong and reliable "squad" is necessary but takes a great deal of time and effort. Hand-picking teammates who have specific skills or powers can allow gamers to mitigate any playing deficiencies they (or their squad) may have without having to take chances on random match-ups within games. As noted by P7, "The quality of the teammates you matched in-game is unstable. Hiring a paid teammate with outstanding gaming skills can help you to level up easier in the game" (P7).

Fulfilling the Need for Social Interaction. Personality and sociability were highly sought after traits mentioned by participants. Before becoming a paid teammate, most interviewees were dedicated players of multiplayer online mobile games. These players were motivated by the chance to socialize with others. P7, for example, living alone and noted it was difficult to find someone to

talk to after getting off work, e.g., "When I play the PUBG mobile game, I can easily find someone in the game to play together and chat for a few hours. I can be myself when playing with strangers in the game"(P7). P7 was satisfied with most of the teammates paired in the game, as long as they were willing to communicate. P4, on the other hand, wanted to find someone to cheer her up. After realizing how difficult it was to use the built-in matching system, she chose to hire her teammates from Bixin because she thought they provided her with a higher quality and more accessible social experience, e.g., "It will be very boring if the teammates matched in the game don't want to chat with you or are not interested enough. Sometimes I spend a lot of time playing with different people in the game, but none of them make me want to play with them for the second time. The quality of paid teammate is more reliable. When I hire a paid teammate, I can find someone who tries his best to make me happy. Level up in-game doesn't matter that much to me. I want someone that can tell jokes, even sing for me while playing the game". After becoming a paid teammate herself, she would spend part of the money she earned to hire her own paid teammates on Bixin. She also regularly connected with paid teammates on WeChat, thus moving their relationship off of Bixin, and played with them regularly. Thus, it appears that consumers and providers within this economy seek to find compatible personalities rather than high levels of skill, which is contrary to most match-ups within other shared economies, wherein the main goal is to "hire" the person with the best skills. For these interviewees, the game, and thus this economy, became a medium through which they could socialize.

Keeping Face. Some gamers hired teammates to "keep face" in front of their friends. Under the context of Chinese culture, "keep face" is means be respected or honoured by others. Many young males believe that having a girlfriend is a good way to "keep face" in front of friends of the same gender. P4 recalled a time when a male gamer asked P4 to act as his girlfriend while playing with his friends "so he can show off in front of his friends. He selected me to

play this role because my voice is nice and gaming skill wasn't that good. He wanted to be a protective boyfriend. I called him 'honey' in the game and made up many stories, like how we met and how this relationship started. We made his friends jealous. He gifted me after the game and became a regular customer" (P4).

P4 was not the only female gamer who reported such an experience. P1 had also played the role of a girlfriend, i.e., *"There are three boys in the team, one of them is my 'boyfriend'. He wanted to treat him differently to get his friends jealous before placing the order"*. As it is tough to find someone to pretend to be part of a couple using traditional team-matching tools, Bixin helped this gamer fulfill this need and keep face in front of his friend.

Another way paid teammates help gamers "keep face" is by helping them rent expensive in-game inventory items. P8 told us that these inventory items cost more than 700 yuan (about 100 US dollar) to purchase. Owning an expensive in-game inventory items in game is the signal of being a dedicated gamer, while having a good financial affairs in real life. P12 met a gamer in a voice chat room who asked the host to find a paid teammate with a Maserati car skin in the PUBG mobile game so the gamer could change a normal vehicle into Maserati in the game because *"Driving a Maserati in game makes you feel good, but it's also very expensive. Some paid teammates or streamers will purchase it as an investment to attract gamers. I purchased it with 800 yuan. All my customers asked to drive it, some of them even took a screen shot."* (P12).

5.1.2 Paid Teammate Motivations. Many of the 16 participants viewed their work as a paid teammate as a part-time job, offering their services for an average of four hours per week. The flexibility inherent in offering these services was the main reason many interviewees became a paid teammate, e.g., *"You can work anytime anywhere"* (P7) and *"Being a paid teammate is an excellent part-time job. I can make some pocket money from it"* (P5).

Others found that being a paid teammate requires less time than other game-based online careers such as livestreaming. P6, for example, was a university student and the highest-paid among the 20 interviewees. She defined herself as a high-level paid teammate in terms of her entertainment and skills and believed that she had all the necessary skills to be a game streamer, but she decided to focus on being a paid teammate because *"Compared with being a paid teammate, becoming a live streamer requires more effort and time. If I become a live streamer, I can't keep the balance between study and live streaming"* (P6).

For some paid teammates, financial needs motivated them to offer their services for hire. P2 was a technician who lost his job due to injuries from a car accident. He thus became a full-time paid teammate while staying at home because *"I earn almost as same as before. I work as a paid teammate around 9 hours a day, and I can get 4000 to 5000 yuan for each month. I am not the only one depending my life on being a paid teammate at this moment. I have a friend who used to be a truck driver, he lost his job because of COVID-19. After being a paid teammate, his income is even higher right now"* (P2).

Still others viewed being a paid teammate as a way to meet people with diverse backgrounds and develop their communication skills. For P8, for example, *"You can meet different people with diverse social experiences while being a paid teammate, from high-school student to factory owner. These people have very different interests and*

concepts. My soft-skills are developed during the in-game accompany, which I think will be a valuable asset after I graduate" (P8).

