



Let's Play a Video Game: *Jihadi* Propaganda in the World of Electronic Entertainment

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ABSTRACT

This article argues that video games have become a valid and increasingly significant means of *jihadist* digital propaganda. “Gaming *jihad*” has recently shown interesting alterations, mostly due to actions undertaken by the so called Islamic State and its cyber-partisans, which have discovered new ways of using this flexible and immersive medium. Similar to more conventional forms of its online propaganda, which have been imitated by other Islamist terrorist groups for years, the “Caliphate’s” exploitation of electronic entertainment software may be a forerunner for the increased interest of other violent extremist organizations in this medium.

ARTICLE HISTORY

Received 29 June 2017

Accepted 23 September 2017

Cyber *jihad* is nowadays rightly perceived as a rising threat to international security. Since the turn of the century Islamist terrorist organizations have redirected their propaganda activities to cyberspace, which vastly contributes to their increased efficiency in recruiting new members, inspiring and radicalizing sympathizers, as well as intimidating the societies of developed states. It is therefore not a surprise that this phenomenon has been intensively analyzed by the academic community. In the plethora of papers concentrating on this topic, one issue is, however, usually omitted or neglected—the role and specificity of video games¹ in promoting global *jihad*. Obviously, there have been multiple monographs, manuscripts, and reports released, especially since the 9/11 attacks, which investigate the perception of terrorism in the electronic entertainment industry products, their role in counterterrorism, as well as their general value for political activism.² At the same time, little attention has been paid to how Islamist terrorist groups use this increasingly popular and sophisticated medium for achieving their goals. While there are some publications that merely mention the fact that violent extremist organizations (VEOs) promote their agendas with the use of video games, usually without any due deliberation, there are almost none that focus strictly on their potential and significance in *jihadi* propaganda.³ It seems to be a serious oversight in the scientific discourse, as since the beginning of the twenty-first century electronic entertainment programs have been increasingly utilized by Islamists to reach and radicalize members of game player communities.

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This article has three major goals. First, to discuss the true potential of video games as a unique tool that has increased the reach of cyber *jihad*. Second, to provide in-depth analysis of previous cases in which entertainment software was exploited by Islamist terrorists and their sympathizers for propaganda. Third, to identify major patterns and trends in using this type of computer programs to inspire, radicalize, recruit, and intimidate the *jihadis'* respective audiences.

The article has been divided into four parts. The first provides an overview of the most important features of video games in the context of their usability for the purposes of propaganda. It specifically focuses on the aspects of electronic entertainment software that are useful in campaigns advocating for or encouraging individuals to embrace *jihadist* ideology. The second, based on available online resources and on content analysis of Islamist video games, outlines the evolution and specificity of early stage of “gaming jihad.” It concentrates on identifying methods and forms of propaganda that were exploited in various elements of analyzed programs, including the storyline, slogans, cutscenes, soundtracks, graphics, and gameplay mechanisms. The third contains the case study of Islamic State (IS)–affiliated activities exploiting electronic entertainment software for promoting its “brand” and agenda. Finally, the last chapter discusses the most important tendencies noticeable in the *jihadist* use of such programs, including their peculiar process of development, their dominant genres, propaganda content, as well as mechanics. In this context, this article argues that despite some controversial Salafist *fatwas* prohibiting electronic entertainment,⁴ video games have become a valid and increasingly significant means of actively promoting the *jihadist* ideology of Islamist terrorist organizations. The specificity and *modus operandi* of “gaming jihad” has recently shown interesting alterations, mostly due to actions undertaken by the so called Islamic State and its unaffiliated supporters, which have discovered new ways of using this highly interactive and flexible medium.

This article has, however, one important caveat. While it discusses why and how electronic entertainment software has been used by Islamist terrorists, it does not provide any definite conclusions on its efficiency in radicalizing and inspiring player communities to follow their agenda. This is a separate problem that is yet to be explored by the academic community.

Taking the Game to Gamers: Why is Entertainment Software a Viable Propaganda Tool for *jihadists*?

Video gaming is an activity that is almost as old as computers themselves. The first programs of this type were created in the 1960s in the United States. Decades later, at the end of the twentieth century, gaming started to be perceived as a way of life that had great social and cultural significance, as it increasingly determined various behavioral trends among the youth.⁵ Currently, video games are accurately considered to be one of the leading and most popular mediums in existence, as almost 30 percent of the world’s population play games. It is thus not a surprise that the electronic entertainment industry is one of the most flourishing and fastest expanding business sectors in existence.⁶

The sheer size of the video game market and the popularity of such programs is the first, and also the main factor, which increases the interest of VEOs in using them for propaganda purposes. For many “netizens,” they are the favorite form of entertainment, increasingly accessible due to the acceleration of the information revolution around the world. Possession

of a smartphone, console, or computer, even in the poorest regions, such as Maghreb and the Middle East, nowadays is not uncommon.⁷ Plus, many technologies are increasingly universal, which means that the same program is available via many different electronic devices (e.g., through browser apps, emulators). Thus, video games seem to be a perfect carrier for *jihadist* messages, as they can potentially reach billions of receivers, essentially, across the world.

Clearly games *per se* are highly entertaining. According to Granic, Lobel, and Engels they trigger “some of the most intensive positive emotional experiences.”⁸ This is their core function; they need to be fun to play, which is possible mostly due to their interactivity and the feeling of immersion.⁹ This feature has a natural impact on the preferences of audiences. Some computer users may naturally choose this type of software instead of more traditional forms of entertainment, such as movies or books. Cyber *jihad*, which heavily relies on video recordings, audio statements, *nasheeds*, and online magazines,¹⁰ may capitalize on these tendencies to reach audiences that are as yet unfamiliar or uninterested in its releases. Even the best, professionally produced promotional films, Islamic chants, or articles presenting the “bright side” of *jihad* are perceived by many as unexciting, tedious, or brutal and, therefore, inefficient from the viewpoint of the Islamist VEOs agenda. Games, as mentioned above, are meant to be played for fun. Thus, if used properly, they have the capability to reach qualitatively different audiences, who simply want to be amused instead of becoming acquainted with propaganda outlets. In order to do this, pieces of software may contain manipulative messages subtly “smuggled” into a story and concealed behind the dominating layer of entertainment, which is, according to Ellul, one of the key factors of propaganda success in the long run.¹¹

The essential advantage of video games over television, audio recordings, magazines, or books is their interactivity. A person behind a monitor may actively influence the course of events in a virtual world. Ritterfeld and Weber rightly argue that “video games offer an opportunity for intrinsically motivated, high-involvement experiences, freed from real-life constraints.”¹² As Murray suggests, computers create an environment that is both procedural and participatory.¹³ This, in turn, means that a properly designed game allows immersion and personal involvement to take place. According to McMahan, immersion means that a “player is caught up in the world of the game’s story (the diegetic level), but it also refers to the player’s love of the game and the strategy that goes into it (the nondiegetic level).”¹⁴ No other medium to date, especially considering the advent of virtual reality technologies, has the comparable potential of engaging players by representing reality or embodying fantasies in an electronically created environment.¹⁵ This creates unique possibilities for terrorist organizations. Interactivity potentially allows a virtual world driven by a story or adventure presenting the *jihadi* viewpoint and ideology to be created. Adopting such a twisted and unusual perspective,¹⁶ challenging the dominant perceptions on who are the “good” and “bad guys” may be tempting for game player communities, which frequently seek to avoid hackneyed narratives. This is especially evident when considering the fact that so far there have been many successful games in which the protagonists were wicked, malevolent creatures or criminals (e.g., *Dungeon Keeper*, *Mafia*, *Grand Theft Auto*). There have also been popular series that allow the player to embody a terrorist (e.g., *Counter-Strike*), but they obviously lack the ideological explanation of their activities. In this context, immersion in games presenting “jihad with a human face” has a

chance to influence the opinions of users on Islamist terrorism through a strictly virtual experience, combined with and bolstered by satisfaction from the gameplay.

