A qualitative study of Ragnarök Online private servers: In-game sociological issues

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ABSTRACT
In the last decade, online games have garnered much attention as more and more players gather on game servers. In parallel, communities of illegal private server players and administrators have spread and might host hundreds of thousands of players. To study the Korean online game Ragnarök Online, we conducted interviews to collect qualitative data on two private servers as well as on the official French server for the game. This paper discusses some of the reasons why Ragnarök Online private servers might attract so many players and how examining private servers' characteristics could help improve official game servers.

Categories and Subject Descriptors
H.5.1 [**Multimedia Information Systems**]: Artificial, augmented and virtual realities

H.5.3 [**Group and Organization Interfaces**]: Collaborative computing

General Terms
Design, Human Factors.

Keywords
Virtual Worlds, Games, Ragnarök Online, Private Servers,

1. INTRODUCTION
The first multi-player online games appeared with the creation of ARPANET in the late 70's [1]. While ARPANET has evolved into the Internet, the first online games have become Massively Multi-player Online Games (MMOGs). The increasing use of online and mobile technologies suggests the MMOG phenomenon is not likely to end but rather to soar in the next decades. Indeed,

according to mmodata.net [14], since 2005 the number of players has doubled.

Alongside official MMOGs are free illegal private servers. Private server administrators use an emulator which is a copy or simulation of the original game server. Emulators are either built from scratch using reverse-engineering and packet transfer analysis, or hacked and stolen from the official game servers. For instance, World of Warcraft (WoW) has been reverse-engineered to produce the Mangos emulator. Ragnarök Online's (RO) mainframe Aegis was stolen and used in jAthena and then eAthena emulators. Even the recent MMOG Aion may already suffer from the Aion-emu project.

Information concerning emulators can be hard to find because developers are well aware of the illegality of their servers. Therefore, setting up an illegal server is not easy and requires technical knowledge in server administration. Some private server administrators add new content that does not exist on the official game server in a way similar to the game "mod" process, which in traditional computer games consists of modifying the original game in order to bring new game experiences. Famous mods are Half-Life-based Counter Strike or Warcraft III-based Defense of The Ancients. In traditional computer games, the original game version is called "vanilla" game. Intriguingly some WoW players call "Vanilla WoW" the period before the Burning Crusade expansion because for them the expansions are like mods of the original game. In fact some players miss the good old vanilla WoW time [16] and have been asking and petitioning for Blizzard to implement vanilla servers since 2007 [3].

Players can easily find a private server to play on thanks to websites hosted by the private server administrators. Websites like ratemyserver.net for RO or wowstatus.net for WoW provide a list of private servers and allow players to rank or vote for their favorite. Serious competition occurs between servers in order for their website to stay in the top of the list and attract new players. Server websites are gateways where players can download a hacked version of the game client to connect to the illegal server.

Currently, two broad categories of online entertainment are well-researched: virtual worlds like Second Life [2,6] and popular pay-to-play Western MMOGs like Everquest II [4, 19] and WoW [7,12,15]. A third category seems to have been ignored: pay-to-play or free-to-play Asian MMOGs counting tens of millions of

users worldwide [18] including MapleStory [17], Scions of Fate, and Ragnarök Online (RO).

Private servers have been studied very little, if at all. In 2009, RO's creator company, Gravity, provided servers in 15 locations worldwide and claimed the game counts more than 50 million players [9]. In addition to these official numbers, the international support board for RO private server administrators, Eathena.ws, counted more than 100,000 registered users worldwide in 2009. These numbers position the RO private server community of players and administrators between the Western and Asian MMOGs (see Figure 1).

Figure 1: Localization of the RO private servers

A goal of this paper is to shed light on the widespread private server phenomenon. The paper focuses on RO private servers as RO is one of the most popular MMOGs. We have chosen to study one French and one international private server.

Even though worldwide most of the RO servers are pay-to-play, the official French server, launched in June 2007, has been free-to-play since December 2008. Despite this free-to-play opportunity, a French community of illegal private server administrators and players exists. Little is known concerning why private server administrators step into illegality and host servers for players they do not even know. In this paper, we focus on the reasons why people play on private servers and do not move to the official server even when the official game subscription is free. We also consider how understanding player experience on private servers could help improve the original game.