Very few interviewees considered being a paid teammate as a viable long-term career. Aside from P4, many interviewees thought that being a paid teammate was a time consuming job because they had to stay online and respond immediately if a gamer requested their services, e.g., *"My rating will go down if I do not response immediately. The rating will also goes down if I do not go online frequently"* (P6). Similar to other shared economy providers, some participants also felt insecure about the recommendations on the platform because it was unclear what elements of their profiles were being used, e.g., *"I don't know how the recommendation system works, but obviously some paid teammates get more public exposure to the gamers. The number of paid teammates is keep growing. I am worry that I might lose all of my customers someday"* (P7). Thus, playing online was seen as a flexible job that was just as viable as others in the short term, but offered no long-term assurances and few personal privileges beyond flexibility.

5.2 Self-Presentation via Profile Design and Management

Our objective is to find out what kind of information paid teammates provide on the platform to attract new clients, and how the gamers transfer the information into perceived trustworthiness.

5.2.1 Process of Selecting Teammates. In game matchmaking focuses more on satisfying gamer's expectations in the virtual gaming world by filtering out potential teammates according to their gaming ranks, roles, types and basic personal information such as gender and language. The paid teammate system, on the other hand, focuses on fulfilling expectations that gamers have of real world people. Common expectations include find people with common topics to chat with, meet people in opposite gender, and build intimate relationships.

The interviews underscored that gamers have more complex and precise criteria for selecting paid teammates compared to teammates who are paired in-game. When gamers do not have a specific idea of what kind of paid teammate they want, they review lists of recommended paid teammates profiles that are provided by the system under different game sections. The recommended paid teammates often have a good rating (Figure 1). Gamers can look into each paid teammate's profile, which includes selfies, a short voice recording, a personal statement, gaming and story space. As the paid teammate is notified when gamers check their profile, some paid teammate will message gamers and ask if they want to play with them. *"I will send a greeting to every gamer that checked my profile. A few of them will reply"*, said by P6.

5.2.2 Personal Profile. Profiles on playmate sites often represent a made-up person or character (Figure 2A). While some aspects of the profile may be true, others are fabricated to appeal to potential clients. The information relate to gaming skills often be true and recognized by the platform. We found that when paid teammates are trying to express their designed character through their profile, voice is an important component. Most interviewees agree that paid teammates with nice voices will be more welcomed by gamer.

“The paid teammates with good voice are welcomed. It gives gamers a better impression”, said by P13.

Bixin has a built-in tool to help paid teammates detect their voice type. A taxonomy of characters are used to describe the voice, such as a cute girl’s voice, mature and gentle male’s voice, a energetic boy’s voice, and so on. P6 suggested that paid teammates with certain type of voice will be more welcomed, e.g., *“Cute girl’s voice’ and ‘teen boy’s voice’ are the most popular voices on the platform. Gamers will feel that they are playing with an energetic person”* (P6).

Profile images and personal statements are also part of the character design. Some paid teammates design these parts according to their voice type, e.g., *“Playmate’s voice is the first impression for gamers. I will choose my profile image on Bixin based on my voice. Since my voice is recognized as ‘cute girl’s voice’, so I choose picture a girl with pink hair. I want to keep a consistent impression to the gamers.”* (P10). While Bixin requires paid teammate put a photo with full face as the profile image, the platform does not enforce any rules that the image is of the account owner. Thus, many users choose avatars who look unlike themselves but reinforce their character representation to players. This misrepresentation can be quite extensive. P6 explained some of the tricks paid teammates play when building personal profiles such as *“I joined a group chat which paid teammates will share their experiences here. There’s people selling image packages in the group chat. These image packages include selfie and life photo of a good looking person. Each image package will only sold for once, so gamers won’t realized these photos are fake. paid teammates can even purchase images of pets to put into their story spaces.”* (P6). Unlike other connective online systems, authenticity was not a goal or a highly-held value in the teammate market.

5.2.3 Story Space in Bixin. Story space is used as a mechanism to further enhance the character portrayed by the profile, and thus acted as a self-advertisement mechanism. By observing the Story Space of the paid teammates’ recommended to the researcher in



Figure 1: Left: The main page of Bixin, which contains: (a) buttons to “same city” page and popular game sections, which are: PUBG mobile, Kings of Honors and LOL; (b) Top 3 recommended paid teammates for a gamer; (c) all other game sections. Right: (d) All of the recommended paid teammates under a game section, (e) a list of recommended paid teammates.

Bixin, we found that what all paid teammates post gaming records and game skins. Some of will post video recordings of notable personal gameplay events such as an excellent performance or funny chat between teammates. These video recordings are either filmed by themselves, or reposted from other platforms like TikTok, along with their comments.