Interactivity also means that such programs are great learning tools, as players have the ability to train certain skills in a digital environment, which is without risk and usually generates lower costs than traditional teaching. Moreover, contrary to many other learning methods, the education process is accompanied by enjoyment, which is even more valuable in the context of repetition. Gee rightly states that “when we think of games, we think of fun. When we think of learning we think of work. Games show us this is wrong. They trigger deep learning that is itself part and parcel of the fun. It is what makes good games deep.”¹⁷ This function is especially visible when it comes to simulations, which model real life activities. They frequently provide detailed instructions of various, highly complicated actions, such as aircraft piloting (e.g., *Digital Combat Simulator*). Ritterfeld and Weber stress that “video games can be specifically tailored to enhance cognitive, metacognitive, socioemotional, or behavioral skills, even addressing various user needs. With the development of more sophisticated intelligent systems, the potential for education in formal and informal contexts will rise dramatically.”¹⁸ In this context, they may be used by Islamist terrorists as training platforms, similarly to Al Qaeda’s “open source jihad.” Homegrown radicals can use modified or vanilla software, both professional and mainstream, to experience “virtual jihad” or to acquire certain skills, such as the use of firearms or the aforementioned aircraft piloting. This option has been already tested, as flight simulators were utilized by terrorists during their preparations for the 9/11 attacks.¹⁹ Using video games for training purposes, therefore, has three advantages over traditional *jihadist* instructions in the form of videos, books, manuals, and articles in online magazines. First, they combine the learning process with enjoyment, which may invigorate the repetition necessary to learn. Considering the fact that some games are also highly addictive,²⁰ it gives an interesting edge to the virtual learning process. Second, they are interactive. Thus, gamers have the ability to manipulate various objects in the virtual world via computer input devices. This is impossible in other mediums, which provide strictly theoretical knowledge. Games may provide knowledge and—to a certain extent—also verifiable skills. Third, they can be easily modified in order to develop certain skills or to alter the virtual world to the needs of VEOs; for instance, by creating artificial “training grounds.”

Some violent or gory video games in some circumstances may stimulate the player’s aggression, as proven by multiple studies. Bushman and Anderson state that “there is sufficient research to conclude that violent video games exposure can cause increases in aggressive behavior and that repeated exposure to violent video games is linked to serious forms of aggression and violence.”²¹ This negative feature obviously constitutes a great asset for terrorists. This is due to the fact that one of the most important goals of cyber *jihad* is to radicalize and inspire audiences to use force against the *kuffar* and *murtaddun*²² in any way possible.²³ Brutal video games may therefore not only provide options to train for such action but also trigger them in reality. Moreover, it has to be stressed that according to Przybylski, Ryan, and Rigby’s study, “players high in trait aggression were more likely to prefer or value games with violent contents, even though violent contents did not reliably enhance their game enjoyment or immersion.”²⁴ Considering the fact that cyber *jihad* attempts to inspire people who are inclined toward violence and that violent content in virtual worlds may sometimes stimulate aggressive actions, video games may be potentially

used as a tool that encourages homegrown Islamist radicals to conduct lone-wolf terrorist attacks.

Finally, the majority of popular games nowadays contain multiplayer options, which enable new types of interactions among players. Online gaming, especially in the form of Massive Multiplayer Online games, also allows various social opportunities to be encountered, which are nowhere to be seen in a single player environment, such as clans or guilds. Depending on the genre and technologies exploited, players can be in contact with and influence the gameplay of dozens (many first person shooter [FPS] games, such as *Counter-Strike*), hundreds (multiple-shard MMOs, e.g., *World of Warcraft*), or even thousands (single-shard MMO *Eve Online*) of users at the same time, which provides interesting opportunities for *jihadis*.

In the World of Gaming *jihad* 1.0: From Hezbollah to Al Qaeda

The first serious attempts to use video games as tools of propaganda were related to the launch of the War on Terror at the beginning of the twenty-first century. 9/11 attacks, as well as the subsequent military conflicts in Afghanistan and Iraq, were almost instantly reflected in the products of the electronic entertainment industry, which released multiple programs depicting the struggle against Islamist terrorists.²⁵ This sparked some reaction both from various Muslim developers, as well as some terrorist organizations, which produced several games reversing this perception (i.e., allowing users to fight against the West and their partners, such as Israel).

One of the first examples of this trend concerned the Syrian Afkar Media software developer, which released *Under Ash* in 2001. It was a 3 D FPS designed for the Microsoft Windows operating system, which allows the player to embody a Palestinian rebel fighting against “Zionists.” While it contained propaganda in the form of harsh, one-sided criticism of Israel, it did not express any pro-*jihadi* sentiment. On the contrary, the game mechanics banned classic terrorist activities, such as suicide bombings. Plus, the game was over if the player harmed any civilians.²⁶ This piece of software, published only in Arabic, proved to be successful in the Middle Eastern markets (100,000 copies sold within the first six months of release), which allowed a sequel to be published in 2005—*Under Siege* (in two separate programs: *Under Siege: Path to Freedom* and *Under Siege: Remnant of Human*), which represented the same genre (3 D FPS/third-person shooter [TPS]). Its storyline was focused on the life of a Palestinian family during the Second Intifada and the struggle against the Israeli Defense Forces (IDF) soldiers. According to Afkar Media, the events depicted in this product were based on United Nations documentation. Nevertheless, while having nothing in common with cyber *jihad*, the game was filled with biased narratives and unsophisticated anti-Israeli propaganda. Its cutscenes aimed to incite hostility toward Israel’s policies and compassion toward Palestinians. They depicted, for example, IDF soldiers executing Palestinian prisoners of war (POWs) (cutscene 4) or even children (cutscene 2). This piece of software was widely acclaimed in the Middle East due to its advanced graphics and artificial intelligence (AI) at the time, not to mention its storyline, which was a big hit with regional audiences.²⁷ To recapitulate, the success of these two video games in the Middle East, which had nothing in common with cyber *jihad*, but contained evident pro-Arab and anti-Israeli bias, proved to be a symbol that electronic entertainment software may contain propaganda and still be welcomed with enthusiasm by thousands of players.

Therefore, it is not a surprise that, simultaneously, Islamist terrorist organizations produced their first electronic entertainment programs of their own. Probably the first of this “genre” to be released was *Special Force*, a 3 D military FPS developed by the Hezbollah Central Internet Bureau. This project was ambitious, as it aimed to reach as broad an audience as possible, not only in Lebanon. The game was simultaneously published in 2003 in Lebanon, Syria, Iran, Bahrain, and the United Arab Emirates and it was available in four languages: Arabic, English, French, and Farsi. Moreover, its distribution strategy proved to be way ahead of its time, as the release included not only physical copies, but also a digital download, which was not common at the beginning of the twenty-first century. The software’s storyline was steeped in anti-Israeli and pro-Islamist propaganda, as it presented the armed struggle of Hezbollah’s “resistance fighters” against the IDF. The message on the game’s box stated: “the designers of *Special Force* are very proud to provide you with this special product, which embodies objectively the defeat of the Israelis enemy and the heroic actions taken by heroes of the Islamic Resistance in Lebanon. (...) Be a partner in the victory. Fight, resist and destroy your enemy in the game of force and victory.”²⁸ The program provided two gameplay modes. The primary mode simply provided opportunities to shoot at Israeli soldiers, which could be exciting for some Middle Eastern players. However, the second mode was much more sinister when it comes to inciting violence. The game contained a “training mode,” which allowed the player to practice shooting skills on pictures of Ariel Sharon, as well as other high-profile Israeli political and military leaders. A high score enabled special bonuses in the form of certificates signed by Hezbollah’s leader Hassan Nasrallah, handed to the protagonist during a special virtual ceremony. Moreover, instead of ending credits, the game presented Hezbollah’s “martyrs” killed by the IDF. Thus, the game fulfilled several functions. To begin with, it was a kind of training tool adapted to the needs and habits of the youngest users in the Middle East. Even Hezbollah’s representative Mahmoud Rayya admitted that *Special Force* meant to introduce “the resistance” to the youth, and “in a way, *Special Force* offers mental and personal training for those who play it, allowing them to feel that they are in the shoes of the resistance fighters.”²⁹ Moreover, the “training mode” contained incentives to conduct terrorist attacks against Israel’s political and military leaders. This was combined with the apotheosis of martyrdom, which proved that the *jihadi* factor was at play. The game was also a great tool of indirect recruitment, improving the image of this terrorist organization among some game player communities and allowing the players to “experience” victories over enemies that were widely disliked in some Arabic countries.

