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## Terrorist activity in online games

## Terrorista aktivitás az online videójátékokban

## Abstract

*Nowadays terrorist groups trying to catch every successful chance to get out of the scope of the security agencies, to bring they activities to the maximum efficiency. The evolution and spreading of video gaming has brought the escalation of security dangers, too. The terrorists are able to develop new possibilities in online video gaming for communication, recruit, money laundring and training. But what kind of answers could be given by the secret services to this new menace? Are they able to control it? Games, which ones are played through the Internet are not the same, therefore no common answer could be answered for the incoming new threaties. In this manner, it is essential to get through the history of video gaming, when the terrorists took the first steps in the virtual battleground, and with the flowing of history what kind of security questions have been created, and what are the risks in the future.*

**Keywords:** Online gaming, terrorism, communication, hybrid warfare, cybersecurity

## Absztrakt

*Napjainkban a terrorista szervek minden lehetséges módot igyekeznek megragadni arra, hogy a biztonsági szervek látószögéből kikeredve sikerrel folytassanak olyan tevékenységeket, melyek céljuk elérése érdekében létfontosságúak. A videójátékok fejlődése és térnyerése elősegítette a biztonsági kockázatok eszká-lálódását eme szegmensre is. A terrorista tevékenységet folytató csoportok ki tudják aknázni az online játékok adta új lehetőségeket védett kommunikációra, beszerzésre, pénzmosásra, valamint kiképzésre. A különböző titkosszolgálatok milyen választ képesek adni az újonnan felmerülő biztonsági kihívásokra? Képesek mindent kontrolálni? Az interneten keresztül játszható programok nem telje-*

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*sen egyformák, nem lehet egységes választ adni minden szoftver veszélyeire, ezért fontos végignézni a videójátékok fejlődésével párhuzamosan azt is, hogy mikor tették be a terroristák először a lábukat a virtuális játékok terébe, és a folyamatos fejlődéssel milyen új kihívásokat szültek, továbbá hogy a jövőben mik lehetnek a rizikók.*

*Kulcsszavak: online játék, terrorizmus, kommunikáció, hibrid hadviselés, kiberbiztonság*

## ONLINE VIDEO GAMES AND THE INFORMATION SOCIETY

Video gaming and its way to the online dominated environment in the 21st Century is a general part and service of the Information Society, sharing almost every common attributes. The development of the Information Society has not ended full scale till 2016, therefore it is hard to identify all of its features and definitions. The most basic properties including the gaming sector containing the following:

- Information and data created, processed and forwarded fast. Able to play online from possible location with any other possible location from the world without delay – the borders of time and distance are falling down
- The accessibility of the information is spreading
- Electrical and mobile communication are dominant
- Globalisation
- Information and knowledge based
- The information, computer and telecommunication technology are advancing day by day.<sup>2</sup>

The list is followed by the integration of the quality information services, changing the life and status in society of the citizens. The information became the basic of the political, economic and culture choices, and plays main role in the resolution of the society level based questions. All of the mentioned points are significantly taking cut from the video game industry.

The revolution and development of Information Society had a great footprint in our everyday life, including video games, too. This article won't go through the evolution of gaming, but it is needed to know, how they evolved into a worldwide business, entertainment, sport and a new threat factor. According to the Entertainment Software association's survey, 59% of the American people played some kind of video game in 2014<sup>3</sup>, and playing video games online considered national sports in many countries. To

<sup>2</sup> Nikolett Deutsch: Az információs társadalom és a fenntartható fejlődés.

<http://rs1.szif.hu/~pmark/publikacio/Netware/deut.doc> (Downloaded: 25.12.2016. Budapest)

<sup>3</sup> Essential facts about the computer and video game industry.

[http://www.isfe.eu/sites/isfe.eu/files/attachments/esa\\_ef\\_2014.pdf](http://www.isfe.eu/sites/isfe.eu/files/attachments/esa_ef_2014.pdf) (Downloaded: 24.12.2016. Budapest)

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make an example, how big is the video game industry and how fast is the progression, we could check the total revenue in 2015: it was 23,5 billion dollars. That is a huge 5% increase since the last year, and it's growing, not without a reason: new consoles in the market, dominance of multiplayer games, decrease of piracy – these points will play important roll in the future, regarding the security challenges.<sup>4</sup> Forecasters say we could expect a the biggest increase in the Virtual Reality (VR) sector. Till 2020, it will become a norm to use VR glasses for gaming and entertainment system: users can enjoy 360-degrees view, motion sensor technology will suck the player much more in the experience, as a regular „sitting and clicking” game. The spending for VR could be 7,9 billion dollars for just the headsets (Samsung Gear VR, Google Cardboard, Sony Playsation VR, HTC Vive, Oculus Rift, Google Daydream and others), whilst the additional entertainment services 3,3<sup>5</sup>.