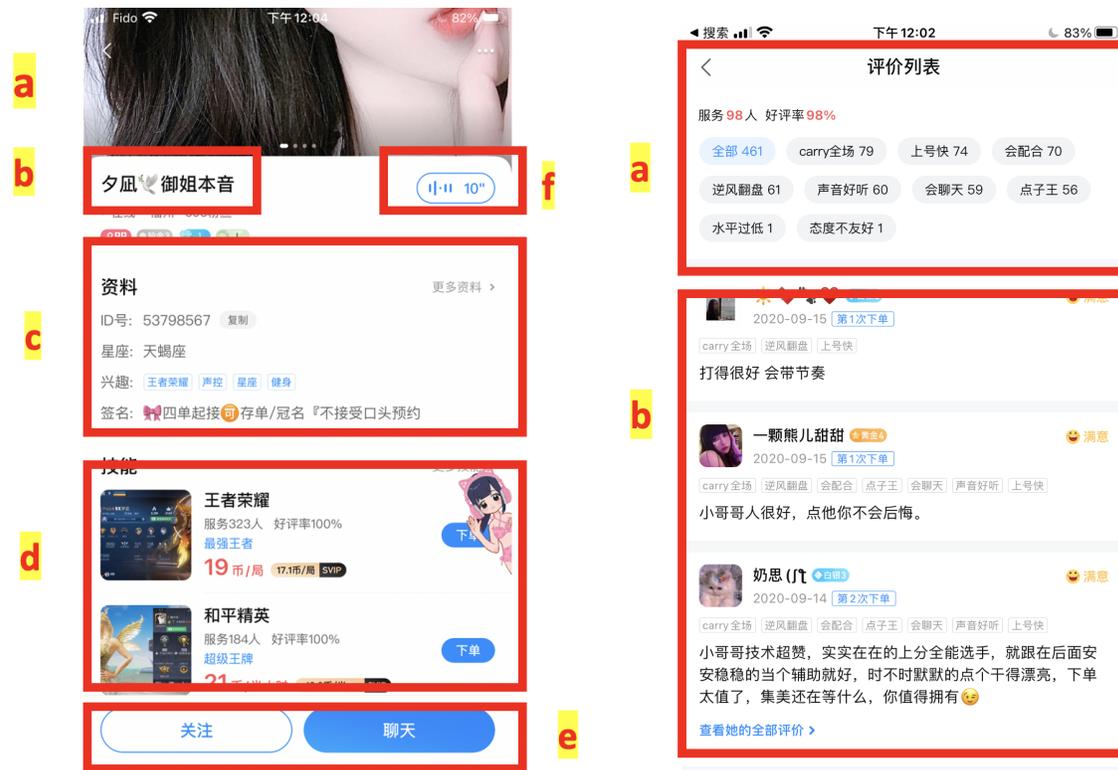
Paid teammates with high gameplay skills post more stories about their gaming performance than entertainment-based paid teammates, who post more stories about their personal life (e.g., selfies or images about food and pets). although these images might not be taken by the teammate themselves, most gamers still buy-in to the overarching character and their backstory. Potential paid teammates and gamers interact in the story space by clicking “like” or leaving comments. The gamers will only be matched with paid teammate on Bixin. We suggest that this is a strategy the platform used to ensure the teammate matching is between paid teammates and gamers, so it can get revenue by taking 20% from the placed order.

5.2.4 Perceived Trustworthiness of Profiles. Though fake profiles are common, gamers still prefer to choose the paid teammates that have eye-catching profile that matches their view of beautys. The trustworthiness of the profile is a lesser concern to gamers as they are seeking teammates that can bring good experiences and illusion. For example, P14 thought that nice profiles were important because *“gamers will prefer to choose the paid teammates with a beautiful profile image even if they know it might not be the paid teammate himself/herself. The gamers like the illusion that they are playing with someone with outstanding face and voice.”* For this player, a nice profile and backstory will not only help the paid teammate attract new customers but also make them happy in the game, which will encourage repeat business. In order to do so, both the player and the hired teammate agree upon certain untrustworthy representations to maintain the illusion of playing with an attractive and fun individual.

Others had also had problems recruiting clients due to this emphasis on profile images. P2 had very impressive gaming record, but was not requested as a teammate for a long time. He philosophically disagreed with the necessity to build his profile and socialization on the platform because he thought his gaming record should speak for itself (i.e., *“When I start as a paid teammate, I use my selfie as the profile image. Very few people placed order on me even my good gaming skills is demonstrated in the profile.”*). It was only after a customer recommended that he change his profile picture he realized that looks were important to potential customers, i.e., *“One of my customers came to me and recommend to me to change the profile image. She said most of the gamers would not open your profile because of your selfie. They prefer to play with the people who give them an impression of having a handsome face”* (P2).

5.3 Selecting Paid Teammates and Making Transactions

5.3.1 Pairing in Voice Chat Room. Gamers use the voice chat room to find the teammates that meet very specific requirements, like coming from a specific hometown or education level or having a specific dialect (e.g., *“Looking for paid teammates that speak one area’s dialect is one of the most frequent requirements. I think gamers*



(A) A profile of a paid teammate: a) A selfie; b) Name on Bixin. This paid teammate chose to add her voice type behind her name, which is “mature lady voice”; c) Gaming profile; d) The games she plays e) chat with her by clicking the blue button; f) a button to play a clip of the voice of the paid teammate

(B) A page of a paid teammate’s ratings and comments: (a) This paid teammate have played with 98 gamers, with a good rating of 98%; (b) The comments left by previous gamers about the service

Figure 2: Examples of different UIs of (A) user profile and (B) ratings and comments on Bixin mobile App

are looking for someone who has a common background with them, so they will have more topics to chat about in game.” (P8). P8, for instance, met a gamer looking for a paid teammate who could help him with his homework while playing the game (Figure 3B).