In 2007 Hezbollah released a sequel entitled *Special Force 2: Tale of the Truthful Pledge*. This piece of software concentrated on and presented various phases of the 2006 war in Lebanon from a Hezbollah member’s perspective. For instance, in the early mission the protagonist participated in the Zar’it-Shtula incident (i.e., the abduction of two Israeli soldiers, which was a direct reason for IDF intervention in Lebanon). Other missions were focused on the battles in Bint Jbeil or Wadi al-Hujeir, where the player had the possibility to kill multiple Israeli soldiers. From a technical standpoint, the game was poorly designed, as it was a mere low-quality modification of the commercial FPS *Far Cry*, which was widely popular at the time. Its 3 D graphics, as well as AI, were lacking.³⁰ Interestingly, *Special Force 2* was only officially released in Arabic, which was a step back in comparison to its predecessor. Nevertheless, it proved to be successful in Middle Eastern markets. All 100,000 physical copies were quickly sold. Later on, the game was also available for free on the Internet. Like *Special Force*, the game contained glaring anti-Israeli and pro-Islamist propaganda, especially

visible in cutscenes initiating and concluding every mission. For instance, the cutscene that introduced the first level's storyline presented Israel's crimes against Muslims, such as military and prison camps. This footage was combined with Nasrallah's call to release Hezbollah members. The mission ended with his comment on the kidnapping and the possibility of prisoner exchange.³¹ The game also contained multiplayer options, but lacked the "training mode" available in *Special Force*.³² To summarize, *Special Force 2* was tailored to the tastes of children and teenagers in the Middle East for inspiration and recruitment purposes. This goal was confirmed by Hezbollah's media representative Ali Daher, who stated that "the game presents the culture of the resistance to children: that occupation must be resisted and that land and the nation must be guarded."³³

Meanwhile, Al Qaeda also started to express its interest in video games as a new means of cyber *jihad*. Effectively, the development of its "conventional" propaganda in cyberspace was accompanied by the first "entertainment" program—the *Quest for Bush* (*QfB*) (also known as the *Night of Bush Capturing*)—released online in 2006 for free by the Global Islamic Media Front. In fact, it was a simple modification of the *Quest for Saddam* game, which had been released three years before in the United States, but contained several interesting features, which could be useful tools for influencing players' opinions. First, it referred to and exploited the widely criticized U.S. invasion of Iraq. *QfB* was a 3 D FPS that allowed the player to kill U.S. soldiers through six levels of gameplay. The final boss was George W. Bush himself.³⁴ The possibility to fight against the American president was undoubtedly tempting for some audiences, especially in the Middle East, at that time. Second, the start screen contained images of Abu Musab al-Zarkawi and Osama bin Laden. Below, there were also pictures of George W. Bush, Tony Blair, and King Abdullah of Jordan positioned beside handcuffs, which suggested who the "bad guys" are and who occupies the "moral high ground." Third, contrary to *Special Force*, the game's soundtrack was composed of *nasheeds*, which gave an edge to and added another layer to its propaganda functions. And finally, stage names directly referred to the ideology of *jihad*. For instance, level 1 was entitled "Jihad Beginning," level 3 "Jihad Growing Up," and level 4 "American Hell." The game was, effectively, just a rudimentary modification of a simple and outdated American video game, which proved that the project was much less ambitious than *Special Force 1*. Al Qaeda's programmers added just a few features, such as pictures of Western and Middle Eastern politicians, as well as an Islamist soundtrack.³⁵ The overall effect was, therefore, somewhat unappealing in comparison to the *Special Force* series. Nevertheless, it was an important step forward in the use of games for the promotion of *jihad* and it was widely commented on in Western media outlets.

The release of the *QfB* marked a pause in the exploitation of video games by terrorist organizations. Obviously, there were other programs at the time that expressed anti-Western and pro-Islamist inclination, but they did not promote *jihadist* ideology *per se*. Furthermore, they were not developed by VEOs. One can mention the *Lion of Fallujah* published in 2007, which was another Middle Eastern low-quality FPS, combining action against what appear to be U.S. soldiers with a *nasheed* soundtrack.³⁶ In 2006 the *Iraqi Resistance* modification to the official add-on of the popular real-time strategy game *Command & Conquer Generals—Zero Hour* was released. According to Prucha it enabled the player to play as the Islamic State of Iraq instead of the Global Liberation Army (GLA) from the vanilla version. The modification allowed players to use original GLA tactics, such as suicide bombings or Improvised Explosive

Device (IED) attacks.³⁷ Its release was advertised and distributed online by the user pinkdolphin101, via an “official website” in English, which is still operational and contains the logo of the Mujahideen Shura Council,³⁸ as well as through posts on various message boards and websites dedicated to the game.³⁹ However, aside from the emblem, the website and advertisements lack any content promoting or expressing *jihadi* ideology. Thus, both games fall outside of the *jihadi* entertainment software category.

Another chapter in the history of gaming *jihadi* began several years later, during the war in Mali. Al Qaeda in the Islamic Maghreb (AQIM), being one of the sides participating in the conflict for Azawad, released the *Muslim Mali* (also known as the *Islamic Mali*) on the Ansar al-Mujahideen Arabic Forum, most probably as a virtual response to the 5th French Republic’s *Opération Serval*. It proved to be a very primitive 2 D arcade browser (HTML5) game, which drew heavily from the *Raptor*-like vertical scrolling shooters. It allowed players to control *jihadi* aircraft, viewed from a top-down perspective, shooting down French jets “invading Mali.” While the game predominantly made use of the Arabic language, it also contained some English words, such as a “play” button on the starting screen, which proves that developers wanted to reach out to global audiences. Nevertheless, this software utilized only a few straightforward methods of promoting Al Qaeda’s agenda. It presented the AQIM’s black standard containing *shahada* on the corner of the screen. Pressing the flag annihilated all enemies in the vicinity, which was a metaphor referring to the “might” and “righteousness” of the organization’s radical ideology. Plus, when the game was over, a message appeared on the screen stating that the player had become a martyr. In this context, this program contained visible inconsistencies and shortcomings, which might confuse potential recipients. One of the most noticeable was the fact that the AQIM’s flag-clad, player-controlled airplane was, in fact, a U.S.-made F-117 Nighthawk stealth attack aircraft.⁴⁰ This stands in blatant contradiction to the standard anti-American rhetoric of AQIM and proves that this software was developed hastily, without any due deliberation on the content. Moreover, the game lacked any serious storyline, which might have enabled the feeling of immersion. Finally, its technical quality, similarly to the *QfB*, did not meet the expectations of players in the second decade of the twenty-first century. Its 2013 graphics and gameplay options paled in comparison to the aforementioned *Raptor* scrolling shooter, which was released in 1994. Thus, it is not a surprise that many of Western media outlets at the time mocked AQIM’s seemingly failed effort.

Finally, the limited use of MMO games by Islamist terrorist organizations should be mentioned. There are, however, only two, relatively undocumented, and thus uncertain cases of such activities in the past. The first concerns the *Second Life* online virtual world (2 million accounts as of 2007),⁴¹ which according to Rohan Gunaratna, was used by Al Qaeda members to rehearse their operations.⁴² Winn and Zakem argue that *Second Life* may, however, fulfill broader functions. They stress that “the sophistication and realism of the virtual medium offers a forum for propaganda and recruitment, as well as offering tactical opportunities such as experimenting with various weapons and plotting mass casualty-scenarios.”⁴³ Nevertheless, there is no confirmed data on such use of *Second Life* by Islamist radicals. The second case involve the popular *World of Warcraft* MMO role-playing game, which was allegedly used by *jihadis* for communication. Once again, however, there is little to no detailed information on how exactly terrorists exploited the game’s digital environment.⁴⁴

Video Games in the Islamic State's propaganda: Toward the Gamification of Cyber *jihad*?

A new chapter in the history of gaming *jihad* began at the turn of 2014, at the advent of the Islamic State's online campaign. Its highly efficient propaganda machine, supported by unaffiliated groups and freelance supporters, adapted an innovative approach to electronic entertainment software, which consisted of three interconnected "vectors."

The first vector was founded on the activities of Islamic State's unaffiliated supporters, which use modified versions of already existing, AAA-level programs. This move has probably been motivated by four factors. First, Daesh and thousands of their cyber-partisans active, for example, on social media, lack the required skills and resources to develop a video game of comparable quality to those released by American or European corporations. Second, their solution is also much less time consuming, as the proper software development process, including programming, level design, or troubleshooting would usually take several years. Third, they aim to create content, which would be, in contrast to earlier primitive cyber *jihadist* games, alluring or at least "digestible" for huge and demanding audiences. Thus using already existing and recognized assets should be the right way to go. Finally, they have probably realized that modified versions of popular games may be exploited not only as a medium combining amusement with propaganda but also as a tool enabling interesting audiovisual recordings in the form of trailers, for example, to be created. So far, there has been two outstanding examples of employing such an approach to gaming.