We briefly introduce the basic and official RO game features, followed by the methodology used to collect data on the RO private servers. We then discuss how RO private server administrators modify the original game and how these changes address the unique issues faced by RO private servers, such as the lack of players.

2. PLAYING RAGNARÖK ONLINE

Understanding the key features of the official RO game can help identify why some of the private-server-specific features are appreciated by players. The features explained in this section are character evolution, guild organization, virtual economy, and navigation in the world as experienced by players on official servers.

RO players can *customize their characters* during character creation and during the game, in terms of hair cut and hair color. Later in the game, players can choose among four clothing colors to customize their avatar.

RO players *get experience points* (XP) from killing monsters or completing quests. Gaining XP is the main activity for many players. Some items can increase the number of XP gained. Events organized by the Game Masters (GM) of the server administration team can also raise the XP rate during the event period. Players reach new levels when they get enough XP and can change their class when they have enough levels. RO has a complex class and level system consisting of two different and independent levels raising independently and concurrently as seen in figure 2. Thus players look forward to a new level twice as often as in other games. When reaching the maximum base level of 99, a player is granted an aura shining around the avatar wherever he or she goes. The aura is a way for players to show they have reached the maximum level.

Guilds are groups of players who play and socialize together. Avatars' guild name, guild emblem, and guild title appear under their name. Guild activities range from taking part in guild versus guild weekly events called "War of Emperium" (WoE), to trying to kill a particularly hard boss monster or invading the Player versus Player (PvP) room to kill all the other players present in the room. Guild members can contribute to the guild in giving part of the XP gained when killing monsters. This XP will be used to unlock guild skills such as the ability to have an emblem, conquer a castle during WoE, or share a common big storage. Guilds are usually organized in a hierarchical structure:

- The founder of the guild is called the "Guild Master". He/She can recruit new players, remove guild members and set other guild members' rights. The Guild Master also sets the guild members' XP tax percentage.

- Generally, a few trusted sergeants called "sub Guild Masters" are granted by the Guild Master the right to recruit other players. These players are often family members or reliable and experienced guild members known by the guild master.

Class	Start: BaseLvl1	Job-1	Job-2	back to Lvl1	High Job-1	Job-2 advanced	Job-3
		Acolyte	Priest		High Acolyte	High Priest	Archbishop
			Monk			Champion	Shura
	Novice	Swordsman	Knight	High Novice	High Swordsman	Lord Knight	Rune Knight
			Crusader			Paladin	Royal Guard
		...	...		...	...	...
Job Level	10 Job Lvl	40-50 Job Lvl	50 Job Lvl	10 Job Lvl	50 Job Lvl	70 Job Lvl	50 Job Lvl
Base Level	1 → 99 Base Lvl			1 → 99 Base Lvl			99 → 150 Base Lvl

Figure 2: The complexity of the Job and Base level system

– Prestigious titles are often reserved for the basic guild members closer to the Guild Master.

guild master
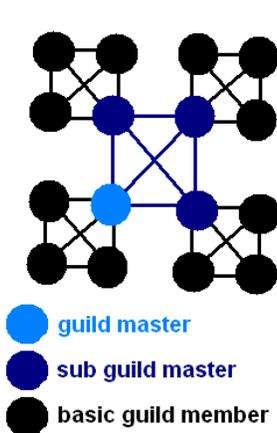
sub guild master

basic guild member

Figure 3: Typical RO guild social network

Basic guild members are invited by the Guild Master or by a sub Guild Master sometimes without previously knowing other guild members. When doing a quest or getting XP in particular places, it happens that guild recruiters and guild-less players group together. A friendly group atmosphere often makes the guild recruiter hire the whole group of players. Figure 3 shows an approximation of the resulting social network structure. Guilds can form alliances, split, or merge. Ducheneaut et al. found in [7] a similar guild structure for WoW and Johnson et al. revealed in [12] a same kind of social dynamics on WoW.

RO's currency is named Zeny. Players can earn zenys by selling items dropped by the monsters they have killed. The drop rate is defined as the rate at which a monster releases items when it has been killed. Merchant classes sell products to other players when they use a skill named Vending. To avoid the streets being flooded by merchants, server administrators sometimes ask or technically force the players to use the Vending skill on the sidewalk.

