Playing with Strangers: Understanding Temporary Teams in League of Legends

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ABSTRACT
Game researchers have extensively studied how players form long-term social organizations such as guilds and clans to accomplish complex tasks such as raiding in online games. Few studies have been done to understand how temporary teams (or pickup groups) composed of strangers fulfill complex tasks. Riot Games' League of Legends, a team-based competitive online game, is played by two temporary teams. Players must collaborate with strangers in a relatively short time (about 30-50 minutes). How do players interact and collaborate with their teammates in temporary teams? To answer this question, we conducted an ethnographic study within the League of Legends community. We conducted 30 semi-structured interviews with experienced players. We found that rich social interaction exists within temporary teams. Players want to collaborate with strangers through communication and coordination. They discipline their own ways of interaction to facilitate collaboration. They try to exert influence over their teammates. We further discuss design implications for facilitating collaboration among strangers.

Author Keywords
Temporary team; pickup group; collaboration; regulation; social interaction; deviant behavior; Multiplayer online Games; League of Legends

ACM Classification Keywords
H.1.2 Human factors

INTRODUCTION
Collaboration is a key theme in MMOGs (Massively Multiplayer Online Games). Players collaborate through various social organizations to accomplish different tasks. Players form long-term teams such as guilds and clans to accomplish large-scale, complex tasks [1, 7, 8, 19]. For example, Bardzell et al. reported an extensive study of two guilds that made deliberate strategies to raid in World of Warcraft [1]. On the other hand, collaboration between strangers is usually lightweight and informal. For example, players of *There* could only chat with strangers [4]. Star Wars Galaxy provided a relatively low level of interactivity between players, characterized by short interactions centered on instrumental purposes (e.g. getting healed and purchasing services) [6]. World of Warcraft players engage in informal, unplanned collaborations with strangers such as casting a beneficial spell or helping beat a monster [19]. Ducheneaut et al. reported that players enjoyed strangers' "countless antics and humorous interactions," such as impromptu dance [7].

Some online games provide mechanisms that allow strangers to form temporary teams to fight non-player characters (NPCs). For example, World of Warcraft (WoW) supports players from different servers to form a temporary team to do an instance or a quest. Studies of these temporary teams reported a low level of social interaction between players. For example, Ekbia and Nardi commented that "*Players served primarily to fill out the roles in the trinity so that contests could be completed and items of equipment won; the social dimension transmogrified to minimal instrumental interaction, and sometimes no interaction at all*" [9]. Eklund and Johansson noted that players held communication to a minimum and focused primarily on fulfilling their roles [10].

Recent years have seen the rise and prosperity of many team-based competitive online games, such as Riot Games' League of Legends [24], Valve's DOTA 2 [28], Blizzard Entertainment's Heroes of the Storm [3], etc. In these games, strangers form a temporary team, collaborate intensively, and achieve complex goals – defeating another team. How do strangers interact and collaborate in temporary teams?

To answer this question, we conducted a qualitative study of League of Legends (LoL). LoL is one of the most popular games in the world with more than 27 million gamers each day [26]. We found that temporary team in LoL is characterized by rich and complicated social interactions. Temporary teams meet various challenges in communication and coordination, such as lack of organization and deviant behavior. To achieve success,

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players must discipline themselves as well as influence their teammates.

RELATED WORK

Game researchers have extensively studied player collaboration in Massively multiplayer online role-playing games. Yee pointed out that collaboration is one of player motivations in online games [31]. Nardi and Harris argued that collaboration makes World of Warcraft more fun and yields rich learning opportunities [19]. Lindtner et al. reported that players' collaboration formed an ecology with their real life friends and physical environment [17]. Zhong reported that collaboration positively influences players' online social capital and online civic engagement [32].

People collaborate in different social organizations. Guild, as a form of social organization, has been widely studied. Ducheneaut et al. examined group dynamics within guilds, in terms of their demographics, structure and life cycle [8]. Pisan examined players' identity within guilds [22]. Bardzell et al. investigated how guilds made strategies to progress in game [1]. People can socialize with each other within guilds and clans, which contributes to the successful collaboration.

Several studies pointed out the importance of friendship in collaboration. For example, Xu et al. reported that people are more willing to play with their friends in Halo 3, a first person shooter game [30]. Mason and Clauset reported that friendships exert a strong influence, leading to "both improved individual and team performance and increased pro-social behaviors" [18]. Bardzell reported that in World of Warcraft's instance runs, players preferred to play with established friends, rather than strangers, and the primary reasons were insecurity about being judged by strangers and a desire to avoid people with poor social skills [2].