To begin with, in mid-2014 the media reported that Daesh exploited the widely acclaimed 3 D third-person shooter *Grand Theft Auto 5* (75 million copies sold as of February 2017⁴⁵), to recruit youth. It allegedly created a special *jihadi* modification of this game—*Salil al-Sawarim (The Clanging of the Swords)*, which is also a title of the infamous *nasheed* frequently utilized by IS. This piece of software was promoted by a trailer released online. However, it is probable that this "release" was just a hoax designed to draw media attention. Al-Rawi accurately notes that "it is not clear whether the game was truly produced or not; it is also not clear who exactly developed it."⁴⁶ The analysis of the trailer indicates that only the player model was altered, which is perfectly possible in the vanilla version of the game. There is even special software accessible on the Internet, which allows the user to have full control over the protagonists' look.⁴⁷ So there was no need to create a separate modification *per se*. In this context, al-Rawi's study from 2016 indicates that this modification was unavailable for download and that it was not prepared by centralized IS propaganda cells, as "the group stands against entertainment activities like listening to music or playing games that can divert attention from prayer and faith."⁴⁸ To summarize, despite the massive "media fuss," apparently there was no such standalone IS modification to *Grand Theft Auto 5 (GTA5)*.

Thus, its slightly modified vanilla version was only used by Islamic State's sympathizers to record two "game trailers," which promote the *jihadi* "lifestyle" using an electronically created environment. The first, widely reported by various media outlets in 2014, starts with an indicative statement: "Your games which are producing from you, we do the same actions in the battlefields." The trailer contains a number of scenes, which can be grouped into: IED attacks on military and police convoys, sniping of soldiers, as well as executions of police officers.⁴⁹ In May 2017 its longer version (more than three minutes) was still available on YouTube (YT). It contains more shots that fall under the aforementioned categories.⁵⁰

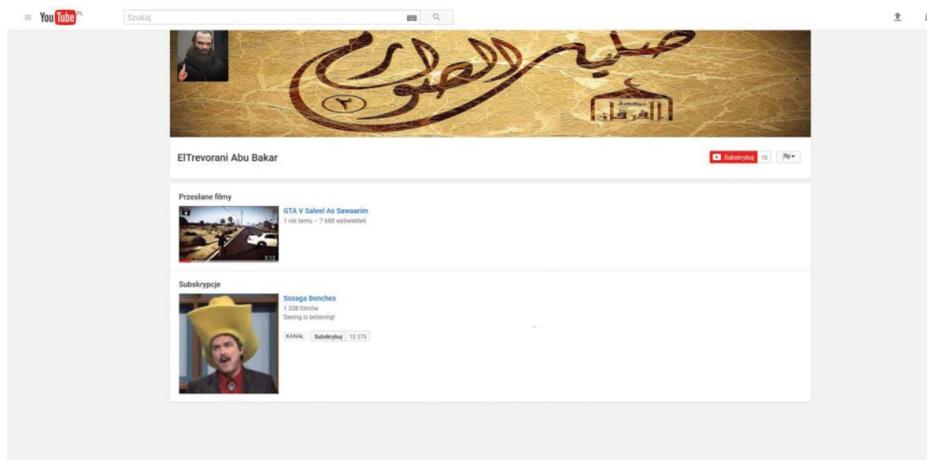


Figure 1. ElTrevorani Abu Bakar YouTube profile.

There is also a second trailer available online, which has not been met with the same level of interest from the media as the first one. It was released by the user ElTrevorani Abu Bakar, which is a clear reference to one of the main *GTA5* protagonists: Trevor Philips. His YT account profile picture presents a modified image of Trevor, with a beard and showing the *tawhid* hand gesture, routinely exhibited by the *jihadis*. Additionally, its background banner contains the Islamic State's al-Furqan Media emblem (see Figure 1). This profile only has one video uploaded (with more than 7,600 views as of May 2017).⁵¹ It consists of similar cutscenes as the original trailer, as well as the Islamic State's black standard, but lacks the initial message. Interestingly, it starts with several shots of bomb and sniper attacks against the U.S. military at an airport. Other scenes contain attacks against police officers, their executions, IED explosions, drive-bys, and bomb attacks against civilian trucks and cars on the highway. The video uses such postproduction and filmmaking techniques as slow motion and close-ups of dead police officers, which clearly resemble methods exploited by official Daesh propaganda cells in their audio visuals.⁵²

Both trailers are similar to a certain extent when it comes to the *jihadi* content presented. They use the same soundtrack—*Salil al-Sawarim nasheed*, contain analogous types of scenes (drive-bys, sniping, executions), exploit similar graphics in cuts (just with slightly different color saturation), as well as special sound effects (e.g., *Allahu akbar* shouts). The second trailer illustrates higher directing prowess, as it contains better, more deliberate camera shots. It also shows improvements when it comes to editing. Moreover, while protagonists in both recordings look different, the second one, being a modified version of *GTA5*'s main character, is much more alluring when it comes to getting attention from the game player community. Despite these differences, considering the learning curve, it is possible that both clips were created by the same person.

GTA5 is not the only AAA game to be exploited by supporters of the Islamic State. The unofficial modification of the ARMA3 3 D FPS combat simulator, which was originally meant to be played as anti-IS forces, was quickly taken over by Daesh sympathizers and was supposedly distributed among them as a valid means of promoting *jihad*.⁵³ In this context, ARMA3 mods were also used as a convenient instrument for creating pro-IS “let’s play”

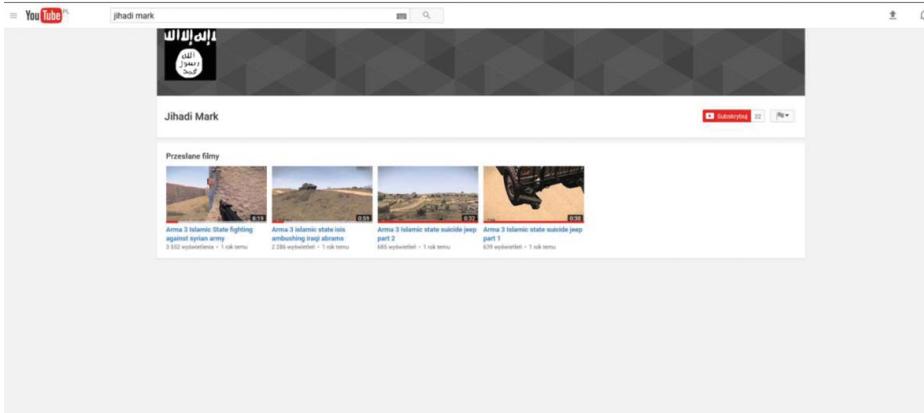


Figure 2. Jihadi Mark YouTube profile.

videos, which present its members in various, victorious combat situations, and even reproduced a Suicide Vehicle Borne Improvised Explosive Device (SVBIED) attack. Such recordings were released on YouTube in 2015, some even combined with *nasheed* (among others, once again, *Salil al-Sawarim*) soundtracks. They contain descriptions and comments from the author—nicknamed Jihadi Mark—such as: “Allahu akbar brothers! May god bless you all. Infidel bashar and his army was crushed” or “Ambushing and destroying infidel Iraqi army abrams.” The account’s profile picture contains Islamic State’s black flag. Moreover, the user name suggests that it may be a direct reference to the infamous Jihadi John (see Figures 2 and 3).⁵⁴ These features indicate that this account is rather not an Internet troll but instead it serves the purpose of promoting the *jihadi* way of life, in accordance with the second vector of the Daesh-linked gaming propaganda, which is mentioned below. Fortunately, these videos that present IS fighters’ perspectives in combat against the Syrian Arab Army

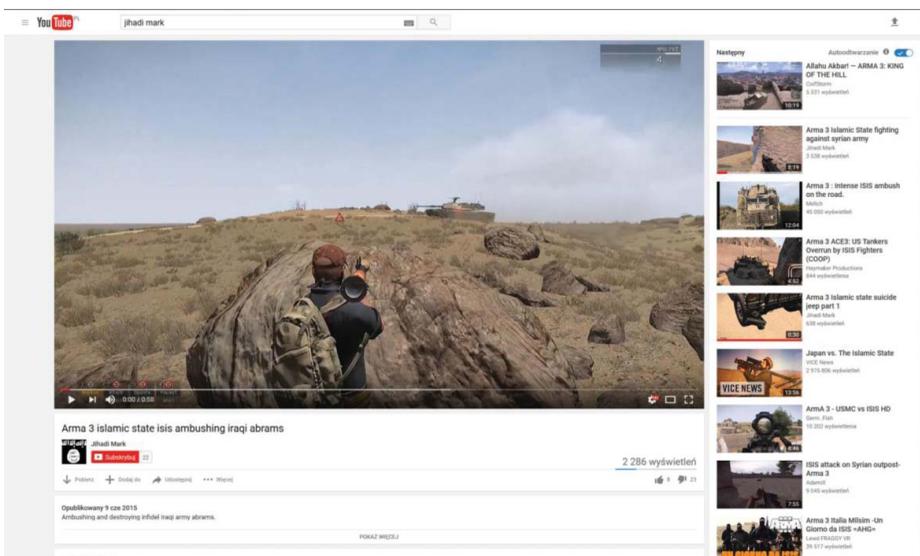


Figure 3. One of Jihadi Mark’s video descriptions.

and Iraqi forces, failed to generate increased interest among players or the media. In effect, their views range from around 600 to more than 3,500 views as of May 2017. In this context, it has to be stated that similarly to GTA5, there is no direct evidence that the “hijack” of ARMA3 modifications was orchestrated by official IS propaganda outlets.