All intents and purposes, video games grew out of being simple time killer and entertainment activity. It became a sport, or how it's named in 2016: E-Sport. Notwithstanding the earliest examples of video game tournament, we can put the beginning of worldwide acceptance and reputation to 2013. In this year, Danny Le, a Canadian professional League of Legends (LoL) player has received U.S. visa as a pro athlete of the Riverside squad.<sup>6</sup> The mentioned capture the flag type multiplayer online battle arena (MOBA) has official cups and also world championship, which one is dominated by the South Korean LoL team, SKT Telecom T1, won the third world champion title in 2016, after beating Samsung Galaxy team, as well from South Korea. The professional E-sporters almost getting the same salary as any other professional sportsman: SKT Telecom T1s player, the most famous E-sporter, Faker has earned approximately 2,5 million dollars, just with winning LoL competations, not included advertisement and any other incomes,<sup>7</sup> but the official payment is not revealed from the team. E-sport events are presented by local TV suppliers, can be streamed through the internet and dedicated applications (e.g. Twitch), watched by millions of people accross the world.

In the 21th century consoles and computer games are able to represent the Information Society's many parts, like instant messaging, chatting, video conversations and almost everything to have a virtually connected community life. Devices and softwares are

<sup>4</sup> Chris Morris: *Level up! Video Game Industry Revenues Soar in 2015.*

<http://fortune.com/2016/02/16/video-game-industry-revenues-2015/> (Downloaded: 24.12.2016. Budapest)

<sup>5</sup> Which gaming company will dominate the virtual-reality market?

<http://www.economist.com/blogs/graphicdetail/2016/10/daily-chart-8?zid=319&ah=17af09b0281b01505c226b1e574f5cc1> (Downloaded: 24.12.2016. Budapest)

<sup>6</sup> Paresh Dave: *Online game League of Legends star gets U.S. visa as pro athlete.*

<http://articles.latimes.com/2013/aug/07/business/la-fi-online-gamers-20130808> (Downloaded: 2016.12.2016. Budapest)

<sup>7</sup> SKT 최고 대우했다는 '페이커' 이상혁 연봉은.

[http://sports.news.naver.com/esports/news/read.nhn?oid=241&aid=0002618075&redirect=true&spi\\_ref=m\\_sports\\_twitter](http://sports.news.naver.com/esports/news/read.nhn?oid=241&aid=0002618075&redirect=true&spi_ref=m_sports_twitter) (Downloaded: 24.12.2016. Budapest)

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affordable for most of the people, therefore they have a way to connect to an internet based entertainment service, which is not just for supporting a program, but opening a door for security breach, too. We don't have exact numbers how many players are online in a day, but regarding to Spil Games reports more than 1 billion people logging in to his or her accounts and usually 700 million is playing per day.<sup>8</sup> The most remarkable milestone was the launch of the massively multiplayer online role playing game (MMORPG) World of Warcraft (WoW) released by Blizzard Entertainment in 2004. November, what in the most successful period had more than 10 million players active.<sup>9</sup> The difference between male and female users are negligible, almost same (46% is woman). In the 1990's, gamers were called „nerds”, because they were sitting all day long in front of their computers or consoles. Nowadays we can call almost everybody as a gamer, who has a mobile phone, in 2015. 162,4 million people played through handy,<sup>10</sup> and the number will be increased in the future, as more and more people are gain wealth and access to the world wide web in the Earth.

Terrorist groups, as the main threats of the modern societies, would like to utilize every single sengment from the available possibilities from the Information Society, especially the social media, tweets, Youtube, online gaming. In the past, the main recruiting or propanda tool was the direct marketing, they went from city to city, preaching personally. Now, if we check the online strategies of the modern terrorist groups, bringing example of the Islamic State (ISIS), which can be identified as the most up-to-date terrorist organization, we can see that they have changed to network based recruiting system. Since 2014, ISIS became the most recognizable phenomena using the Internet for intensive marketing and digital tool, not only for recruiting, but also to make their moves at the same time popular, terrifying, desirable, worshipful. This new method called „marketing terrorism”, based on the virtual communication.<sup>11</sup> This article will refer for the ISIS most of the time.

We can see in the prologue, that the online gaming is a huge business all over the world, containing millions of active users, who can be targets for the terrorists groups. The ISIS and the others try to scoope many responsibilities from this way of utility, and also continues they social media actions, characterizing to the online gaming area. The essay will go through the terrorist utilization history from 11. September 2001. till 2016 and analyse the lessons of history, and will explore the threaties of our days and the future. It's

<sup>8</sup> Taylor Soper: *Study: 1.2 billion people are playing games worldwide; 700M of them are online.* <http://www.geekwire.com/2013/gaming-report-12-billion-people-playing-games-worldwide/> (Downloaded: 25.12.2016. Budapest)

<sup>9</sup> Wes Fenlon: *The story of Battle.net.* <http://www.pcgamer.com/the-story-of-battlenet/> (Downloaded: 24.12.2016. Budapest)

<sup>10</sup> Taylor Soper: *Study: 1.2 billion people are playing games worldwide; 700M of them are online.* <http://www.geekwire.com/2013/gaming-report-12-billion-people-playing-games-worldwide/> (Downloaded: 25.12.2016. Budapest)

<sup>11</sup> Javier Lesaca: *On social media, ISIS uses modern cultural images to spread anti-modern values.* <https://www.brookings.edu/blog/techtank/2015/09/24/on-social-media-isis-uses-modern-cultural-images-to-spread-anti-modern-values/> (Downloaded: 28.12.2016. Budapest)

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essential, to check the most popular online based games types, the most played online games and their unique potentials. The main goal is to reveal, discover and show the dangers of community playing, the terrorist activity in this field and the potential menaces.