Gamers check on the trustworthiness of the paid teammate themselves. Some requirements, such as dialog and language, are easy to confirm. For example, P6 met a gamer that asked the paid teammate to chat with him in English in game. She told him that she was an international student in Canada and introduced herself fluently in English. She thus became his client. Some background details, however, are more difficult to check. P7 mentioned that he met a gamer looking for a teammate who likes animes. However, this is a detail that is very difficult to confirm (e.g., “The paid playmate will lie on this. Maybe the paid teammate just know one or two anime only. It is impossible to check if these paid playmates are lying in such a short time through voice channel”).

Voice chat room are fast-moving environments each potential teammates is allotted a limited amount of time to make a good first impression and convince the gamers why they should be chosen to play with this. Initially, each paid teammate is assigned an index number when they enter the room that is based on their gaming

profile. They then briefly introduce themselves for 10 to 15 seconds and try to demonstrate how they meet a gamer’s requirements. If a gamer does not make their expectations clear, paid teammates have to make on the fly decisions about how to attract the gamer, such as by telling jokes (e.g., “After introducing my game level, I said a short joke that I prepared for the voice chat room, coming for a few sentence that will comfort the gamer. The gamer chose me as his teammate” (P7). Thus, there is a certain skill in interpreting prompts that for-hire team mates must gain and employ quickly to secure clients (Figure 2B).

However, not all paid teammates like to use the voice chat rooms. Some prefer to build their profile and wait for gamers to contact them. As described by P9, “I feel nervous to talk in the voice chat room. Every time it comes to my turn to introduce myself, I will get nervous and don’t know what to talk about. All other paid teammates in the room sounds so outgoing and interesting. The gamer never chooses me over them. I think building up the profile is a better way for me to attract gamers.”.

5.3.2 *Alternative Channels.* After matching with a gamer on the platform, some paid teammates prefer to keep their transactions outside the platform, i.e., “The platform will take 20 percent out of

gamer's pay. Sometimes I will ask my regular customers to pay me on WeChat instead" (P10). Conducting transactions outside the Bixin platform is strictly forbidden and can be punishable if the paid teammate is reported. Without supervision from the platform, paid teammates can have concerns about gamers' trustworthiness. First, paid teammates need to consider the risk of being reported, "My account will be suspend if the gamer reports me to the platform that I want to make transactions in other ways" (P4). Some paid teammates test out the gamer before communicating with them outside the platform, e.g., "After the gamer placed the order several times on the platform, and I think we had a good time. I will ask the gamer to add me on the WeChat. If a new customer asks me for my private contact at the first time we play, I won't give it to him. I don't think he can be trusted. I have to inspect the gamer first before communicate out of the platform" (P6). Rapport and trust needs to be established before moving to an off-site system.

Second, there is risk of the gamer not paying after the game. On the Bixin platform, the gamer must pay the platform before the game can commence. The platform holds the money in escrow and only transfers it to the paid teammate after the game has finished. When there is no such a guarantee in off-site interactions, some paid teammate request that the gamer to pay for their services in advance. The paid teammates are paid in increments of 30 minutes. Sometimes the game does not finish when the time is up. P14 said she will ask the gamer place another order, even in the middle of a game. P15 said he will be more flexible with frequent guests, "for frequent gamers, I don't need to worry about the payments. I believe they will pay me after the game". Trust both reduces stress for both types of the user, and can potentially increase the profit for the paid teammate, e.g., "I will feel more secure if the gamer pay advance and book time later. I have a frequent guest that paid me a lot in advance, so we can play together anytime he want" (P7). Trust both reduces stress for both types of the user, and can potentially increase the profit for the paid teammate. paid teammates with frequent customers have a more stable income and a more comfortable social environment, "I don't have to keep guessing the paid teammate's interest and finding topics to chat with. This makes me more relax in-game and result in a better gaming performance" (P6).

Some paid teammates group together and build their own matching platforms though group chats on WeChat or QQ, e.g., "One paid teammate created a WeChat group and invited other paid teammates in. He asked paid teammates to invite their familiar gamers in by providing referral fee" (P6). P13 approached the research team and invited us to join a matching group. We found that the gamer-paid teammate matching groups often in a smaller population size. The paid teammates in one group often have similar backgrounds, like playing on the same server. The group chat we joined had rules set by the owner. The group owner also organize training sessions for gamers from time to time. However, some paid teammate play tricks during the pairing process. We found that the person running the Bixin account might not be the same person who participates in the game. The Bixin account is carefully designed and managed by one person. This person will frequently updating story space and making connection with gamers, which requires a lot of effort but can make the account become popular very soon. When the gamer places order, the order will be transfer to another paid teammate. One person does the branding and another person does the playing.

It is difficult for gamers to realize that, since it is hard to understand the character of a person in 30 minutes.

5.4 In-game Accompaniment

Paid teammates often adjust their accompaniment strategies to meet a gamer's needs. While some gamers expect the playmate to be highly skilled at the game, others primarily seekout paid teammates for game accompaniment. Thus, paid teammates often label themselves as entertainment paid teammate, high skills paid teammate or both.