The second vector of this *jihad* gaming campaign consists of frequent references from IS members and supporters to the video game experience and culture. The most evident example concerns the popular, AAA-level 3 D FPS series *Call of Duty (CoD)*. There are a few arguments to support this statement. First, one of the most popular pro-IS memes, circulating online for years,⁵⁵ combines a reference to *CoD* and the glorification of martyrdom, as it states: “This Is Our Call of Duty and We Respawn in Jannah.”⁵⁶ There are also other pro-IS memes available on the Internet, containing the “Call of Jihad” catchword,⁵⁷ which is again a reference to this popular series. Second, one of the “Caliphate’s” members interviewed by the BBC in 2014 stated that his experiences were “better than that game Call of Duty.”⁵⁸ This confirmed that many *jihadists* were interested in video games prior to their accession to the “Caliphate.” Finally, many commentators and journalists noticed that some of the direction and filmmaking methods utilized by Daesh movies resembled scenes from *CoD*.⁵⁹ Al-Wa’ad Media Production, being a group of IS supporters, even used footage from one of the *CoD* games (the falling Eiffel Tower scene) in its propaganda movie entitled *Fight them. Allah will punish them by your hands*, released in April 2016.⁶⁰

The last vector of the Islamic State’s gaming *jihad* campaign consists of the unique program developed, advertised, and released online by its official propaganda center (Maktaba al-Himma)—*Huroof*. This game is exceptional in many ways. To begin with, it was designed both for desktop computers and the Android mobile operating system. It is the only known cross-platform game created by a terrorist organization. Second, it was designed as an interactive Arabic alphabet teacher for toddlers. Thus, its graphic and sound style are cartoonish, and therefore it stands out from all the other *jihadi* games. It combines bright colors, pictures of grass, trees, clouds, trains, balloons, as well other “classic” graphics used in books for children, with “militaristic vocabulary,” as Caleb Weiss noticed, and illustrations of guns, bullets, rockets, cannons, or tanks. These graphics are accompanied by the Islamic State’s symbols, such as its black standard. Third, the game also exploits *nasheed* music to teach kids the alphabet, which is a perfect method for allowing toddlers to get acquainted with other *jihadi* chants in the future. Fourth, the application was professionally distributed using various channels, such as Telegram and file sharing websites.⁶¹ Finally, the game was massively advertised in official IS propaganda outlets. For instance, issue two of *Rumiyah* contained an advertisement for it stating: “Alphabet Teacher. Write. Practice. Learn. Letters and Numbers. Letters Nashid.” Interestingly, at the bottom, next to a cartoon of a rocket, the advertisement urged readers to “choose their targets” from the U.K.’s Big Ben, U.S. Statue of Liberty, French Eiffel Tower, and Russian Spasskaya Tower in Moscow (see Figure 4).⁶² Thus, even in ads of programs designed for youngsters, the IS introduced content that indirectly encourages users to conduct terrorist attacks against the *kuffar*. This app is also another piece of evidence that Daesh is extremely interested in raising the “cubs of the Caliphate” generation, and starts recruitment in early childhood, which will potentially have a long-term impact on international security. Referring to Horgan, Taylor, Bloom, and Winter’s recent six-stage model of child socialization in the Islamic State, *Huroof* may be placed somewhere between stage 1 (seduction) and 2 (schooling).⁶³



Figure 4. Advertisement of *Huroof* published in the *Rumiyah* #2.

In Search of Patterns in Gaming *jihād*

All the aforementioned cases of video game exploitation by Islamist terrorist groups allow certain conclusions concerning dominant trends in gaming *jihād* to be drawn. To begin with, one can notice the twofold origin of these games. Only a few programs were developed by VEOs themselves. The majority of the software used for the purpose of cyber *jihād* were just mere modifications, which were either hijacked from hobbyists (ARMA3), or were created independently based on ripped-off commercial products (*Quest for Bush*, *Special Force 2*). Most of them, except the cross-platform *Huroof*, were developed for desktop computers with the Windows operating system, which proves that so far terrorists have avoided other platforms such as Macintosh (Mac OS), video game consoles, or iOS devices.

The increasing tendency to make use of more or less modified AAA games, visible in pro-Daesh propaganda, is probably caused by the difficulties in creating software of even average quality, which would influence audiences in a desired way. The lack of even basic know-how and experience resulted in the creation of the rudimentary *Muslim Mali*, which was more an object of mockery than a valid instrument of cyber *jihād*. The only exception, proving that terrorist groups may, in certain circumstances, develop high-quality programs, is Islamic State's *Huroof*. This is, however, just a simple mobile application, which is easier to program and troubleshoot in small teams and with limited funds. In this context, it is probable that in the future, terrorists will continue to prefer using modifications of the most popular products

on the market, which is both less time- and resource-consuming, and would attract potentially large audiences of players.

Second, most *jihadi* games represent only one genre—shooters, usually in the first and/or third person perspective. Moreover, the narrative behind the combat is either limited to simple cutscenes and messages popping up on the screen or is virtually non-existent. VEOs and their supporters usually avoid less action-driven game types, which are focused on a storyline and emotions (role-playing games) or on critical thinking and decision making (strategies). This may be motivated by several factors. The domination of shooter games may be caused by the fact that *jihadis* look for players interested in firearms and seeking the thrill of battle, while at the same time being indifferent to moral dilemmas or logic puzzles that exist in other genres. Using FPS/TPS programs also serves as a virtual imitation of real-combat experience, which may encourage some youngsters to become Islamist militants. This intention is evident when considering the fact that the IS has used previously mentioned catchwords referring to *Call of Duty*. Finally, as the studies mentioned above suggest, violent games and exposure to gore may, in certain cases, stimulate aggression. In effect, it may be another way to inspire lone wolf terrorist attacks, which are increasingly common nowadays.

In this context, cyber *jihad* not only exploits the interactivity of video games *per se*. They also serve as a tool of creating audiovisual materials in the form of trailers or “let’s play.” Such a solution is highly profitable for several reasons. To begin with, it allows low-cost or no-cost propaganda movies using strictly virtual assets to be created. In effect, the vast majority of standard organizational and logistical challenges in conventional filmmaking disappear. There is no need for professional cameras, lighting, or sound, as they are included in the applications utilized. Moreover, instead of participants such as hostages or members of terrorist groups, creators may use less problematic non-player characters (NPCs). Only the editing and postproduction phases remain largely unchanged. Aside from easier production, one can also point to the fact that such materials are very popular among millions of young people nowadays.⁶⁴ Many among them would not themselves play a *jihadi* game, but could willingly see a trailer or a “let’s play” presenting this specific “genre.” Last but not least, such materials at present elude antiterrorist mechanisms introduced by the majority of serious Internet services, such as YouTube.⁶⁵ Despite the fact that conventional cyber *jihadist* propaganda is usually quickly identified and deleted, various recordings presenting, for example, the aforementioned pro-IS ARMA3 videos uploaded on YouTube in mid-2015 are still available in 2017. The same goes for the *GTA5 Salil al-Sawarim* trailers. This means that administrators of these online services have overlooked this type of content, probably not recognizing video games as a viable tool for promoting extremist ideology. Such a defect is obviously beneficial for terrorist organizations, which may exploit the “let’s play” trend to reach unaware player communities while avoiding detection.

Third, one can spot an interesting similarity between the pro-Daesh game trailers/let’s plays and “official” releases of the IS, proving that their creators attempted to reproduce conventional propaganda videos while using a qualitatively different medium. There are several pieces of evidence to support this statement. Initially, it seems that one of the *Salil al-Sawarim* trailer scenes, presenting a drive-by shooting, is a direct reference to and imitation of the infamous executions of drivers and passengers traveling by cars, released by the IS during its Mosul offensive.⁶⁶ It is especially evident considering the fact that both the drive-by compilation⁶⁷ and the game trailer were released in mid-2014 (see [Figure 5](#)).