## BASIC THEORIES AND CONCEPTION

Terrorist groups through the history of humanity always tried accomodate themself to the modern advance technonology. Fax, television, telephone – they served a different type of agenda for the minds and actions. Propagandized their ideology, always looked for the most networked sector and tried to gain as many profit and benefit as possible. The Internet is breaking to every part of economy, society and politics, became an essential tool and new forum for spreading culture, propagandize, checking citizens, securing global safety. Jarret M. Brachman has created a specification how the Internet could be used for terrorist organizations, and these pointst are matter of facts for the online gaming threaties, too. Online gaming can be used – mostly similar with the Internet – for the following security activities:

- Coordinating terrorist actions and activities, organizing events, keeping relations through the built-in chat applications
- Discussion of the news of the world, analyse the actions of the past
- Propagation of ideology, forwarding/ sending training and educational materials
- Money laundering and transferring (In-game transactions)
- Recruitment: Identify potential gamers, keep in touch with them, socializing, and finally recruit for the organization. After recruiting a member, simulators could be used for trainings
- Find information about the counteractions, take steps<sup>12</sup>

We cannot say that all of the marketing actions coming by the ISIS are pointless. The ISIS not just in operational field, but also in the back countries operating the propaganda machine, where they creating tons of pictures, videos, messages, news and other press products. The control of these fields is almost impossible, therefore the alternative ways to communicate and scheming – thinking of our topic, online gaming – always grants another possibilities for indirect campaign and online recruiting, and they wouldn't waste time to influence along these the population of the occupied territory, sometimes to convince them to support the military actions.<sup>13</sup> The numbers are on the side of the terrorists: The United Nations presented, that they have intelligence reports regarding the supporters from foreign countries siding with the ISIS. The reporting party contained 15 members, led by Foreign Minister Linas Linkevičius of Lithuania, showed with dismay, that to ISIS, Al-Qaida and

<sup>12</sup> Jarret M. Brachman: High-Tech Terror: Al-Qaeda's Use Of New Technology.

<http://www.dtic.mil/dtic/tr/fulltext/u2/a458499.pdf> (Downloaded: 27.12.2016, Budapest)

<sup>13</sup> Besenyő János, Pranter Zoltán, Speidl Bianka, Vogel Dávid: *Az Iszlám Állam – Terrorizmus 2.0.* P: 198. Kossuth Kiadó, Budapest, 2015.

other groups has more than 25,000 fighters from all over the world, and there is also a 70% increase of the foreign fighters between 2014 and 2015.<sup>14</sup>

Keeping the propaganda machine alive, ISIS needs to sustain and maintain it. The group has a professional background for it. The owned media companies al-Hayat Media Center, the al-Furqan and the al-Itisa (these are global actors), or 26 supporting participants from specific cultural regions (Lybia, Syria, Egypt, West Africa, Afghanistan, Iraq, Yemen) like Raqqa Media Center and al-Ghuraba are specialised for marketing, Hollywood movies, making videos, popular video games – all of them copying the picture and language of the Western cultured media companies. Cloning<sup>15</sup> is a general routine. Just for a short example, Grand Theft Auto V (GTA) released as Salil al-Sawarim 4, which is a general clone of the GTA, but it was transplanted to the Islam enviroment, provides the player to steal cars, kill innocent people, rob banks – from the misbelievers.

Although ISIS uses video creating and spreading as a main propaganda, it is hard to use this process through the online gaming surfaces. This method usually makes fear, deterring the viewers. Decapitation, murdering, public executions are not the proper way to show the true power of group and gather new supporters, therefore they keep this type of marketing weapon for Youtube, Facebook, Twitter and their own channels. While it's possible to use the built-in chat programs to send videos, like the one that Playstation 4 or Xbox One holds, but it couldn't be considered as a main channel, because the way to become friends there with players and then persuade them is a very risky, time wasting and unpredictable way, the members know much more easier ways. But as we will see, they won't miss this oppurtinity to maximezie their efficiency.

#### BEGINNING OF THE ONLINE GAMING

Online gaming or playing video games online are a softwares, which can be played through network. The evolution of online gaming evolved parrallel with the development of the Internet technologies. It's worth mentioning, that the first example for playing games against each other with different hardweres was the Programmed Logic for Automatic Teaching Operation (PLATO). It was built in the University of Illinois, and it was a generalized computer-based teaching system. The usage logs of the PLATO system shows players spent more than 300.000 hours playing the game called Empire between 1975 and 1985. However, they released several games for this system, but it was available only for a limited number of players between universities, but we can call these the first player vs. player

<sup>14</sup> Action against Threat of Foreign Terrorist Fighters Must Be Ramped Up, Security Council Urges in High-Level Meeting. <http://www.un.org/press/en/2015/sc11912.doc.htm> (Downloaded: 28.12.2016. Budapest)

<sup>15</sup> Computer gaming subculture names games for clones, which ones are almost the same, or generally the same es a previous released one.