Like many current MMOGs, RO is a fantasy game where monsters, swords and magic powers are common. The game background is based on Norse mythology with gods such as Freya and Loki, places like Valhalla and Niflheim, and equipment such as the Sleipnir shoes or the Megingjard belt. Some game updates brought content based on other ancient cultures including ancient Japan, China or Turkey. Traveling in the world is performed through "warps" between maps. Some Non-Player Characters (NPC) can teleport avatars from cities, fields, or dungeons to other cities, fields or dungeons. Few transportation systems can be seen in the game: an old train links two industrial cities, a zeppelin flies above four cities of the same kingdom, and some sailors can be paid to travel to a specific island. Some classes of player characters like Acolytes can use a skill to teleport avatars. Group- or guild-leaders may use special items or skills to instantly summon their friends.

3.   METHODOLOGY

Two primary resources were used to obtain data: the web sites eathena.ws and ratemyserver.net. eAthena is the name of the RO server emulator. The forum board eathena.ws is led and moderated by the server emulator development team, is the principal place where private server administrators get information, describe their projects, and recruit team members for their projects. The ratemyserver.net website is the main place where players can search for a RO private server among the 500 RO private servers available. In the last three months, at least 350 of the 500 private servers present on this website were active. As a comparison, there are about 30 official game servers worldwide.

The ratemyserver.net website provides links to the private server web pages. The private server web pages display the number of players currently connected and provide a link to a tool called the Control Panel (to be described later). Some web pages also explain the special features of the private server. Data available on the server websites helped us choose representative servers depending on their average or peak concurrent users (PCU) and features. After short visits on the private server websites, we selected two private servers which follow the same incentive structures but provide different features in the game: a 200-PCU French private server and a 2000-PCU international private server hosting players from Brazil as well as the USA and Germany. We also examined the official French free-to-play server, fRO (French Ragnarök Online), which has more than 1000 PCU to identify available features and to obtain feedback from official server players. Finally, we examined surveys conducted by the official international Ragnarök Online server, iRO, on their website [10].

In the game, chat interviews were conducted by the first author who talked informally with dozens of players and conducted eight semi-structured interviews with players from the three different servers (four players from the 200-PCU private server, two players from the 2000-PCU private server and two players from the official French server). Three of the interviewees were female players. The first author also interviewed the administrator of the 200-PCU private server. From a grounded theory perspective, the semi-structured interviews kept the discussions within the range of the study but let players freely and spontaneously comment on the game server features. Interviews with players or administrators were easily recorded thanks to the /savechat command. Another in-game command, /who, was used to find the number of players currently connected. The /who command is usually available on any server, official or private, but for unknown reasons, fRO has disabled it for the players. Therefore to check the number of players currently connected on fRO we used the log-in screen which displays such information. Player behavior was observed through participant-observation in the game.

4.   PRIVATE SERVER CREATIVE FEATURES

Compared to the official server players, private server players reported they enjoyed more their game experience for multiple reasons. First, the social environment was improved by the choices made by administrators. Second, private server administrators sometimes fine-tuned the game mechanics to better fit their players' needs.

4.1   Social Environment

In hacking the original executable file used to launch the game, private server administrators can make *more avatar customization* available for their players. Hats, hair styles, hair colors and clothes colors can be extensively modified. As Ducheneaut et al. suggest in [8], an attractive avatar customization system enables players to customize "those parts of their virtual bodies that will be most immediately visible and recognizable by others, and which are easily adaptable and commonly modified in real life", such as hair, hats or clothes. While the official game provides only a few customization possibilities, some private servers boast dozens of hair styles and auras surrounding the player and hundreds of hats, hair colors, and clothing colors. Figure 4 compares the customizations available on official servers and on

the private servers we examined. With those many different possible styles and colors, private server players can have more unique avatars compared to official server players. However, we found the bigger the choice of customizations, the fewer percentage of customizations worked, such that some private server players we observed spent a lot of time in selecting an appearance that was bug-free.