Collaboration is fundamental to the success of MMOGs. Scholars have examined non-strangers' collaboration from different angles, such as social organization and friendship. Little is known about strangers' collaboration. We want to understand how strangers collectively accomplish complicated tasks in League of Legends.

LEAGUE OF LEGENDS

League of Legends is a free-to-play match-based game. Each match lasts about 30 – 50 minutes. A team usually consists of five players who do not know each other. Within each match, players defend their own base and try to destroy their opponents'.

To play a game, a player first enters "champion select lobby," where he meets his teammates for the first time and determines the champion and the role he wants to play (see Figure 1). Currently there are more than 110 champions. Each champion has a unique set of abilities. A team comprises three different roles: carry, which deals damage, tank, which absorbs damage, and support, which can buff teammates or debuff enemies. An optimal team composition needs players to fill all of these three roles. During the champion select phase, players can communicate with their teammates through a text-based channel at the lower middle part of the game client. Players cannot communicate with their opponents at this phase.

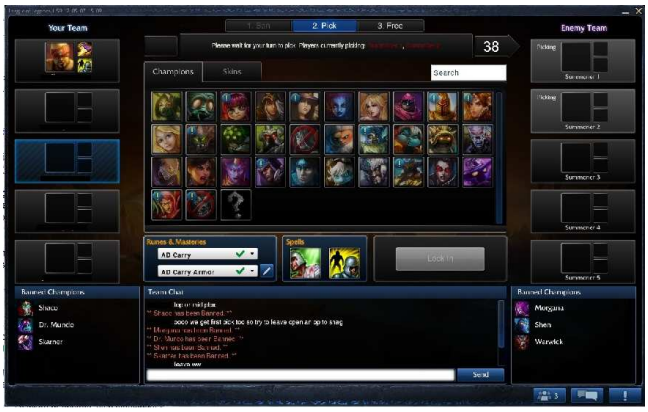


Figure 1. Champion select lobby.

A match begins after every player has determined their champion (see Figure 2). As the match goes on, the champion gains experience points and gold by killing opponent minions and monsters in the wild. The character gets stronger by learning or upgrading his abilities when he levels up and purchasing items with his gold. A match ends whenever one side's base is destroyed. Players can talk with their teammates as well as opponents through an in-game text-based channel.



Figure 2. The beginning of a match.

LoL has two game modes: normal game and ranked game. Ranked game is paired with a ranking system that measures players' skill levels and assigns them into one of six leagues: Challenger, Diamond, Platinum, Gold, Silver, and Bronze. LoL matches players with similar skills. Players can rise to the next higher league if they keep winning games. Players can be demoted to the next lower league if they keep losing games or stop playing games for a long time.

Riot Games have developed several systems that promote collaboration or sportsmanship in Riot Games' own terms. The "Tribunal" system is a punitive system that allows

players to identify and punish deviant behavior [33]. With the help of the Tribunal, players have evolved a hybrid system of governance within the LoL community [14]. The "Honor" system is a reputation system that encourages players to give a positive rating to whoever they consider to be a good player [23].

METHODS

We conducted an ethnographic study within the League of Legends community from January 2012 to January 2014. The first author has played League of Legends since October 2011. We collected and analyzed documents from Riot Games' official websites, including Riot Games' official announcements, official blogs, and code of conduct for the LoL community. We analyzed player discussion about collaboration on Riot Games' official forums. We analyzed 200 matches' chat logs, which we randomly selected from Riot Games' Tribunal system. We read through these chat logs to find out how deviant behavior happened, how players responded to such behavior, and how such behavior affected players' collaboration.

We conducted 30 semi-structured interviews with players on LoL's North America server. We recruited players through directly contacting them in game, posting recruiting message on the official forums, and snowballing. Our interviewees ranged between 18 and 30 years old. There were 28 males and 2 females. All of our interviewees were experienced players who played LoL for at least one year. Their in-game rankings ranged from Bronze to Diamond during the period when the interviews were conducted.

The interviews were conducted in person, over Skype, and through in-game chat. Each interview lasted between 30 minutes to one hour. We asked them what they liked and disliked about playing with strangers, how they communicated with strangers, and what efforts they made to collaborate with strangers. When we report quotes from interviews and forum posts, we retain the original orthography and punctuation.