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computer games.<sup>16</sup> In the market of consoles Atari and Nintendo tried to create online connections by using local cable providers, but due to the infrastructure and slow internet speed, it wasn't satisfactory. The price of the Internet accessibility was also a memorable factor, it wasn't cheap till the millenium. Sega Dreamcast was the first Internet-based console in 2000, embedded with 56 Kbs<sup>17</sup> modem and PlanetWeb browser, making the consoles enter to the field of multiplayer, instead of individual gaming.<sup>18</sup>

Taking a huge step the next game made a pace was Ultima Online, released by Electronic Arts in 1997. This game can be considered as the first MOBA, because the common use of Windows in the households and the easier accessability of internet in the world. The rival game Everquest Online came out to the stores by Sony Online Entertainment in 1999, the first MOBA, which one used three-dimensional engine. These two games ruled the throne of MOBAs till 2004, when World of Warcraft was out. In 1998, a world affecting game came to the shelf of the gamers. Starcraft by Blizzard Entertainment was a strategy game between three races, with different units, building, skills, therefore they have wished different tactics against each other. The excelent novelty was the stone-paper-scissors effect, every unit had a counter unit. The popularity of the game increased to unbelievable highs, because of the epic campaign and brilliant multiplayer. Starcraft could be played through LAN<sup>19</sup> and Battle.net.<sup>20</sup> Players were able to create clans in the game server, they could climb up on rank ladders, had the potential to apply for cups. The internet relations of the clans sometimes became a real world friendship, increasing the chance of the charming methods of the terrorists groups and secret services, but we don't have factual proof using the gaming community as a target audience like in 2016. World Cyber Games since 2002 organizes the world championship for Starcraft for pro-players. When Xbox 360 released in 2005, online multiplayer gaming was an essential and integral part of the gaming, pushes the game designer and publisher companies to build-in the multiplayer system to almost every game, doesn't matter if it has a bad influence for the game quality. This means non-stop network connection, creating security dangers.

As we can see, the threalties coming from the modern online games based on the mentioned historical points. All of them layed down a new a way to get in touch, recruit, communicate, train, spread propaganda, action, counterattack. This entertainment sector

<sup>16</sup> Riad Chickhani: *The History Of Gaming: An Evolving Community*.

<https://techcrunch.com/2015/10/31/the-history-of-gaming-an-evolving-community/> (Downloaded: 30.12.2016. Budapest)

<sup>17</sup> 56 Kbs – Digital connection, capable of 56 kilobyte per second, or 56.000 bit per second. In North America this was the general channel rate for single channel digital telephone.

<sup>18</sup> Riad Chickhani: *The History Of Gaming: An Evolving Community*.

<https://techcrunch.com/2015/10/31/the-history-of-gaming-an-evolving-community/> (Downloaded: 30.12.2016. Budapest)

<sup>19</sup> Local Area Network – interconnects computers with limited area

<sup>20</sup> Battle.net is a digital platform, server where specific Blizzard Entertainment game can be played. In 2016 it contains the following games: Starcraft, Diablo, Diablo II, Warcraft 3, World of Warcraft, Starcraft II, Diablo III, Hearthstone: Heroes of Warcraft, Overwatch.

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didn't have the attention of the intelligence services, and we had no additional information about terrorist activities, but it has been changed fundamentally after the Al-Qaeda attack in 11. September 2001.

11<sup>TH</sup> OF SEPTEMBER 2011 AND AFTER

The first signs of the effects of the computer games experienced after the Al-Qaeda attack against the World Trade Center (WTC) in New York and the Pentagon in Washington. At 8:46 AM local time, two Boeing 767 loaded with 20.000 gallons of fuel flew to the north tower. After 18 minutes the first plane hit, the second plane crashed into the other tower, causing a massive explosion turning into the two building debris and dust with rumble.<sup>21</sup> The third plane destroyed a building part of the Pentagon, the fourth was fell down near Pittsburgh, after the passengers tried to take back the plane from the terrorists. The attack resulted over 3.000 people's death, including 400 police officers and 300 firefighters.

As the British government reported in 2001, referring to intelligence reports: *"The operatives involved in the 11 September atrocities attended flight schools, used flight simulators to study the controls of larger aircraft and placed potential airports and routes under surveillance"*<sup>22</sup> The hijackers linked with the Microsoft Flight Simulator 2001, which is a factual three-dimensional plane simulator. Many video game journalist doesn't like to call these type of softwares games, because of the high value of simulation. The graphics are very realistic, every city can be identified by its sights, realistic city landmarks including the WTC. The game can be played online with other pilots or air traffic controllers (ATC), so it simulates the air contact, including air-to-ground communication. The real time playing is a generic part of the game, players can do flights as long as the route takes in the real life, from the take-off till the landing. The physics in the game modelled verisimilar, the plane wobbles and shakes in a storm, have to control the machine differently in every weather type (clouds, lighting, snow, rain). The panels and the dashboards are totally the same in the virtuality as the model, the sound effects giving back the same experience. The 2001 version of the Microsoft Flight Simulator contained 22.000 airports, nearly all that exists in the world<sup>23</sup>. A scenario in the game allowed another player to fly with a trainer plane next to the trained player, opening the way for the terrorist organizations to have flying teachers within their borders, and teach the cadets how to drive a plane. Game and fly experts have pointed to the fact, that the program can be used to train a person to fly a plane using only 8 buttons, not including take-off, landing and auto-pilot. The terrorist leaders also have chance to monitor their soldiers training and progression, adding suggestions, to secure the

<sup>21</sup> 9/11 Timeline. <http://www.history.com/topics/9-11-attacks> (Downloaded 30.12.2016. Budapest)

<sup>22</sup> Kobina Amoakwa: *The flight software that 'trains the terrorists'*.