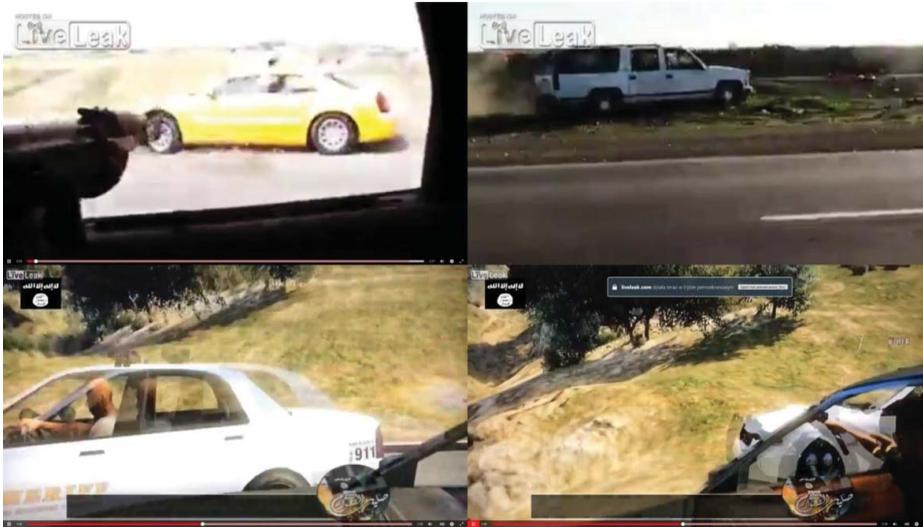


Figure 5. Comparison of the drive-by compilation released by the IS members in mid-2014 (top) with the first *Salil al-Sawarim* trailer (GTA5) drive-by scene (bottom). The screenshots were taken from the recordings available at: "Drive by Execution," LiveLeak, last modified 13 November 2015. Available at https://www.liveleak.com/view?i=8f3_1447431852; "The ISIS Makes A GTA V Recruitment Video," LiveLeak, last modified 20 September 2014. Available at https://www.liveleak.com/view?i=af0_1411258605.

The same pattern of camera shots is also visible when it comes to sniping scenes, as well as executions (see Figure 6). Both the Islamic State's videos (for instance the recent *Strike of Bullets*) and the game trailer adopt the telescopic sight to present deaths of the Islamic State's enemies, as well as present posed images of snipers.

The aforementioned ARMA3, on the other hand, imitates hundreds of pieces of head cam battle footage, released online by Daesh propaganda cells (see Figure 7). A similar



Figure 6. Comparison of *Salil al-Sawarim* (GTA5) trailer sniping scenes (top) with the Islamic State's *The Strike of Bullets* shots (bottom). The screenshots were taken from recordings available at: "The ISIS Makes A GTA V Recruitment Video," LiveLeak, last modified 20 September 2014. Available at https://www.liveleak.com/view?i=af0_1411258605; "WATCH: New ISIS POV Sniping Video & Sniper Execution in Mosul," Heavy.com, last modified 28 November 2016. Available at <http://heavy.com/news/2016/11/new-isis-islamic-state-amaq-news-sniper-sniping-first-person-shooter-point-of-view-execution-wilayat-ninawa-nine-veh-governorate-mosul-iraqi-army-american-coalition-spies-spy-uncensored-video/>.



Figure 7. Comparison of the Jihadi Mark's ARMA3 "let's play" (top) with head cam battle footage from the Islamic State's *Tank Hunters* "documentary" (bottom). The screenshots were taken from recordings available at: Jihadi Mark, "Arma 3 Islamic State ISIS Ambushing Iraqi Abrams," YouTube, last modified 9 June 2015. Available at <https://www.youtube.com/watch?v=CZXJ1KwEful>; Jihadi Mark, "Arma 3 Islamic State Fighting against Syrian Army," YouTube, last modified 11 June 2015. Available at <https://www.youtube.com/watch?v=JvD3d9BS3Z4&t=68s>; "WATCH: John Cantlie Featured in New ISIS Video About Tank Warfare in Mosul," Heavy.com, last modified 13 December 2016. Available at <http://heavy.com/news/2016/12/new-isis-islamic-state-amaq-news-john-cantlie-tanks-tank-battle-mosul-iraq-full-uncensored-video-mp4-download/>.



Figure 8. Comparison of Jihadi Mark's video *Arma 3 Islamic state suicide jeep part 2* (top) with the SVBIED attack scene from the Islamic State's *Under the Shade of Swords* (down). The screenshots were taken from recordings available at: Jihadi Mark, "Arma 3 Islamic State Suicide Jeep Part 2," YouTube, last modified 9 June 2015 Available at <https://www.youtube.com/watch?v=G8CgehpQpto>; "WATCH: John Cantlie Featured in New ISIS Video About Tank Warfare in Mosul," Heavy.com, last modified 13 December 2016. Available at <http://heavy.com/news/2016/12/new-isis-islamic-state-amaq-news-john-cantlie-tanks-tank-battle-mosul-iraq-full-uncensored-video-mp4-download/>.



Figure 9. Comparison of Jihadi Mark's video *Arma 3 islamic state isis ambushing iraqi abrams* (top) with the Islamic State's *Tank Hunters* scenes (down). The screenshots were taken from recordings available at: Jihadi Mark, "Arma 3 Islamic State ISIS Ambushing Iraqi Abrams," YouTube, last modified 9 June 2015. Available at <https://www.youtube.com/watch?v=CZXJ1KwEful>; "WATCH: John Cantlie Featured in New ISIS Video About Tank Warfare in Mosul," Heavy.com, last modified 13 December 2016. Available at <http://heavy.com/news/2016/12/new-isis-islamic-state-amaq-news-john-cantlie-tanks-tank-battle-mosul-iraq-full-uncensored-video-mp4-download/>.

perspective is also employed to present SVBIED attacks (characteristic red markers of car bombs and long camera shots) and anti-tank warfare (third-person perspective footage with a rocket propelled grenade (RPG-7), burning Abrams tank, being a symbol of U.S. military power) (see Figures 8 and 9). Such an interesting and previously unnoticed tendency probably aims to accustom youngsters with and increase their interest in "standard," frequently gory *jihadi* content through the use of virtual means that they like and are familiar with.

Fourth, the majority of *jihadi* games inverse the classic perspective employed by most commercial software. Islamist terrorists are presented as chivalrous protagonists fighting against the vile *kuffar* and *murtaddun*, impersonated by the U.S., Israeli, French, or other Western-aligned troops. As Prucha rightly stresses, "for the jihadist, the graphical and role-playing elements published by mostly Western GI branches regarding the 'Arabic-Muslim Insurgent' is [...] highly appealing. Any form of warfare, preferably against American or Western soldiers, may serve as a parallel to actual conflicts around the world, especially within the Islamic countries."⁶⁸ Interestingly, *jihadi* in games is frequently portrayed as a regular, military-like activity, usually undertaken in defense of the imperiled Muslim communities and religion. This simple manipulation allows audiences that are generally critical toward Western activities in the Middle East and Africa to be reached. Adoption of this twisted perspective may be inspirational for many of them, as it allows them to unload negative emotions and visualize their political desires in a virtual environment.

Aside from the replacement of "heroes" and "villains," *jihadis* have also commonly used other aspects of gameplay to influence players' opinions. These propaganda devices include:

- cutscenes presenting the misery and hardship of Muslim communities (*Special Force*). These serve not only as a core storytelling mechanism, enabling the experience of immersion, but also as an excuse or reasoning behind terrorist activities, in a similar way to pictures of dead Muslim children killed in airstrikes, which are frequently published by other terrorist media outlets;
- startup screens presenting profiles of “friends and foes,” as well as various emblems of terrorist organizations;
- game over and ending credits screens carrying messages glorifying martyrdom (*Special Force, Muslim Mali*);
- level design “smuggling” of *jihadi* content, such as caricatures on the walls (*Quest for Bush*);
- soundtracks in the form of *nasheeds*.

Fifth, early *jihadi* games targeted mostly Arabic audiences. With the exception of Hezbollah’s *Special Force*, other programs at the time lacked “official” English translation, which obviously limited their reach and meant that terrorists were mostly focused on influencing Muslim youths. This seems to have changed recently, as IS sympathizers, similarly to the al-Hayat Media Center’s non-Arabic releases, exploit Anglophone, AAA games to approach the global community of players. This is a significant step forward, potentially improving the efficiency and reach of gaming jihad, in comparison to the attempts of Hezbollah or Al Qaeda.