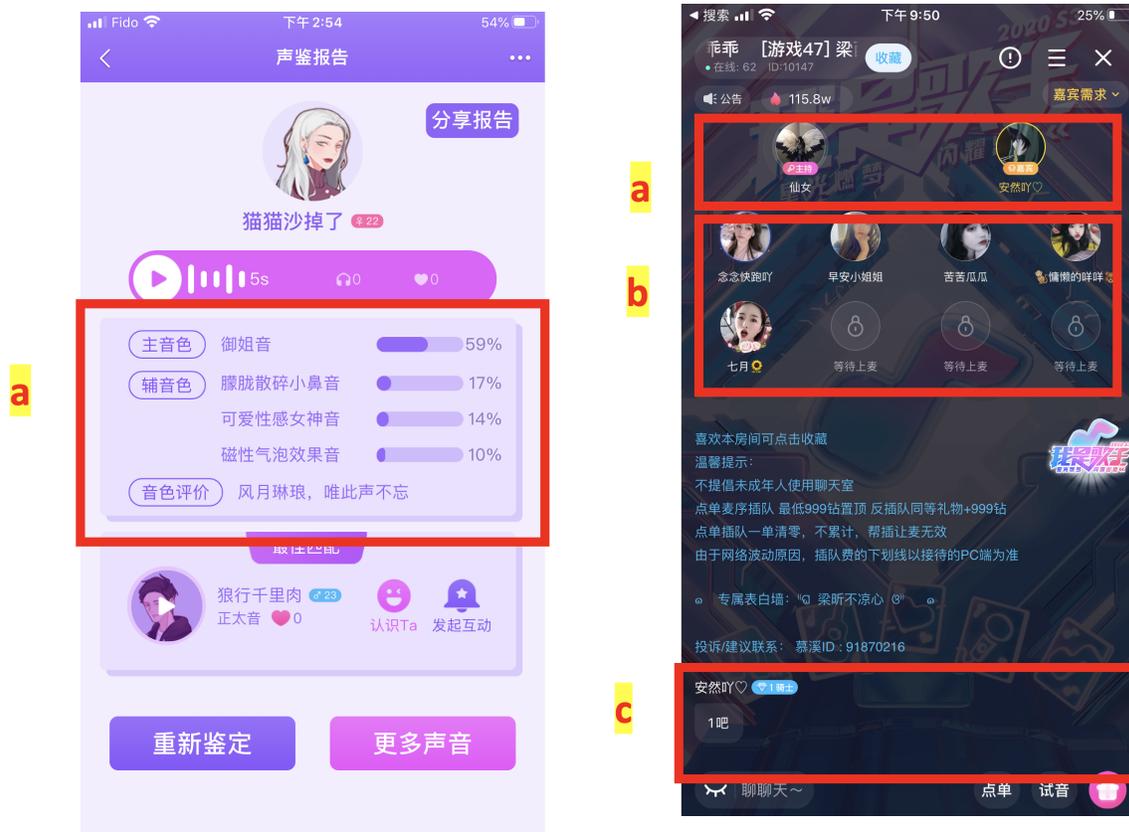
5.4.1 Entertainment Value vs. Gameplay Skills. Entertainment paid teammates focus on chatting with gamers and seek to make them happy in game, while high gaming skill paid teammates focus on winning the game. As a high gaming skill player, P12 said "I don't talk a lot in game. It's entertainment paid teammate's responsibility to make gamers happy, I just need to play well". Chatting and socializing were less emphasized by these individuals, instead their service relied upon knowing the game well and being able to play at a skill level at or above the person who hired them. P9 was an entertainment paid teammate. As mentioned by herself, most of her customers played better than her in game. She was welcomed among gamers because of her voice, i.e., "some gamers don't care about my game performance at all. It's ok if I play badly. They place orders because they like my voice and want me to sing for them in game." (P9). P12 mentioned that some gamers preferred to choose gaming companions of different genders, e.g., "It's different when accompanying the gamer in the same or different gender. Gamers in the same gender want you to have good performance in the game. Gamer in different gender needs more communication and caring." As indicated by the lack of talking by P12, socializing and interacting can have inverse effects. P9's focus on entertaining resulted in less focus on the gameplay and more on keeping up a conversation or singing. The focus required to win the game would have resulted in less lively conversations, and likely less satisfied team mates.

5.4.2 Collaboration and Competition between Paid Teammates. Sometimes gamers hire multiple paid teammates to play together. These paid teammates have to collaborate with each other to provide a good gaming experience. However, they will also compete with each other to impress the gamer, e.g.,

"If the gamer order multiple playmates simultaneously, we will most of the time cooperate in providing the best experience to the gamer. However, there's also competition between us. If the gamer needs only one playmate in the next time, I hope he can choose me over other paid teammates." (P14)

Paid teammates that are hired for their gaming skills try to kill more enemies and show off their skills, whereas entertainment paid teammates try to continually engage with the gamer in game.

Paid teammates have to be careful about the role they play within a team to ensure they receive a good rating. By observing the story shared under the tag "The strange gamer I met" on Bixin, a paid teammate shared his experience of performance too well in game and got a bad rating. He did not realize the two gamers in the team was a couple. He kept making the girl laugh and get the boy annoyed.



(A) A page which displays an evaluation of the voice of a paid teammate showing a) main voice factor, secondary voice factors, and a comment on the voice by the evaluation

(B) The voice chatroom: (a) The host on the left with the gamer on the right; (b) Five paid teammates competing for the order; (c) The gamer send text message to select the paid teammate he/she wants to play together

Figure 3: Examples of different UIs of (A) voice evaluation and (B) the voice chatroom

5.4.3 *The Gamer's "Face"*. One common rule all paid teammates follow is to always let the gamer "keep face". Participants mentioned the word "face" for multiple times during the interviews. In 5.1.1, we explained how gamers showing off in front of others to "keep face". Praising and comportsing the gamer are also the ways of "keeping face" in game: "Sometimes, the gamer wants to be protective and show off their skills in front of me. I will notice that and praise them. Even I don't think so at all" (P1). P15 was a paid teammate with high gaming skills. He prepared multiple game account with low game levels, so the gamer could pair to weak enemies in game. "I always find excuses for gamer when they have bad performances in game, like the mistake is cause by the delay of the server respondent. Even both of us know it's not." (P15).