	Official servers	Private servers
Hair Styles	23	up to 50
Hair Colors	8	up to 500
Clothes Colors	4	up to 1500
Hats	~350	up to 500
Level 99 Auras	1	up to 70

Figure 4: Comparison of avatar customizations

Server administrators can enable certain *commands* to players. A command can be typed in the regular chat box and usually starts by @. For example, an administrator typing @who will see who is currently online, whereas the basic /who player command will only display how many players are connected. An official server player typing @who will receive an error message such as "no such command". In order to build and strengthen their community, administrators of young or small servers want players get to know each other better and play in groups. To play in groups, players need to know other simultaneously connected players. That is why the private server administrator we interviewed enabled the @who command for her players.

The *Control Panel* is a part of the server website linked with the game database. It shows which avatars are currently online, enables the players to transfer money from one avatar of their account to another, and displays a level ladder and a zeny ladder. Nearly all the private server players reported using the "Who is Online" functionality provided by the website's Control Panel to check for logged-in friends. The ladder functionality is among the players' favorite features. A survey posted on the international Ragnarök Online (iRO) official server showed 71% of the players "would like to see rankings […], guild castle holds and Emperium breaks […] and class rankings" (N=5230). While official servers like iRO still do not provide such functionality, a private server's Control Panel offers a way for the private server players to interact with the game without effectively being logged-in. For instance, one interviewed player reported he could connect to the private server website with his smart phone and show his friends his avatars. Currently popular MMOGs such as WoW have made players' information publicly available on the Internet, e.g. the WoW "Armory" as it is known is an extremely popular feature [13]. Figure 5 shows the Viewing Character feature of a private server Control Panel.

A key appeal of MMOGs is *group activities* such as killing monsters or managing quests. In RO, it is possible to share experience points (XP) and drops among players in a group. On official servers, XP is equally divided in a group of 12 maximum if all the characters in the group are inside a 10-level range. On the examined private servers, administrators had three ways to encourage group play. First, *larger groups* can reach greater achievements. A private server administrator explained that she chose to increase the maximum group size from 12 to 15. When facing bosses, 3 extra players in a group of average-skilled players

can easily make the difference between failure and success. Moreover, lower-skilled friends can be more easily invited to a group that might otherwise have rejected them for the sake of strategy. Second, the *bonus XP* for each group member effectively participating in a monster's death influences the strategies a group can follow. We observed that modifying such a parameter led to group debates such as, "Should weak healing avatars risk to attack the monster to bring more XP instead of safely staying back?". The same private server administrator reported she had increased the bonus XP for each group member on her server to foster group activities. Third, one server we examined increased the *level-range* inside a shared-XP group to compensate for the lack of players the server may suffer. Hence, stronger players are more likely to help weaker players instead of playing alone because they cannot find a group sharing XP for their level.

Figure 5: Viewing character - Control Panel

During in-game discussions, official server fRO players very often complained about the in-game events organized by the Game Management Team. Two surveys on the iRO server website, iro.ragnarokonline.com, showed that official server iRO players were unsatisfied with the overall quality of service and with Game Master (GM) actions. To the question "How would you rate the service of iRO compared to the service of other MMORPGs that you have played?" 55% of the players said they were not satisfied while 27% found the iRO service good and 18% had no opinion (N=1334) [10]. A second survey on this website revealed that the quality of the GM work, mainly consisting of organizing in-game events, providing in-game support to players and moderating the forum board, was appreciated by 22% of the players while 62% judged their actions insufficient or bad (N=1329). Players on fRO, the French official server, seem to be as unsatisfied as the iRO players: a fRO player reported that she found events did not happen often enough and when events were organized, they were

of poor quality and did not match players' expectations. Generally, official server fRO players wished for a more available and responsive GM team. Interestingly, a private server player reported that she preferred small private servers because she believed the GM team was closer to the players.

4.2 Technical Modifications of the Game Mechanics

Game parameters can be changed by private server administrators. Modifying some parameters can sometimes lead to a radically different game experience for players.