Last, one can notice the surprising, very limited use of MMOs by *jihadis*, despite their aforementioned potential. The only known examples from the first decade of the twenty-first century are unclear at best. Furthermore, recently there has been no confirmed reports on the serious use of such programs for propaganda purposes by Islamist terrorist organizations. In this context, there are generally three factors which potentially discourages them to use this method. First, there are little to no popular sandbox MMOs on the market nowadays, which would model real-world activities in a way that would be useful for training purposes. Most of the existing ones are “theme parks,” which vastly limit users’ freedom. Second, MMO servers are usually administered by the developers, which ban users not complying with the terms of service. Additionally, recreating banned accounts, due to the necessity to level up again in order to access restricted areas, is usually time-consuming. Third, players in MMOs usually group up in communities (e.g., clans, guilds), which are frequently highly hermetic when it comes to communicating with external in-game environments.⁶⁹ Thus, while massive multiplayer games have certain features that are very interesting from the viewpoint of cyber *jihad*, they are not a “dream come true” environment for online propaganda.

Conclusions

To recapitulate, video games have become a unique medium that have a dual use for promoting the *jihadist* agenda. On the one hand, they combine interactive entertainment with various methods and forms of manipulation, including text messages, audiovisuals (cutscenes), symbols, and the ability to impersonate a terrorist. This vector of gaming *jihad* has been tested by many Islamist VEOs and their sympathizers for years, with divergent results. While some successfully reached thousands of Arabic-speaking youths (Hezbollah), others failed to attract attention due to the poor quality of the virtual environment and gameplay

(Al Qaeda). None of them achieved global reach, as they were unsuitable for players from developed states, who were accustomed to much more polished and sophisticated software. Moreover, these generally crude and simple programs, frequently developed using illegal, stolen assets from Western applications, were most likely treated by terrorist groups as an experimental tool for influencing children and teenagers, to which no particular importance was given.

On the other hand, the advent of the so-called Islamic State marked a change to how *jihadis* perceive and exploit video games. Daesh-linked activities proved to be the first to merge the direct use of electronic entertainment software with other methods, such as including references to gaming in other forms of cyber *jihad* (*CoD*) or utilizing such programs to create alluring audiovisuals, such as trailers (*GTA5*) and let's plays (*ARMA3*). The “Caliphate’s” campaign proved to be exceptional for several reasons. It was the first terrorist group to develop a cross-platform, high-quality application targeting toddlers by incorporating *jihadi* agenda into seemingly innocent alphabet teacher. It was also the first software of this kind to be advertised to such an extent by other IS propaganda outlets. Furthermore, no other VEO have made so many references to a popular FPS series in its propaganda, which proves that Daesh deliberately attempted to reach and influence gamers interested in firearms and combat. Finally, the use of hijacked or modified AAA-level products as tools of creating promotional videos is evidence of a deep understanding of the latest trends in the global gaming community, as well as an indication of the lessons learned from the failures of previous *jihadi* programs. Moreover, their creators, being most probably unaffiliated sympathizers of the “Caliphate,” succeeded in misleading global media on the existence of a special *GTA5* mod, which in turn intensified the interest of audiences in *Salil al-Sawarim* trailers. To summarize, IS-linked activities do not only constitute a new quality in gaming *jihad*. Similarly to more conventional forms of its online propaganda, which have been imitated by other Islamist terrorist groups for years, the “Caliphate’s” exploitation of electronic entertainment software may be a forerunner for the increased interest of other VEOs in this medium.

Nevertheless, while visible improvements have been introduced in gaming *jihad* in recent years, the potential for using entertainment software for purposes of promoting radical ideologies or training homegrown terrorists is constantly growing. Therefore, in the future the international community may expect new forms of this phenomenon. It is probable that due to the aforementioned difficulties in the development of games, VEOs will more likely use simple, even fan-made modifications of AAA products. It is also possible that terrorist may utilize even unmodified simulation games to imitate suicide or vehicle-ramming attacks. Finally, software drawing from virtual reality technologies, in time, will offer more and more opportunities to train gamers in near-real combat experience, which may be beneficial not just for the military, but also for terrorist groups. These possibilities should therefore be taken into consideration by the broadly understood video game industry. In this context, there is a rising need to initiate a serious debate on how to hinder—because full prevention is impossible to introduce—the use of such programs by *jihadis*, similarly to actions undertaken in 2016 by some of the leading social networking websites and other online services in order to curb the spread terrorist content.⁷⁰ Otherwise, video games in the future may develop into a fully fledged tool of radicalizing, inspiring and training homegrown terrorists.

Notes

1. Video games, according to Fabricatore, “always include an interactive virtual playing environment,” in which “the player always has to struggle against some kind of opposition.” See Alice Mitchell and Carol Savill-Smith, *The Use of Computer and Video Games for Learning* (London: Learning and Skills Development Agency, 2004), p. 3.
2. See, for example, Nick Robinson, “Have You Won the War on Terror? Military Videogames and the State of American Exceptionalism,” *Millennium—Journal of International Studies* 43 (2014); Nick Robinson, “Videogames, Persuasion and the War on Terror: Escaping or Embedding the Military-Entertainment Complex?,” *Political Studies* 60 (2012); Ian Bogost, “Videogames and Ideological Frames,” *Popular Communication* 4 (2006); Thomas Riegler, “On the Virtual Frontlines: Video Games and the War on Terror,” in Daniel Riha, ed., *Videogame Cultures and the Future of Interactive Entertainment* (Oxford: Inter-Disciplinary Press, 2010); Matthew Thomas Payne, *Playing War: Military Video Games After 9/11* (New York: NYU Press 2016); Muniba Saleem and Craig A. Anderson, “Arabs as Terrorists: Effects on Stereotypes Within Violent Contexts on Attitudes, Perceptions, and Affect,” *Psychology of Violence* 3 (2013); Markus Schulzke, “Being a Terrorist: Video Game Simulations of the other Side of the War on Terror,” *Media, War & Conflict* 6 (2013); Markus Schulzke, “The Virtual War on Terror: Counterterrorism Narratives in Video Games,” *New Political Science* 35 (2013).
3. In the past few years there has been only one serious paper published in an internationally recognized journal that analyzed the use of a video game in cyber *jihad*. However, it is still more focused on the reception of the Islamic State-affiliated program among the Internet users in social media than the character and quality of the software itself. See Ahmed al-Rawi, “Video Games, Terrorism, and ISIS’s Jihad 3.0,” *Terrorism and Political Violence* 28 (2016).
4. For instance, a *fatwa* issued on the Salafi Voice website in 2008. See Nico Prucha, “Worldwide Online Jihad versus the Gaming Industry Reloaded—Ventures of the Web,” in Rüdiger Lohlker, ed., *New Approaches to the Analysis of Jihadism* (Göttingen: V&R unipress, 2011), p. 173.
5. Douglas A. Gentile and Craig A. Anderson, “Video Games” in Neil J. Salkind, ed., *Encyclopedia of Human Development* (Thousand Oaks, CA: Sage, 2006), pp. 1303–1307. Also, on video game culture see, for example, Adrienne Shaw, “What Is Video Game Culture? Cultural Studies and Game Studies,” *Games and Culture* 5(4) (2010).
6. Jeff Desjardins, “How VideoGames became a \$100 Billion Industry,” *Business Insider*, last modified 12 January 2017. Available at <http://www.businessinsider.com/the-history-and-evolution-of-the-video-games-market-2017-1?IR=T> (accessed 5 May 2017).
7. *Middle East and North Africa Ericsson Mobility Report* (Stockholm: Ericsson, November 2016), p. 2.
8. Isabela Granic, Adam Lobel, and Rutger C.M.E. Engels, “The Benefits of Playing Video Games,” *American Psychologist* 69(1) (January 2014), p. 71.
9. See, for example, Aki Järvinen, “Understanding Video Games as Emotional Experiences,” in Bernard Perron and Mark J.P. Wolf, eds., *The Video Game Theory Reader 2* (New York: Routledge, 2009); Alison McMahan, “Immersion, Engagement, and Presence. A Method for Analyzing 3-D Video Games,” in Mark J. P. Wolf and Bernard Perron, eds., *The Video Game Theory Reader* (New York: Routledge, 2003); Georgios N. Yannakakis and John Hallam, “Towards Optimizing Entertainment in Computer Games,” *Applied Artificial Intelligence* 21 (2007).
10. See, for example, Yannick Veilleux-Lepage, “Paradigmatic Shifts in Jihadism in Cyberspace: The Emerging Role of Unaffiliated Sympathizers in Islamic State’s Social Media Strategy,” *Journal of Terrorism Research* 7(1) (2016).
11. As Ellul notes “covert propaganda is more effective if the aim is to push one’s supporters in a certain direction without being aware of it.” See Jacques Ellul, *Propaganda: The Formation of Men’s Attitudes* (New York: Vintage Books, 1973), p. 16.
12. Ute Ritterfeld and René Weber, “Video Games for Entertainment and Education,” in Peter Vorderer and Bryant Jennings, eds., *Playing Video Games: Motives, Responses, and Consequences* (Mahwah, NJ: Lawrence Erlbaum Associates, 2006), p. 401.