FINDINGS

Social interaction plays an important role in LoL's temporary teams. Successful interaction upholds promising collaboration between strangers. However, the social interaction can be problematic, which hinders collaboration. To facilitate social interaction, promote collaboration, and win game, players discipline themselves within the team and influence their teammates proactively.

Unpacking the Role of Social Interaction

Players acknowledge the significance of social interaction within temporary teams. A player said, "*Every aspect of the game needs communication. Positioning of the jungler, rotations, movement predictions, warding, etc. Even counter jungling. The only things that don't involve teamwork is farming and outplaying solo lanes.*" During a match, each player associates with the rest team. One action influences several teammates. Communication at "every aspect" is necessary to keep a team work closely.

Another player said, "*You really have to make sure everyone is on the same page. And you need to work with your team to make sure they understand their strengths and weaknesses, and make sure they know when to fight or run*." The situations a temporary team faces are constantly changing. There is no fixed strategy for a player to follow. Players must keep communicating with their teams to ensure that they share mutual understanding as well as the same goals ever since the champion select lobby.

Players agree that collaboration outweighs individual skill in this game. For example, a player said, "*If your team works together correctly you can beat five individuals just trying to win with 'skill.'*" By emphasizing "skill," the player was trying to say merely individual skill is not enough for this game.

However, interacting with strangers is not easy and straightforward. A player admitted that, "*From progressing from lvl 1 and learning the basics I've come to notice that people tend to tunnel vision, blame others for their mistakes and not communicate at least untill you start winning more and get better players on your team.*" The player pointed out that in-game situations heavily influence people's social interaction.

Many players reported the challenges of giving direct feedback to their teammates. For example, below is a conversation between the first author and an interviewee.

> *[11:23] Inteviewer: Do you give advice to your teammate so that they can make fewer mistakes in game?*
>
> *[11:24] Player: I try to, but most of the time they just get offended and rage at me.*
>
> *[11:25] Interviewer: So giving advice is generally not welcome in this game, right?*
>
> *[11:26] Player: Usually it is just seen as an insult and most people think they know better.*
>
> *[11:27] Interviewer: Is there any way you can help when one teammate is keeping doing one risky move and getting killed?*
>
> *[11:28] Player: Ask them to ward and to play safer, but even that is an "insult" to most of the community.*

Similar to this player, many interviewees reported the difficulties of giving others advice. They agreed that players could hardly take advice in a peaceful manner within an intense, competitive gaming atmosphere.

Problematic social interaction such as griefing and flaming exists in LoL. Griefing refers to player behaviors that intentionally disrupt the gaming experience of other players [11]. Flaming indicates aggressive, hostile, sometimes profanity-lace interaction [20]. A player told us that: "*What I dislike is all the shit talking! The bad attitudes, players*

who blame other players for their own mistakes, trolls, etc." Kou and Nardi noted that flaming often occurs when players are losing the game [13]. Shores et al. reported that problematic social interaction is more likely to happen when players play in ranked game mode, play damage dealer, or play longer tend to behave aggressively towards other players in social interaction [27]. In our study, players considered problematic social interaction detrimental to temporary team's successes. A player said, "*I am totally distracted and can't focus on play whenever someone on my team is trolling*." Another player wrote in his blog, "*Flaming is perhaps the biggest reason for defeat in this game. Telling a person that he has made a mistake in a rude way, as if he doesn't know that he made it, this helps no one at all*."

Disciplining the Self

Players understand that the way they interact with teammates affects collaboration. They must communicate with teammates in an appropriate way. They must discipline themselves to facilitate successful social interaction with their team.

Our interviewees suggested that the first thing is to adjust to the right mood while playing. For example, a player said, "*Playing while angry or stressed makes you surprisingly bad at League of Legends. Take a break from time to time."* Another player told us: *"Do your best not to let your emotions from a game with an AFK in it carry over to the next. If my emotions could get carried away, I would never have been able to focus on improving my gameplay to get diamond*." "AFK" is short for "away from keyboard."

More importantly, people underlined the importance of keeping a positive attitude. A player said, "*I try to keep quiet and keep a good attitude and make sure everyone else is content with what they're doing*." The player associated individual attitude with team satisfaction.