A "rate-1" server is by definition configured so that killing a monster on this server brings as many XP as on the official server. Most of the time, private servers have *higher rates* than the official one. Indeed the rates of the two private servers we chose to study are 50, which means that killing a monster brings 50 times more XP than on an official server. A taxonomy of private servers was established on the ratemyserver.net website: a "low-rate" private server has rates under 30, a "medium-rate" has rates between 30 and 150, a "high-rate" between 150 and 10.000 and a "very high-rate" over 10.000. The two private servers investigated here were middle-rate servers. Depending on server rates, players have different expectations. For instance, a rate-3 server is very similar to the official game. Thus players may expect incentive structures and activities similar to those provided on official servers. The middle-rate private server players we interviewed generally enjoyed the heavier customizations brought in the game by the private server administrators. On a rate-100,000 server, getting XP is made so easy that players expect other kinds of amusements or rewards than simply "grinding" XP. Basic monsters on those servers are too weak for the powerful avatar abilities; most of the time, monsters die in less than a second without having time to hit the player. Administrators of very high-rate servers often increase the bosses' skills and health points so that the bosses stay challenging. Player demographics vary depending on the type of server. As a private server administrator observed, "The easier the game is, the younger the players are, and the sooner they come back from school and start to play, moving the peak time earlier".

Figure 6: Warpra and Healer

The *Warpra and the Healer* (see Figure 6) are two NPCs found on nearly all middle-, high- and very high-rate private servers. They are less frequently seen in low-rate servers and do not exist at all on official servers. The Healer is an NPC that instantly heals a player and refills his or her spell points. Depending on the private server, the Healer sometimes also casts spells ("buffs") enhancing player's abilities and sometimes charges some fees. The Warpra lets the user choose where he wants to be warped and rarely charges for the service. For some private server administrators, implementing these NPCs is a way to compensate for the relative scarcity of Acolyte class players as they are the only ones able to teleport players anywhere in the world. On the more populated private server examined, Acolyte scarcity was not a problem but the Warpra and Healer NPCs were still implemented and widely used by players. As a result, players may play alone more often because if they are killed by strong monsters, instead of trying to

find a group to kill the monsters, these two NPCs combined will nearly instantly restore them to health and send them back to the appropriate dungeon level where the wounded monsters are.

The *Control Panel* can also be used by private server administrators to detect bots posing as humans because bots behave differently in the game. A bot is a program that a player has launched to play automatically for him or her, and as a program, a bot reacts faster than a human player and performs repetitive tasks very effectively. In analyzing packet traffic, the Control Panel enables private server administrators to detect that a particularly high-traffic player following repetitive patterns in the game is actually a bot. As a result, administrators can boast having a bot-free server and a fairer game which players may greatly appreciate.

Another private server custom feature is the *@autotrade* command. When Merchant class characters are using the Vending skill to open their personal shop, typing this command will transfer handling of the shop to the server. Merchant class Vending characters become NPCs. After letting the server handle their merchant avatar, players enjoy playing another avatar while their stock is being sold. Consequently, the number of players currently logged-in increases, which is nice for private server administrators looking for more players on their server. The private server administrator we interviewed reported that at peak time, up to 25% (45/170) of the logged-in avatars were autotrade avatars. However, during the least busy hours, the proportion of autotrade merchants can rise to 90% (35/39) on this server. This high percentage becomes a downside for night players who sometimes compare the server to a ghost vessel.

More populated private servers sometimes implement an auction house system. Players can sell their goods, directly buy the item they want, or place higher bids and wait for the auction to end. However, the Vending skill combined with the @autotrade command follows the opposite pattern. Autotrade merchants regularly connect to update their selling stock, see which items have been sold, and see other autotrade merchant prices. This creates a reverse auction system, also called undercutting. We observed this behavior within the game when an autotrade Merchant player lowered the price of his Chain Mail from 400,000z to 370,000z because he noticed another player was selling the same Chain Mail for 380,000z. Paradoxically, since private servers usually have rates that allow players to earn money more easily than on the official server, goods' value should increase because players can afford them. But instead, with the @autotrade command, until a supply-and-demand stabilized price is reached, prices keep falling. Therefore, prices stay comparable between low/middle-rate private servers and the official servers despite the rate differences.

Furthermore, private server administrators can enable the *@whosell* command for their players. A private server player typing "@whosell Chain Mail" in the chat box will know instantly which Vending merchant sells a Chain Mail, and for what price. The @whosell command is not enabled on any official server and some players interviewed on fRO, the official French server, complained that prices could vary a lot. However, the official French server actually set up a "Price Watch" feature on its web site where its players can search which Merchant is currently selling which item. The Price Watch web pages are not easily accessible from the fRO web site. This maybe explains why no

fRO player we spoke to mentioned using it. Private server players did not complain about prices or the server economy, because unlike the official server players, they could use the @autotrade and @whosell in-game commands to control the economy.