Many gamers had unpleasant experiences with uncooperative teammates that were paired in game, i.e., they had conflicts when allocating resources and making decisions about gaming strategies. P11 label himself as a paid teammate with high gameplay skills in PUBG mobile. To make the gamer happy, he would follow the gamer's instruction even there was a better way to play, e.g., "The teammates matched in the game can be very uncooperative. When the gamer hired me, we will discuss the tactics before starting the game. I

will provide some suggestions and let the gamer make the decisions. I will also give most of the good guns to the gamer in game, even I know I can use these guns much better." (P11).

5.5 Relationships Beyond Gaming

To maintain a frequent contact with a gamer, paid teammates need to determine which type of relationship the gamer is seeking. Most participants suggested treating gamers as friends because "Some of the gamers want to pay you to be bossy, but most of the gamers want you to treat them like friends. To maintain a long-term connection, it's important to build a friend-like relationship" (P11). P3 suggested that for gamers seeking accompaniment from paid teammates, it is important to make gamers feel they are being cared for sincerely, i.e., "The long-term customers not only looking for a temporary accompany in-game, but they are also looking for interesting game mates, a friend that they can play games with. They won't like you if you make them feel the only reason to play with them is because of money. Sometimes I play with them for free. I consider this as an investment." (P3).

5.5.1 Interactions on WeChat. Communication between paid teammates and gamers is not only limited to gameplay. Some paid teammates will extend their communication into topics in the real world to strengthen the relationship. After adding customers on WeChat, for example, P12 would tag them so she could send greetings to all of them everyday, and post stories that could only be seen by these gamers on WeChat moments. She would respond to any gamer that left a comment on these stories. She found that frequent interactions on WeChat were a good way to encourage gamers to place more orders, e.g.,

“Adding each other on social media can strengthen the connection between paid teammate and gamers. I will send greetings to gamers regularly and chat with them about the daily life, then ask them if they want to play games together. The gamers will be more willing to place orders if I chat with them frequently. we have common topics to chat with in game”.

5.5.2 Maintaining Proper Balance. Some paid teammates try to strengthen their connections with gamers by building a friend-like relationship outside games but only continue these relationships if they get paid by the gamer (e.g., *“I will always ask gamers to pay. I will be their friends as long as I am getting paid”* (P6)). It is difficult to maintain a balance between being a friend and a provider, e.g., *“It’s pretty difficult to keep a proper distance with gamers. If the paid teammate does not try to get familiar with the gamer, the gamer might go to other paid teammates. If the gamer and I get too close, the gamer will raise further requirements and want to play games with me for free”* (P3).

P3 was willing to flirt to some extent with male gamers to keep them as loyal customers, but she did not want to further have an intimate relationship with them. She noted that sometimes refusing a gamer means losing a customer (i.e., *“When you refuse to be more intimate with the gamer, he might stop contacting you directly. Most of the paid teammate-gamer relationships end up in this way. However, when a group of gamers stops coming to you, another group of gamers will come, but they will also leave someday”* (P3)). P4 had the same experience that she was deleted from the contact list by a gamer immediately after she refused to become his girlfriend, i.e., *“I used to play with a gamer for a long time, then he tried to ask me out someday. He wants me to be his girlfriend but I refused. Then he deleted my contact on WeChat immediately. I felt so bad because of that. He was one of my favourite customers, I really enjoy the moments playing with him”* (P4). For these paid teammates, the relationships built with gamers within Bixin must be carefully managed, which adds to a lot of emotional labor for them.

5.6 Negative Experiences in Bixin

Interviewees shared many negative experiences that they had while accompanying gamers in-game. For example, there was a mismatch between expectations and services provided. Many gamers that were new to the platform thought that paid teammates were hired to ensure that they would win the game. P8 had a gamer gave them a bad rating and asked for a refund because they did not win the game (e.g., *“Some gamers seem to acquiesce that hiring a paid teammate will ensure the game winning. However, winning the game never be the product the paid teammates are selling. In my opinion,*

the gamer spend money to buy paid teammate’s time to accompany them in game. The accompany experience is what they are paying for, not the result of the game”.

To attract new customers, some paid teammates will choose to lower their prices. P12 found that the gamer he accompanied with a lower price often has more requirements compare to the gamers at higher price, e.g., *“More gamers will come to me if I lower the price. But these gamers will have a lot of requirements and threaten me by giving a bad rating if I do so. The gamers willing to pay more for paid teammates often easier to communicate with”.*

While paid teammates often have difficulties maintaining a proper balance with gamers, some gamers explicitly approach paid teammates with the intention of building an offline, intimate relationship with them. Most of these gamers were male and went to the “same city” page of the app to approach female paid teammates within the app. All female interviewees reported having been asked to meet male gamers in person. P11 suggested that meeting with gamers offline was dangerous, even they have communicated in game for a few months, e.g., *“I only connect with these gamers online. I will stay alert for any personal connections. I always separate the games and my privately life. I don’t know what kind of person the gamers are, even we play games together. It’s necessary to stay alert.”* (P11).