Another player said:

> *Attitude is one of the most important differences I see when I am playing in Diamond as opposed to other ranking brackets. The players in here usually never rage and always try their best to win games. This makes a lot of sense because the only way you can get to the top .01% of players is by never giving up and allowing yourself to have comebacks. People do not realize that your attitude plays a massive role in whether or not you win some games. It's not even about raging at this point, but you have to be positive and always try to win even when games look bleak.*

The player pointed out several important characteristics of good attitude, such as anger management, endeavor, hope, and persistence.

Self-discipline also includes behaving appropriately towards your teammates. Flaming at teammates can only cause trouble to teamwork. A player said, "*Toxicity just doesn't do anything but negatively impact your team*." Toxicity is a term Riot Games uses to denote problematic player behavior. Another player said:

> *Never rage or say negative things about your teammates. It might not seem like a big deal when you call out your teammates for doing something bad or making a mistake but you are actually killing their morale and making your chances for a comeback a lot less possible. You always want to have the ability to win games, even if you are behind which is why it is important that you never give up right away or be negative. In League of Legends there is always a possibility that the other team is going to mess up and hand you the game. Do not miss out on these opportunities by raging at your team.*

The player stressed acting properly by pointing out the consequences of conducting toxic behavior. On the other hand, players can choose to interact with teammates in a more constructive way. For example, a player wrote, "*If you get mad at another player because of their skill, don't be an ass, help their lane, talk them up, don't ping them a trillion times either. Honestly that ****'s annoying for everyone. It's a team game and requires teamwork to win*." This player listed the appropriate and inappropriate ways to approach teammates that performed badly.

Proactively Influencing Teammates

A successful temporary team builds on players' proactive endeavors to create a harmonious atmosphere for communication, to take the leadership, and to deal with deviant players.

Creating a Harmonious Atmosphere

Players know that little communication and problematic social interaction destroy teamwork. They want to promote smooth communication by creating and maintaining a harmonious atmosphere.

Creating a positive and constructive atmosphere starts at the very beginning when strangers first meet each other. A player said:

> *At the beginning of the game, say something along the lines of "gg, hf" or "Let's have a good game, shall we? ^_^" Whether that's during champion selection, or in all chat as the game begins, saying something as simple as that and getting responses from your team and the enemy team along the same lines makes for a nicer game.*

"Gg" and "hf" are abbreviations for "good game" and "have fun." The player recommended that greeting teammates, and even opponents, can make a difference in the gaming atmosphere. Early communication is not limited to greetings. For example, a player said:

> *This is your first meeting with your team. As was stated, it is important to get to work with morale as soon as*

possible. Introduce yourself, give a friendly greeting to the team, and get right to work on stating which role you would prefer. Introductions are important to open up communication with teammates, and build a sense of familiarity.

This player pointed out that early communication also includes self-introduction and role preference, which can help teammates understand each one's strength and weakness, leading to the optimal utilization of five strangers. The player further noted that early communication contribute to harmony between players. We also observed nonverbal communication between players during early stage. For example, players can type "/dance" to command their characters to dance in front of their teammates (see Figure 3). Such actions represent a friendly gesture and break the ice.



Figure 3. A character that is dancing.

Similarly, Dabbish et al. reported that communication early in a group's history encourages members to talk more later on and that the early communication increases people's commitment through its influence on group atmosphere rather than through increased member participation [5].

Players also pay attention to maintaining a positive atmosphere as a match proceeds. They support and encourage teammates who perform poorly. For example, a player said:

What I do when I notice a teammate is performing poorly is to try and get their head back into the game. The vast majority of people were not "boosted" to where they are. They are simply having a bad game but can play well. If a person is clearly feeling down and I have the choice between taking a kill or giving it to them then I'll give it to them. While climbing to diamond I did not once allow myself to bring my teammates down. I make sure that I create the most family-loving environment possible.

The player suggested that trusting and helping teammates are the way to promote a positive atmosphere. Another player explained the impact of supporting teammates. He said:

Being friendly is probably your best bet in a solo q environment. With gamers everyone thinks they are right and everyone has there own opinions on what to do and what not. Being friendly to your teammates will keep them more focused on the game and more likely....to be there when you need them instead of getting frustrated and losing interest.

Besides helping teammates who perform poorly, players also verbally praise teammates' contribution. For example, our interviewees reported typing "gj" whenever their teammates make an evident contribution, such as killing an opponent. "gj" is short for "good job." When asked why they do this, a player said:

Positive reinforcement is always good imo [in my opinion]. If you keep your team's spirits high then generally there is less griefing and people won't doubt themselves. That second hesitation because you wonder "Will this really work?" can cost quite a bit. So yeah when I see a good play happen I drop the Gj guys.