<http://www.dailymail.co.uk/news/article-357006/The-flight-software-trains-terrorists.html> (Downloaded: 30.12.2016. Budapest)

<sup>23</sup> In the Microsoft Flight Simulator 2004 it has been raised to 24.000

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teams future work. Sum up, the game can give back the feeling and the process of driving planes as the way they work in the reality, and the players have the chance to fly them in real time and places.

The ultrarealistic fieldsimulation and controlling, built-in trainings made the Microsoft Flight Simulator 2001 one of the programmes, that caused finger pointing to Microsoft. It has been reported, that the terrorists used the software to simulate the time and way until the plane reaches the targets, from the view of the driver. Microsoft said, the flight simulator can be used for real flying purposes for trained pilots, together with removing the WTC and other skyscrapers from the game. The gameplay changed dramatically: there is no crashing animations anymore<sup>24</sup>. They obligated to download a patch, which deleted the towers from the earlier bought versions, but it wasn't hard to find pirate copies in the black markets or in the Internet<sup>25</sup>.

After the 9/11 attacks, the Government Accountability Office from the United States has dramatically increased the security check of the flight schools, decreasing the chance for the terrorists to have an access to the most modern flying simulators and to learn to fly at fly schools. Transportation Security Administration (TSA) also created a regulation for non-citizens to accomplish a security threat assessment, before they could attend to the flight school. The measurements are not solving the problem, because terrorists can learn the art of flying, living far from the closest airport, or never been on a plane. However, the government is keeping eye on who is buying the advance flight simulators, like L-3 Link softwares,<sup>26</sup> where training offered for fixed wings, rotary wings or drone flying, it is likely not enough. After several minutes of searching with the Google, a person can download any simulator for any type of plane, also can order a flight simulator cockpit.<sup>27</sup> Albeit the obtainable flight simulators doesn't prepare pilots for the same feeling as driving a plane, they can use the rod control when it is the time, and ISIS knows this.<sup>28</sup> According to the military sources in Libya, the Jihadists are teaching pilots for suicide missions in the city of Sirte. We can have only assumptions, but after Mohammed Kadhafi was removed from the power after 2011, several warplane training software and machine was missing, supposedly captured by the terrorists. The simulator contains rod control, radar control, full

<sup>24</sup> Car simulator games (for example Need For Speed) have a similar procedure: the car manufacturers doesn't like to see their cars crashing on the railing, so the vehicles mostly unbreakable

<sup>25</sup> Herpai Gergely: *Pixelterroristák*. [http://filmvilag.hu/cikk.php?cikk\\_id=8752](http://filmvilag.hu/cikk.php?cikk_id=8752) (Downloaded: 30.12.2016. Budapest)

<sup>26</sup> L-3 Softwares: <https://www.link.com/military/simulation/pages/default.aspx> (Downloaded: 09.01.2017. Budapest)

<sup>27</sup> Douglas A4 Skyhawk Cockpit: [http://www.trade-a-plane.com/search?listing\\_id=1649177](http://www.trade-a-plane.com/search?listing_id=1649177) (Downloaded 09.01.2017. Budapest)

<sup>28</sup> Jazz Shaw: *Modern problems: ISIS training fighters in commercial flight simulators*. <http://hotair.com/archives/2015/12/04/modern-problems-isis-training-fighters-in-commercial-flight-simulators/> (Downloaded: 09/01/2017. Budapest)

cockpit, communication devices and the software.<sup>29</sup> Intelligence reports also mentioning another simulator acquire, which one was designed for civilian planes.<sup>30</sup> We must note, that the militaries from the world are using Delta Force 2, Steel Beasts and Falcon 4.0 for training purposes.<sup>31</sup>

#### WORLD OF WARCRAFT – THE BEGINNING OF COMMUNICATION SCOPING

The next milestone of the increasing terrorist activity in online games was the release of World of Warcraft MMORPG. In the game we can choose between two sides, fighting in the world of Azeroth against each other. Players can choose from different races and classes, having raids to get experience point and develop the owned characters, acquire more and more stronger weapons and artificats to increase the power of the hero. Users can create guilds, where their can communicate with other players in a tighter community, but also can chat with every player they have encountered. The in-game market enables to trade freely equipment between the users. However, WoW is not the first online game, which one contains chat system, but it became the most popular MMORPG in the world and the first game what can be found in intelligence documents as a major threat base. The revelations came from the documents released by Edward Snowden in 2013: the first mentioned intelligence activity was in 2007, when the NSA, CIA, FBI and other intelligence agencies started to monitor and analyse activities in WoW and in Microsoft Xbox Live system. The NSA agents and experts started to scope suspicious players and their other „games and virtual enviroment” (GVE), since intelligence reports claimed Al-Qaeda fighters using the programmes for propaganda, recruit, trainings and to communicate. The virtual world provided for the spies not just to have the chat logs for all the communications in the game, but also could check their buddy list, guild members, geographic locations, personal datas – with these information hackers were able to install malwares or data collector softwares to the target individuals computers. WoW is running through the Internet and Battle.net servers, making connections with different computers, therefore they could be easily exploited and observe. Government Communicaton Headquarters (GCHQ) partnered with NSA tried build in exploitation modules for World of Warcraft and Xbox Live, the plan was to finish the integration till the February of 2008. The mainly targets were terrorists and targeted outcoming new games, too. NSA undercover agents had special groups and teams within their employees, whose had World of Warcraft and Second Life