Some paid teammates felt that gamers thought they could do whatever they wanted to them in the game because they were paying for their company, e.g., *“Once a new customer wants me to call him ‘darling’ in the game. He also kept making dirty jokes on me. I feel uncomfortable and put him into the blacklist immediately after the game ends.”* (P15).

When a gamer and paid teammate have a conflict, the gamer may give a lower rating to the gamer or leave negative comments. As ratings influence paid teammates’ chances of being recommended to gamers by the system, and especially the ratings of new paid teammates, these ratings can drastically decrease a gamer’s chances of being hired (e.g., *“Gamers will doubt your ability and attitude when they see the bad rating and the comments. They will go to other games instead. There are so many paid teammates on the platform right now. Sometimes I even think there’s more paid teammates than gamers on the platform.”* (P13)).

To obtain a higher rating, some paid teammates hire click farms. Since ratings can only be made after an order is placed, paid teammates pay for both the click farm and the portion of the “order” taken by the platform. P13 was willing to spend money on click farms because he considered them to be long term investment, i.e., *“Even it cost me some money to obtain a higher rating for right now, I believe I can earn it back in the future. Everyone is doing this, we know a good rating means more orders”.*

Some paid teammates will choose to refund the gamer to avoid a bad rating (e.g., *“Some gamers know how important a good rating is to paid teammates, specially for the paid teammates who did not have a lot of history orders. They will threaten the paid teammate to refund by giving them a bad rating. Most of the paid teammates have to satisfied them”* (P6)). Most interviewees said that they did not do anything wrong in game to warrant bad ratings and that some gamers gave bad ratings on purpose so they could play with a companion for free. It will be very difficult to appeal successfully to the platform if there is no proof, since very few people will do a screen recording when playing the game.

6 DISCUSSION AND IMPLICATIONS FOR DESIGN

The results showed that the paid teammate recruiting platform is similar to sharing economy platforms, where “teammate playing services” are the commodity being shared. In previous studies of sharing economies in HCI, key themes that emerged were the motivations to share, working conditions, wealth of social relationships, and the building of trust [16]. This work shows that while some motivations are similar to platforms such as Airbnb and Uber, the teammate economy differs in a number of important ways.

6.1 Design Features and Observed User Behaviors

The features on this platform are developed from previous sharing economy platforms, dating applications and social media. Similar to dating application profiles, the paid teammate’s profile page contains personal picture, user name, status updates, interests, and constellation Figure 2. The platform suggests teammates provide more personal information through their profile and present themselves in more dimensions, e.g., their interest, memos, and their voice. This makes gamers’ expectations focus on the real-world characteristics of teammates. The communication channel in games such as PUBG is primarily voice. Voice related features, such as voice chat rooms and the built-in voice evaluation tool, help gamers select teammates by characteristics of their voice (Sec.5.2.2). Thus, a premium is placed on games that are designed for voice chat, and users may seek out games that provide enough idle moments for chatting about non-game topics. Some paid teammates design their profile based on their voice evaluation, leading to profiles that highlight their voice. Gamers may skim pages looking for the most “authentic” part of the profile and the voice of the player they will be hiring. However, knowing that voice is so important for finding and keeping clients, teammates likely train specific and similar voices to ensure they will be hired and even to target gamers who are interested in specific traits.

6.2 Differences Compared to Other Sharing Economies

While some product providers, which are the paid teammates, provide accompaniment services for economic reasons, the product receiver (the gamer) has more complex motivations. Most gamers hire a paid teammate to have a pleasant gaming experience, via a game victory or a joyful socialization with other teammates (both paid and non-paid). Gamers on Bixin specifically paid for an in-game socializing experience so it is acceptable to leave a negative rating if gamers think the paid teammate does not have good communication skills. This is different from other sharing economy platforms [5, 21, 55] because socialization drives the consumption of these services, rather than the fulfillment of tasks one is too busy to do (e.g., TaskRabbit) or use of goods one may never be able to afford (e.g., Airbnb or Uber),

Thus, gamers explicitly seek to create an experience by hiring individuals on these teammate seeking sites. This experience may extend beyond the boundaries of a single play session with the gamer returning for future interactions with their chosen teammate.

In this way these sites differ from many sharing economies where interactions may be limited and providers replaceable. Replacing one playmate with a different one will remove the personality, history, and shared experience gamers seek to establish through the use of these sites.

6.3 Fairness and Harassment

Because socialization often leads to relationship building, in the long-term, some gamers expect a continued connection with paid teammates they like – often to the extent that they want to build a friendship or romance with them. Such relationships are not the focus of most sharing economy platforms today. However, establishing a relationship means that paid teammates may not be able to provide their “service” any longer because the gamer does not want to pay their “friends” to play with them. Thus, establishing relationships may cut off potential income streams. The development of relationships on these teammate platforms may lead to a disconnect between the stated and imagined use of the application for all involved.