This player talked about the influence of praising teammates from a psychological perspective. He also underlined the timely manner of the praising action. Another player said:

Every chance I get, I type gj…I think most of the times people like being complimented on their play.

Leadership

LoL does not force a leadership structure within temporary teams. Leadership emerges as a match proceeds. A temporary team needs leader especially when the team is in bad situations. For example, a player said:

When you're behind, someone has to step up make a big play, people will follow when someone is making the right decisions.

The player emphasized the skill of a leader – he must be able to make a "big play," an unexceptional contribution. Besides the ability of making a big play, good in-game scores also help foster leadership. A player said:

People tend to look at scores over everything else. So generally good effort and showing a good score gets people to follow what you say...With a better kda you do make a larger impact since you will do more damage, be tankier or heal better but if people see you are 10/0 and you say "Let's go." They are going to follow the fed person. Generally following the stronger player snowballs a team if they know what they are doing.

Players also look for people who have a good attitude towards the game. For example, when asked what characterizes a leader, a player answered:

> *People who are calm and respectful and who care about winning the game.*

Leaders in LoL's temporary teams determine strategic moves. A player who often makes calls said:

> *I'm a shot caller. I keep timers on dragon and if I'm jangling I'll time buffs if you just remind your team of the timers in chat you can usually get teamwork on invades and dragon re-spawns.*

Leadership in LoL is dynamic and evolving. Anyone can step up to make calls. A player told us:

> *I like taking charge of late game objectives, but otherwise I leave decision making to the person who makes good calls. [For example] I say we should group mid and shove cause need turrets, or we can siege, we have control etc. something that's a positive for everyone and that gives everything the feeling that we're strong and we can win this game easily.*

The player introduced when and how he tended to take the leadership. He also pointed out that good leadership helps develop a team's confidence.

Dealing with Deviant Players

Players sometimes encounter problematic social interaction. They have to deal with deviant players. Players hope deviant players can again focus on cooperating with teammates instead of flaming or griefing. They take actions towards deviant players. For example, a player said:

> *If it's really bad I mute them otherwise Ill say things to calm them down and regain order*

Another player said:

> *If my teammates are ever trolling each other I'll try to get them to stop.*

When deviant behavior happens, players should step up rather than possessing a passive attitude. A player said:

> *You'd be surprised how many games you can win by telling a rager to shut up, or making a play that turns the game when two people are yelling at each other. Emotions run high in games, and you have to control the pace, or you get left behind in the complaints.*

The player pointed out that the key to dealing with deviant players is to actively intervene through text chat. He supported having a firm stance against deviant players.

DISCUSSION

In LoL, temporary teams must accomplish fast-paced and dynamic tasks to eventually win a game. There is no fixed strategy. Players have to reach mutual understanding of the changing situations, work closely, and continuously make new strategies together. Therefore, LoL players engage in a variety of social interaction with their teammates. They proactively influence their teammates rather than passively fulfill a given role.

A well-functioning team relies on smooth social interaction among teammates. Players must cautiously choose the ways to communicate with strangers, because the relationships between them are temporary and fragile. They must carefully choose the words they use to avoid irritating their teammates. For example, players often apologize right after they accidentally type capital letters in the communication channel.

Eklund and Johansson divided temporary team's interaction into two categories: instrumental and sociable. The former deals with strategies and achievements, while the latter refers to "*greetings and goodbyes, jokes, out of game discussion and discussion concerning game but not necessary for the progression of the session*" [10]. In LoL, these two types of interaction exist. But the boundary between them is ambiguous. LoL players see the instrumental value of sociable interaction. They also emphasize the importance of conducting instrumental interaction in a friendly and pleasant way.

Playing with strangers provide people novel experiences different from playing with friends. Sometimes, playing with strangers can be disturbing. The once-friendly teammates suddenly behave aggressively when the game does not proceed as expected. Yet, playing with friends can also bring players unexpected gaming experience, compared to playing with friends. A player said, "*One part [of this game] I like most is I can always meet amazing people*." Another player told us a story where he was "*extremely happy*" because he received an in-game gift from a stranger he just played with. A third player said:

> *I think I'm more used to play with strangers, …. A lot of time, when I'm playing with someone I know, he's gonna not play very well, like that will influence way more than playing with random people. I just assume random people are gonna be good, and a lot of times they're not. But I like to assume they're gonna be good. It' harder to not have biases with people when you know how they're going to play already.*

In this case, the friendship this player owned became a burden to his game experience. Playing with strangers offers the player a sense of freshness and expectation of average teammates.