<sup>29</sup> Abdul Sattar Hatita: *ISIS in Libya Train to Fly Planes*. <http://english.aawsat.com/2015/12/article55345705/isis-in-libya-train-to-fly-planes> (Downloaded: 09.01.2017. Budapest)

<sup>30</sup> Laurie Hanna: *ISIS terrorists training jihadis in flight simulator to prepare for airplane suicide missions*. <http://www.nydailynews.com/news/world/isis-training-terrorists-flight-simulator-libya-article-1.2454983> . (Downloaded: 09.01.2017. Budapest)

<sup>31</sup> Kyle Orland: *Snowden leak examines gaming as a terrorist propaganda and training tool*. <http://arstechnica.com/gaming/2013/12/snowden-leak-examines-gaming-as-a-terrorist-propaganda-and-training-tool/> (Downloaded: 11.01.2017. Budapest)

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accounts, boosting the compatibility of virtual surveillance. They have infiltrated guilds owned by dangerous targets or individually sneaked near to them. The virtual world sometimes was too crowded with agents, thus it was a need to deconflict the efforts, don't crash into one and other, don't duplicate the case they are doing. After these actions, getting close to a target person through virtual games became a part of the human intelligence of spying (HUMINT). CIA, FBI, DIA, NSA and GCHQ established processes and developed strategies for the collaboration. Looking into Snowdens documents, we know about one successful action in 2008: discovered a website where stolen credit card details were traded. According to the modus operandi the secret agents avatar<sup>32</sup> got in touch with the informators avatar, receiving useful information about the target groups activity. Snowdens documents on the other hand doesn't mentioning any counterterrorist successes, the chance to move moneys, communicate in secret, plot attack, are real possibilities. Game companies and employes claimed that online games built to make profit, the identity and activity needs to be checked, everything is booked, the chance to create real threat with a fake account is very low. If the terrorist groups would like to have their communication in secret, there are more effective ways to resolve the problem. Blizzard Entertainment also stated, they have absolutely no knowledge about intelligence activities in the World of Warcraft, they had no negotiations with any agencies, no permission for surveillance had been given. According to the law, in many countries the intelligence agencies doesn't need to have permission from non-government companies. The usual law procedure in the world generally obligate the agencies to have a good reason for the tracking, and a minister (usually the minister of justice) or the president of the supreme court must sign it. In the end of the year 2008, became a reserved right for police to check and search for the chat dialogues later in the servers, when it's needed. NSA began at Menwith Hill, in a Royal Airforce Base to collect data from the Battle.net servers. The money transferring, where people can buy potions, weapons, equipment for real money also started to be monitored. The in-game auctions are making the possibility for money laundering and transferring. Creating an example, a terrorist player, who would like to transfer money to another terrorist player in the other side of the Earth secretly, unsuspecting and safely, needs to know the name of his or her partner, have to get in touch in the game, find an equipment (for example a very rare sword, which can be sold for thousand of dollars in real money), and sell it to the other member. After the deal is done, through the game it is possible to send the money to the correct place.

Beyond the self-explanatory way to chat with the other terrorist members, it can be a way to recruit new members for an organization. Being a part of a guild day-to-day life, terrorists can track down the users who have sympathetic feeling towards their goals, actions. Snowdens documents also mentioning that the monitoring will be continued after

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<sup>32</sup> Avatar is usually a representative of the player in the virtual world, the virtual appearance. We can describe it as a character or a profile picture. In many games, players can shape the avatar as they like it.

2008 to discover guilds, characters, accounts related to the Islam jihadists, nuclear proliferation or arms smuggling<sup>33</sup>. A GCHQ report in 2009 draws attention to the various type of people playing WoW: scientists, engineers, soldiers – they are all potential targets for recruiting, and through the game it is very easy to make contact with them. WoW played by every age group, the younger players from the generation Z spend hundred of hours in the virtual community. The knowledge of a foreign language is not a challenge for them, most of them learned english, the common spoken language from the games. The terrorist pressure groups have potentially able to use them to reinforce prejudices, doubt in cultures and society and amplify stereotypes through chat, or later in real life friendship.