It is also difficult to maintain fairness between paid teammates and gamers as Bixin cannot monitor what is happening in games because it is a service external to a game. On other sharing economy platforms, consumers can report to the platform that they did not get the service they paid for and are often required to utilize photographs or GPS data to do so. Currently on Bixin gamers only need to complain about the service to receive a refund. If paid teammates want to appeal to remove a low rating they have to provide evidence to prove that they delivered what was promised in-game. Very few paid teammates record the games they play as evidence because it requires a lot of storage to do so and paying for such storage may transition their “fun” activity into an actual enterprise or job. Thus, many paid teammates strive to please gamers’ every demand and are constantly under threat that gamers’ may give them a bad rating. As the platform currently prioritizes gamers over paid teammate in resolving disputes (as gamers are the source of income for the platform), there is a need for platforms such as Bixin to take more accountability for their customers and providers, especially when dealing with conflicts between gamers and paid teammates.

One possibility may be to limit the number and frequency of the bad ratings that a gamers can provide. A curated ranking that the paid teammate can choose to highlight on their page could also be used to indicate that some rankings were left unfairly, and highlight positive reviews that are reflective of the experience they provide. An anonymous client ranking tool used by teammates to create a shared history of feedback on clients may also be effective. This tool could collect additional comments on gamers from teammates. These ratings can be used by teammates to judge if they choose to play with a gamer by providing a sense of that gamer’s in-game habits and expectations.

As reported by interviewees, all women had been harassed when offering their game playing accompaniment services. Because Bixin is an external service not connected to the game spaces, paid teammates also need to be mindful of the likelihood of harassment in or outside of games. This behavior may occur because some male gamers hold the impression that “all female paid teammate provide

sex services”. While some paid teammates do provide such services, most paid teammates do not, however, there is a widely held belief within China that being a paid teammate is not a respectable job or service to provide [13]. In order to cut down on the likelihood of such behavior, the platform can make simple changes such as not having the opposite gender be set as the default gender when searching for new paid teammates and burying the setting to switch genders while searching within a deeper menu hierarchy could lead individuals to select same-gender team mates more often, reducing teammate selection solely on sexual traits.

6.4 Trustworthiness Evaluation and Validation

Although gamers can view information about paid teammates’ gaming skills on the platform, in addition to hearing a paid teammate’s voice or checking previous gamers’ ratings of them, gamers still must evaluate the trustworthiness of a paid teammate by themselves. This leads some gamers to suggest that the paid teammate they hired is different from their expectation. This could be because the gamer perceived the paid teammates skills incorrectly or that the paid teammate used fake information or paid bots to increase their ratings. As the findings demonstrated, the authenticity of paid teammates profiles are often less important than the traits the paid teammate exemplify within a game (e.g., cute voice, bubbly personality). If profile pages were designed around the traits that gamers primarily seek, they may be able to find more paid teammates that meet their non-sexual needs and provide them with better in-game experiences. By adding a feed of recent game activities such as highlights or play sessions to every profile, paid teammates could share their experiences with others and show that they remain interested in and practice what their profile claims to represent. Employing these feeds for discovery and personal representation would likely be a better way to ensure positive signals from the gamers seeking to play with representations of the people behind the profile.

We also found that some teammates used fake information to attract gamers or meet their requirements, e.g., using fake images, hiring click farms, or lying in voice chat rooms. Trustworthiness of profiles can be enhanced by introducing a verification and game account-link process for accounts to ensure that the teammates are who they claim to be. Individuals would need to upload proof of identity to establish a verified account, similar to verified accounts on other platforms such as Twitter. Should issues remain, all accounts can be verified through this process before interaction can occur on the platform. Furthermore, additional computational tools to identify and prevent click farms from being successful will mitigate popularity farming on these platforms and refocus interactions on personal connections.

6.5 Generalizability to Other Sharing Economies

Some features of Bixin can be applied to other sharing economy platforms. For example, the voice chat room feature could help hosts better promote their services on Airbnb Experiences. Visitors who do not have a clear idea of the experience they want can describe their spontaneous requirements to potential hosts in such voice chat room live sessions. The hosts can customize their services

and convince visitors through voice interaction. This would be an extension of the labor that many of these gig workers do to create experiences that have their “personal” touch, such as leaving personalized guide booklets at Airbnb sites. These extensions can create more premium experiences or have people compete based not just on price but also on personality, where some may excel.

6.6 Invisible Labor and Future Work

We found that the owner of the Bixin account was not always the same as the one playing in the game once matched (Sec. 5.3.2), unveiling a significant amount of invisible labour on the market as teammates quickly adopted new roles (e.g., ghost teammates) or took on the history of a relationship with a player. These drop-in teammates took on roles and acted as if they were different people with new personalities and histories between each play session. Swapping between these roles quickly can be difficult and is not currently supported or rewarded by the platform. While there are many ways the platform could support these interactions, such as creating accounts that are run and managed by a team of teammates, it is uncertain how gamers would react to the case that a teammate is not a single person but rather a collective effort. Future work can be done to understand the needs and opinions of these players along with the technological needs for supporting the gig workers who assume these temporary roles.

7 CONCLUSION

The observations and interviews presented in this paper have shown an emerging type of sharing economy which focuses on sharing of experience and social interaction with others. The particular sharing economy we studied was seated in sharing the play of video games, and augmenting that experience with socializing. Due to the importance of socializing, this economy placed a high importance on the assumed profile and enactment of identities during game play, to the degree that many paid team mates were chosen purely based on voice and personality. These service providers often provided fake details to ensure they were hired. However, the role played by the service provider was in tension service procurers who often sought a deeper, real life relationship with the player. We have suggested that future design of social matching systems online should take into account these expanded needs of players when matchmaking, and designing for interaction that extends beyond the medium of the game.

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