4.3 Summary

Private servers are popular because they allow players to play the original game with more rewarding structures than the official servers, customizing avatars, or enjoying a more available and responsive GM team. Even though the competition between private servers is keen, creative administrators find ways to satisfy their players in getting them know each other better, preventing bots, or even stabilizing fragile parts of the game like the economy. In order to improve the official game, official servers could learn from some of the private server customizations.

5. LIMITATIONS OF THE STUDY

As the number of interviews was small, this study may not represent the common trend among the players. Moreover, many of the players we interviewed were open-minded and happy to express their feelings and suggestions about the game. We have not met any player who was totally satisfied with the current game, nor any player who did not want to participate in social activities or discussions at all. Even though we confronted the data collected from the interviews with our observations, the number of interviews, nine, was small.

The two private servers studied were middle-rate servers and may not contain the same player population as low-rate or very-high-rate private servers. These two private servers had respectively 200 and 2000 peak concurrent users (PCU), but they may not reflect what happens on 20-PCU private servers.

6. FUTURE WORK

6.1 For Server Administrators

This section discusses some of the game-design challenges still faced by both official and private servers, based on what players from all the visited servers reported.

On fRO, the French official server, players can simultaneously log-in two or more avatars from different accounts. A player using two avatars from different accounts at the same time and from the same computer is called a Double-Account (DA). We do not know if DA is enabled on other official servers. Private server administrators hacking the original game client executable file can enable or disable their player to DA on their server. Because fRO, the official French Ragnarok Online server, and all private servers are free-to-play, having a second account costs nothing and many of the fRO and private server players reported using DA. Put in practice, DA consists of switching from one window of the game to another to control different avatars at the same time. Players on private and fRO servers mentioned a strategy named "autoleech", consisting of hiding a weak and passive avatar in one corner of a map and getting XP thanks to another stronger avatar actually fighting for two. The two avatars are in the same group and share the XP gained by the stronger solo class avatar.

During observations on private servers, we saw another strategy consisting of having a support character like a Priest or a Bard stay near the Healer and Warpra NPCs such that the three characters (one passive support avatar and two NPCs) combined enabled an active avatar to be instantly teleported fully healed and "buffed" back to the dungeon where he/she was previously. The

administrator of the 200-PCU private server mentioned that during the War of Emperium, more than 30 players were using DA accounts, essentially for "buffing" and healing purpose. On both fRO and private servers, allowing DA increased not only the tendency for players to play alone, but also to reject playing in groups. On fRO for instance, most of the players we interviewed and talked to mentioned that they managed to get XP quickly by themselves using DA and did not want to group with other players. All fRO players interviewed mentioned the "many privileges" and "faster avatar leveling" granted by the DA system, but only one player deplored it. This player also deplored that social activities between players were reduced as "people play as if they were alone". Both data collected on official and private servers show that some people like to play alone, but other people still play MMOGs to group with other players. The latter category of players seen in-game felt totally disappointed when they kept facing the first category of players who reject playing in a group. In that case, a successful game design might be one that accommodates both kinds of players.

The free-to-play official French server does not require players to pay any subscription. However, players who subscribe receive privileges in the game through items or higher XP rates. A fRO player reported that in order to get into a guild, players were often required to subscribe:

Player: ... now guilds are a bit like how to say, they are elitist in the way they recruit, if you do not have any subscription we do not take you, if you do not have any cranial [piece of equipment] we do not take you

The 2000-PCU private server makes certain useful commands and powerful equipment available in-game only through a Paypal donation system. One player from this server we interviewed reported that he had managed, not without some difficulty, to buy a piece of Paypal-purchased equipment for zeny. He also admitted the game is unbalanced between players with Paypal-purchased equipment and those without. On the other hand, small private servers like the 200-PCU server do not have this problem because the required server infrastructure is not too expensive and can be paid for by the administrators. Therefore, players from the small private server had never been asked to donate and did not complain about how unbalanced the game was. As a result, competitive fRO or populated private server players who first played the game because they thought it was free-to-play may discover they will never be among the most powerful players on the server if they do not subscribe or donate. Therefore, they might leave the server for small private servers where they think it is possible to become the most powerful without spending any real money.