The documents have no exact parts, where proofs were included about using the online game platform for actions, but we must accept, World of Warcraft was the first online multiplayer game for the general opinion, where non-official intelligence operations have been made. In 2007 Cory Ondrejka, the CTO for Linden Lab was the first one who confessed the agreement with the NSA to get a closer look for they players in their online „human life” simulator Second Life, *to understand the motivation, context and consequent behaviors of non-Americans through observation, without leaving U.S. Soil.*<sup>34</sup>

#### FIRST PERSON SHOOTERS: COUNTER-STRIKE, CALL OF DUTY, OVERWATCH – GAMES FOR TRAINING AND PLANNING

Counter-Strike (CS) is a multiplayer first person shooter released by Valve Entertainment in 2000, still one of the most popular cooperative shooting game in 2017. The games has many versions, the latest one using the Source engine. CS is playable alone against AI controlled units or 32 online players. The high number of possible participants allows terrorist groups to simulate real corps actions. The graphic and the physics are realistic, and all the weapons<sup>35</sup> are same as their existing types, behave like the real ones. Terrorists can create with the Valve Hammer Editor own maps. Many add-ons can be found in the Internet, enable to build the copies of real places in the game. The weather conditions are

<sup>33</sup> Justin Elliot: *World of Spycraft: NSA and CIA Spied in Online Games*

<https://www.propublica.org/article/world-of-spycraft-intelligence-agencies-spied-in-online-games>.

(Downloaded: 11.01.2017. Budapest)

<sup>34</sup> Taylor Berman: *NSA and CIA Agents Infiltrated World of Warcraft, Other Online Games*

<http://gawker.com/nsa-and-cia-spied-on-world-of-warcraft-other-online-vi-1479458437> (Downloaded: 11.01.2017)

<sup>35</sup> In-game weapons for CS: Bowie Knife, Glock 18 (9x19) H&K USP Tactical (.45 ACP), SIG Sauer P228 (.357 SIG), Desert Eagle (.50 AE), FN Five-seven (5.7x28, Beretta 92G Elite (9x19), Benelli M3 Super 90 (12), Benelli M4 Super 90 (12), Steyr TMP (9x19), Ingram MAC-10 (.45 ACP), H&K MP5-N (9x19), H&K UMP (.45 ACP), FN P90 (5,7x27), M249 SAW (5,56x45), FAMAS F1 (5,56x45), IMI Galil ARM (7,62x39), Steyr Scout (7,62x51), M4A1 (5,56x45), AK-47 (7,62x39), Steyr AUG (5,56x46), SIG SG 552 Commando (5,56x45), AI AWSM (8,60x70), SIG SG 550 Sniper (5,56x45), H&K G3SG/1 (7,62x51), M249 SAW (5,56x45)

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enabled to change, the soldier will be able to learn the attributes of the modelled place in every variant, therefore the training can take place in the wildest ambience. Due to the high ability to mod the game, almost every nations army uniform are downloadable, including the ISIS types. The game tries to be get far from the arcade games in every way it's possible: there are no health packs to pick up to heal after failed combat, one or two shots and the character is dead. The building software can be a main weapon for the ISIS: suicide jihadist will learn the target area without ever spending a second in the attacked country. The realistic weapon effects giving back the feeling of real time attack, generating the possibility to plan every step of the action.

Reports mentioning other FPS-s, where terrorist activity is detectible: Call of Duty series, Halo series, Medal of Honor series and presumably Overwatch.<sup>36</sup> The reason of the high volume of terrorism in the virtual world of First Person Shooters, that the multiplayer version enables communication, good for training, propaganda and recruitment are feasible. These games usually doesn't contain many in-game buying possibilities, the MMORPGs are better and easier ways to launder money. The Overwatch was mentioned for the easiest way in the gaming history for online communication during the play: previous games usually needed an other software to communicate with friends<sup>37</sup>, Overwatch lets the players to use the built-in chat system and speak with the others, just pressing the „0” button. This feature is a useful way to avoid breaking the fast paced action with typing on the keyboard.

The unique of the FPSs, as their name contains, players can use these softwares as they could see the action in the battlefield from their own view. This does not mean the path of becoming a super soldier just training with the video games, however the utilisation of a professional player, who spends hundreds of hours in a specific game is imaginable. Some professional sportsman easily makes 10 moves per second,<sup>38</sup> what presumes incredible reflexes and knowledge of the expertised software. As we have mentioned, terrorists have great background for creating softwares they need, because of this they have no difficulties to create softwares for remotely controlled war machines or war drones. Making similiar to the games they want to copy, engineers must build in this to the attack machine as the same as the original one as possible, not forgetting the enviroment of the real world. Blackmailing or capturing the professional players can get them to use the terrorist attack machines as operators. Keeping the crosshair on a fast moving target it's an easy job for the professionals. Kidnapping isn't the only way to acquire essential soldiers, training kids or fanatics will make the job done, like in military making them child soldiers.