By studying temporary teams in World of Warcraft, Bardzell et al. noted: "*For groups with effective leaders, strong communication, tight social bonds, and competent role execution, player satisfaction rose*" [2]. Similarly, these elements are important in LoL. However, with a different team setting, the way these factors become prominent in LoL teams differs from that in WoW. First, LoL does not predefine a captain for a team. Every player

has equal access to team resources. Leadership can, but not always, emerge. People generally follow those who perform well, have positive attitude, and make meaningful calls. However, leadership does not always emerge. People play games with vastly different motivations and styles [31]. The behavior of playing in an uncooperative way exists. A player expressed his frustration:

> *Sometimes people just won't listen no matter what I say and how I try. In this case I would rather leave the game and call it a day*.

Second, people do not have existing social bonds with teammates they just meet in game. Third, competent role execution is less guaranteed in LoL. LoL players must collectively arrange roles in champion select lobby in a short time, while WoW players decide roles before joining a team. Successfully arranging roles is challenging. Quarrels can arise when people do not handle conflicts over roles smoothly (To improve player experience, Riot Games released a beta game mode where people can select roles before joining a team in 2014 [16].). Besides these elements, our study highlights the importance of a positive team atmosphere. To sum up, players have fewer constraints in LoL's team setting than in WoW. Such setting brings more challenges to successful collaboration.

In League of Legends, players have developed strong social norms that value teamwork [14]. After decades of studying cooperative behavior within offline communities, Ostrom noted that:

> *Norms seem to have a certain staying power in encouraging growth of the desire for cooperative behavior over time, while cooperation enforced by externally imposed rules can disappear very quickly* [21].

Similarly, the norms LoL players have developed are influencing them in a positive way. Players' two endeavors, disciplining the self and influencing teammates, have inherent connections. Both of them are players' ways to apply the community norms. To be specific, disciplining the self is a means of internalization, "*the incorporation of values within the self as guiding principles*" [25]. Players identify with norms such as keeping a positive attitude, friendliness, maintaining hope, and persistence. Influencing teammates is to enforce these norms – encourage teammates to comply with them. By creating a harmonious atmosphere, players expect teammates to possess a positive attitude and be friendly to each other. Leadership emerges with players who have positive attitude and are willing to encourage teammates. Players intervene in deviant behaviors to promote friendliness and cooperation. Therefore, disciplining the self and influencing teammates are inherently consistent.

DESIGN IMPLICATIONS

Kiesler et al. noted that people are less likely to behave appropriately online because of reduced social cues and anonymity [12]. Such phenomenon happens often in MMOGs where players perceive little social constraints. Some scholars have argued that a way to improve players' willingness to cooperate is to create a rich context for players to interact with each other. For example, Williams et al. suggested that the addition of voice increases liking and trust among players [29]. Yet, other scholars reported that voice chat did not necessarily result in better collaboration. For example, Kuznekoff and Rose found that female players received three times more negative comments once other players recognized their gender [15]. Our findings suggest that adding new communication channels does not simply better or worsen collaboration. Players have the agency to creatively use the available communication channels either positively or negatively.

Our study suggests that players can help promote a positive atmosphere with sociable interaction. Designers should consider how to facilitate such interaction. For example, currently players have to type "gj" to praise his teammates' actions. Typing can be distracting during a fast-paced game. Designers can provide multiple convenient ways for a player to compliment his teammates' contribution, such as designing hotkeys for some common complimentary phrases.

CONCLUSION

This paper presents a study of how strangers collaborate within temporary teams in League of Legends. Strangers' collaboration poses various challenges that do not happen in friends' collaboration. Players must figure out the right way to communicate and coordinate. They must carefully handle in-game conflicts and maintain a positive atmosphere. Players have the agency to discipline themselves and manage their teammates.

More research needs to be done to uncover player experience of playing with strangers and dynamics within temporary teams. For example, to what extent do players enjoy playing with strangers? How much does the temporary team setting contribute to LoL's enormous popularity? Since being successful in LoL requires not only competent in-game skill but also necessary social skills, how do players learn these skills? How do Riot Games' efforts, such as the Tribunal and the Honor systems, affect players' in-game interaction?

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