In the original RO game, boss monsters are not available all the time. They appear sporadically every one or two hours on certain maps. Characters like Monks or Champions are able to quickly localize a monster on a map with the Teleport skill and inflict huge damage with their ultimate skill named Asura Strike. After having used this skill, they become weaker and let themselves die. Many players reported that with a few suicide missions, Monks and Champions are able to kill a boss monster in a very short period of time. This period of time is even shorter on private servers where the Warpra can quickly send the character to the boss. Thus, on private servers, a boss has even less time to regenerate its life than on official servers, and players can kill it

even faster. On the servers we examined, because Monks and Champions regularly watch for boss monster appearances, guilds do not have many game challenges, except when they fight against each other in WoE. This lack of Player-versus-Environment (PvE) activity led some players who did not want to take part in Player-versus-Player (PvP) battles to complain about the poor end-game content. Some of them eventually mentioned in [6] that they tried other online games because they were bored:

"*When asked why they had given up on Ragnarok, many gamers mentioned that they had become bored with higher-end play. 'When I reached the highest level,' reported one player, 'there was nothing much to do except wandering about and maybe fighting with other players.' Another gamer described the game as 'a dead end.'*"

Surprisingly, the private servers we studied have not tried to solve the Monk and Champion permanent "boss-camping" issue, maybe because private server administrators fear they may lose players if they change the original game too radically. However, two solutions exist:

- implementing an instance raid system like in WoW that allows multiple groups of people to kill the same boss monster at the same time but in different contexts. Thanks to such an instance system, the more casual WoW players can try to kill boss monsters even if more hardcore guilds have cleaned another instance of the dungeon a few minutes before. The WoW end-game for solo PvE players consists of exploring the world, for PvE players in guilds it is raiding dungeons and for solo or group of PvP players, fighting in battlegrounds.

- limiting the damage of Asura Strike on boss monsters – this could be implemented as a feature that can be configured the same way as the number of players in a group or the level-range in a sharing XP group.

6.2   For Researchers

According to a private server administrator, the population in the high-rate and very high-rate private servers tends to be younger than in other private servers, probably because the game is easier. Although no data confirm this trend, it could be particularly interesting to establish a link between players' age and the most popular reward structures. Based on Maple Story, Second Life, and WoW, it has been reported that "older users broadly prefer creating an avatar that looks like an idealized version of themselves" [8]. However, not much has been established concerning younger players' avatars in MMOGs. Therefore high-rate RO private servers' supposedly younger populations could provide interesting samples to study avatar customization.

Quantitative data could be collected to address the following questions:

- Why do private server administrators step into illegality and launch servers for players they do not even know? This question could be answered in collecting basic data through interviews to be able to design appropriate surveys. These surveys could be posted on the eathena.ws developer board or on the ratemyserver.net website.

- Even if an estimation of the number of private servers can be established, the number of private server players

remains unknown. However, estimates could be drawn based on a survey put on the administrator forum board eathena.ws. It would be interesting to know if there are currently more private server players than official server players.

- From a marketing point of view, the extent of migration between servers, especially from official free-to-play servers or populated private servers using Paypal donations to smaller private servers, could show how effective a business plan is, and if staying free-to-play is financially more viable than being pay-to-play in the long term.

7.   CONCLUSION

With qualitative data from interviews, discussions and observations conducted in the game, we have shown why some Ragnarök Online players appreciate illegal servers and keep playing on them. Even though the French official RO server is free, some players expect a quality of service they do not seem to find. These players turn to the illegal private server solution to fulfill their expectations for better means of avatar customization, specific technical features, an improved social environment, and enhanced game master availability.

Some private server administrators have learned how to attract and keep a community around their game. Many small private server administrators have managed to turn what could have been a weakness, namely the lack of players in a massively multi-player online game, into a strength. As of now, Gravity, the Ragnarök Online creator, has kept hunting down particularly large-scale Asian illegal private servers [11]. But as the game is aging and competition on the massively online game market is fierce, these private server communities could be the cheapest solution to increase the game longevity.

8.   REFERENCES

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