<sup>36</sup> Damien Gayle: *The real Call of Duty: Terror gangs 'using computer games to plot atrocities securely online*. <http://www.dailymail.co.uk/news/article-2117532/The-real-Call-Duty-Terror-gangs-using-games-plot-atrocities-securely-online.html> (Downloaded: 19.01.2017. Budapest)

<sup>37</sup> One of the most popular online gaming chat software is TeamSpeak

<sup>38</sup> Yannick Lejacq: *How fast is fast? Some pro gamers make 10 moves per second*. <http://www.nbcnews.com/tech/video-games/how-fast-fast-some-pro-gamers-make-10-moves-second-f8C11422946> (Downloaded: 19.01.2017. Budapest)

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## NEW GENERATION CONSOLES – OUR DAYS

In the 13th of November 2015. the world was in shock after the terrorist attack in Paris, planned by the ISIS, 127 people have been killed and more than 300 injured left. We don't have exact information, how the killers communicated, but according to Jam Janbon Belgian Minister of Interior, they could use the chat system of the PlayStation 4 (PS4).<sup>39</sup> The reason was simple: the system is very hard to monitor and slipped away from the scope of the national securities. This could be strange, because when Xbox One and PS4 have been released, they required for most of the services non-stop online connectivity. Microsoft Kinect and the camera of the PS4 can be turned on without giving any signal to the user, thus it would be expected to check the online communication history of the suspicious targets, too. The unique of the console chat system is that it doesn't require a specific game to use voice-chat or sending messages through the PlayStation Network.

The main suspect of the terrorist organization is the voice communication system of the PS4. The voice-chat is using IP-based voice technology, which makes it harder to monitor.<sup>40</sup> After the World of Warcraft incident, the FBI tried to get under control all the gaming communication. The agency haven't received all the permissions to gather information from peer-to-peer communication, but they recorded many data illegally. There are mentionable successes, like the pedophile catch in Xbox Live.<sup>41</sup> The main problem is the 65 million active PSN users all over the world, which is a huge amount of people, requiring gigantic capacity of human power and storing. The other problem is that if an agency has the profile name the terrorist, other internet history, it is still hard to keep under control and get the data from the PSN. In an FPS, two terrorists could easily send messages with shooting the wall and forming the bullet holes as words.

The scientific investigation of this field is only theoretical now since the problem is quite new and the national intelligence services doesn't give many information about they work, making the research hard. The methods how the government gets inside to the new generation consoles network remains secret for a while, but the existence of the watching is potential. We can also presume the heavy monitoring of the „hit” multiplayer games like Call of Duty or Overwatch,<sup>42</sup> since the number of players are here the biggest, thus it is much more easier to virtually hide. It is required from the intelligence services to observe everything related to the scanned game to do not miss any useful information, but it is

<sup>39</sup> Alan Hope: *Brussels is 'weakest link' in Europe's fight against terrorism.*

<http://www.xpats.com/brussels-weakest-link-europes-fight-against-terrorism> (Downloaded: 22.01.2017. Budapest)

<sup>40</sup> Nate Anderson: *CSI: Xbox—how cops perform Xbox Live stakeouts and console searches.*

<http://arstechnica.com/tech-policy/2012/01/searches-and-xbox-live-stakeouts-how-cops-investigate-consoles/> (Downloaded: 22.01.2017. Budapest)

<sup>41</sup> Paul Tassi: *How ISIS Terrorists May Have Used PlayStation 4 To Discuss And Plan Attacks.*

<http://www.forbes.com/sites/insertcoin/2015/11/14/why-the-paris-isis-terrorists-used-ps4-to-plan-attacks/#314aba7a731a> (Downloaded: 22.01.2017. Budapest)

<sup>42</sup> Overwatch is played more than 25 million people

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almost impossible to store and analyze. In addition, this could cause the feeling of a dystopian and Orwellian world, leading to dissatisfaction of society. The solution could be a government arrangement with Sony and Microsoft to provide more accessibility to their systems for immediate data gathering, when it's needed.<sup>43</sup>

## CONCLUSION

The author went through the the evolution of the terrorist activity in online games at the 21<sup>st</sup> Century, indicating the high risk of the subject, not mentioning those games, which could be played offline too, without internet connectivity, for example Angry Birds in mobile phones, where we have proofs about intelligence activity.<sup>44</sup> The virtual environment for illegal activity, training, money transferring or to communicate is an uncharted area. Security experts and scientists didn't research deeply the possibilities of risks running through the gaming networks. As many part of the Information Society, online gaming terrorism creates a new and dangerous warfare. The NSA has launched the Project Reynard, a venture to utilize all the data gathered from online and virtual gaming environment, but the academic literature is limited and only few proofs have been revealed. When the terrorists activity is forming stronger, it is necessary to improve the forces and tools. The uncertain situation requires measuring all the available options the enemy has. The knowledge, which terrorist group is a potential threat in the field of multiplayer games is needs to be considered. We also need to accept, that ISIS and its background uses online games for their goals, virtual activity can jeopardize the real world.<sup>45</sup>

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<sup>43</sup> Paul Tassi: *How ISIS Terrorists May Have Used PlayStation 4 To Discuss And Plan Attacks*. <http://www.forbes.com/sites/insertcoin/2015/11/14/why-the-paris-isis-terrorists-used-ps4-to-plan-attacks/#314aba7a731a> (Downloaded: 22.01.2017. Budapest)

<sup>44</sup> James Ball: *Angry Birds and 'leaky' phone apps targeted by NSA and GCHQ for user data*. <https://www.theguardian.com/world/2014/jan/27/nsa-gchq-smartphone-app-angry-birds-personal-data> (Downloaded: 22.01.2017. Budapest)

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