13. See Janet H. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (New York: Free Press, 1997).
14. Alison McMahan, "Immersion, Engagement, and Presence. A method for analyzing 3-D Video Games," in Mark J. P. Wolf and Bernard Perron, eds., *The Video Game Theory Reader* (New York: Routledge, 2003), p. 68.
15. See Alice Mitchell and Carol Savill-Smith, *The Use of Computer and Video Games for Learning* (London: Learning and Skills Development Agency, 2004), p. 17; Jonathan Ostenson, "Exploring Boundaries of Narrative: Video Games in the English Classroom," *English Journal* 102(6) (2013), pp. 71–78.
16. Terrorists in games are predominantly presented as major enemies. See Markus Schulzke, "The Virtual War on Terror: Counterterrorism Narratives in Video Games," *New Political Science* 35 (2013).
17. James Paul Gee, "Learning by Design: Good Video Games as Learning Machines," *E-Learning* 2 (1) (2005), p. 15.
18. Ute Ritterfeld and René Weber, "Video Games for Entertainment and Education," in Peter Vorderer and Bryant Jennings, eds., *Playing Video Games: Motives, Responses, and Consequences* (Mahwah, NJ: Lawrence Erlbaum Associates, 2006), p. 404. For instance, first person shooters improve sensory, perceptual and spatial cognitive functions. See Ian Spence and Jing Feng, "Video Games and Spatial Cognition," *Review of General Psychology* 14(2) (2010), p. 102.
19. See National Commission on Terrorist Attacks Upon the United States, *9/11 Commission Report*, 22 July 2004, pp. 157–158, 168. Available at <https://www.9-11commission.gov/report/911Report.pdf>
20. See Christian Vollmer, Christoph Randler, Mehmet Baris Horzum, Tuncay Ayas, "Computer Game Addiction in Adolescents and Its Relationship to Chronotype and Personality," *Sage Open*, January–March (2014).
21. Brad J. Bushman and Craig A. Anderson, "Violent Video Games and Hostile Expectations: A Test of the General Aggression Model," *Personality and Social Psychology Bulletin* 28(12) (2002), p. 1679.
22. See, for example, Adam Hoffman and Yoram Schweitzer, "Cyber Jihad in the Service of the Islamic State," *Strategic Assessment* 18(1) (2015), p. 76.
23. For instance, Islamic State's spokesman Abu Mohammed al-Adnani issued a call to violence against the disbelievers, stating: "Smash his head with a rock, or slaughter him with a knife, or run him over with your car, or throw him down from a high place, or choke him, or poison him." See Michael Weiss and Hassan Hassan, *ISIS: Inside the Army of Terror (Updated Edition)* (New York: Regan Arts, 2016), p. 294.
24. Andrew K. Przybylski, Richard M. Ryan, and C. Scott Rigby, "The Motivating Role of Violence in Video Games," *Personality and Social Psychology Bulletin* 35(2) (2009), p. 243.
25. See, for example, Muniba Saleem and Craig A. Anderson, "Arabs as Terrorists: Effects of Stereotypes Within Violent Contexts on Attitudes, Perception and Affect," *Psychology of Violence* 3(1) (2013).
26. Kim Ghattas, "Syria Launches Arab War Game," BBC NEWS, last modified 31 May 2002. Available at http://news.bbc.co.uk/2/hi/middle_east/2019677.stm (accessed 7 May 2017).
27. See Radawan Kasmiya, "Arab World," in Mark J. P. Wolf, ed., *Video Games Around the World* (Cambridge, MA: MIT Press, 2015), p. 30; Radwan Kasmiya, "Middle East," in Mark J. P. Wolf, ed., *Encyclopedia of Video Games. The Culture, Technology, and Art of Gaming* (Santa Barbara: Greenwood, 2012), p. 406; Derek Gildea, "Under Siege—Cutscene 02," YouTube, last modified 7 May 2013. Available at <https://www.youtube.com/watch?v=mUFkLXRQPu8>; Derek Gildea, "Under Siege—Cutscene 04," YouTube, last modified 7 May 2013. Available at <https://www.youtube.com/watch?v=ujqrOayOLP8> (accessed 7 May 2017).
28. "Hezbollah's New Computer Game," WND, last modified 3 March 2003. Available at <http://www.wnd.com/2003/03/17550/> (accessed 7 May 2017).
29. See Gabriel Weimann, "Hezbollah Dot Com: Hezbollah's Online Campaign," in Tal Samuel-Azran and Dan Caspi, eds., *New Media and Innovative Technologies* (Beer Sheva: Ben Gurion University Press, 2008); "Hezbollah's New Computer Game," WND, last modified 3 March 2003. Available at <http://www.wnd.com/2003/03/17550/> (accessed 7 May 2017).

30. "Hezbollah Video Game: War with Israel," CNN, last modified 16 August 2007. Available at <http://edition.cnn.com/2007/WORLD/meast/08/16/hezbollah.game.reut/>; Derek Caelin, "Eye of the Beholder: Special Force 2 and the Propaganda Game," Take Five Blog, last modified 26 March 2013. Available at <https://takefiveblog.org/2013/03/26/the-eye-of-the-beholder-special-force-2-and-the-propaganda-game/> (accessed 12 May 2017).
31. Derek Gildea, "'Let's Play' Hezbollah's Special Force 2—Part 2," YouTube, last modified 14 March 2013. Available at <https://www.youtube.com/watch?v=FRnJPFeCOOs> (accessed 13 May 2017).
32. Derek Gildea, "'Let's Play' Hezbollah's Special Force 2—Part 1," YouTube, last modified 18 March 2013. Available at <https://www.youtube.com/watch?v=Bxh3VAb6teA&t=166s> (accessed 13 May 2017).
33. "Hezbollah Video Game: War with Israel," CNN, last modified 16 August 2007. Available at <http://edition.cnn.com/2007/WORLD/meast/08/16/hezbollah.game.reut/> (accessed 13 May 2017).
34. Richard W. Mansbach and Edward Rhodes, *Global Politics in a Changing World. A Reader* (Boston and New York: Houghton Mifflin Harcourt Publishing Company, 2009), p. 70; Jose Antonio Vargas, "Way Radical, Dude," *Washington Post*, last modified 9 October 2006. Available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/10/08/AR2006100800931.html> (accessed 13 May 2017).
35. WhyBeAre, "Quest for Bush Speedrun v2," YouTube, last modified 6 July 2012. Available at <https://www.youtube.com/watch?v=7jKyhMoJxWs>; "Quest for Bush (Night of Bush Capturing) Review," *Ruthless Reviews*, last modified 6 May 2015. Available at <http://www.ruthlessreviews.com/29388/quest-for-bush-review/> (accessed 13 May 2017).
36. See "Lion of Fallujah," 3D Shooter Legend, accessed 13 May 2017. Available at <http://legendsworld.net/shooter/game/1539>; Abdullah Adnan, "لعبة أسد الفلوجة - الإصدار الثاني - المرحلة," YouTube, last modified 12 April 2012, <https://www.youtube.com/watch?v=5368lkqDv84> (accessed 13 May 2017).
37. Nico Prucha, "Worldwide Online Jihad versus the Gaming Industry Reloaded—Ventures of the Web," in Rüdiger Lohlker, ed., *New Approaches to the Analysis of Jihadism* (Göttingen: V&R University Press, 2011), p. 177.
38. See "Iraqi Resistance." Available at <http://iraqi.byethost12.com/> (accessed 7 June 2017).
39. See, for example, "Iraqi Resistance Mod ZH v.1 Have Been Released." Available at <http://forums.cncnz.com/topic/5456-iraqi-resistance-mod-zh-v1-have-been-released/#comment-80337> (accessed 7 June 2017).
40. See, for example, Gabriel Weimann, "The Emerging Role of Social Media in the Recruitment of Foreign Fighters," in Andrea de Gitty, Francesca Capone, and Christophe Paulussen, eds., *Foreign Fighters under International Law and Beyond* (The Hague: T.M.C. Asser Press, 2016), p. 84; Evan Narcisse, "Islamic Extremists Made This Video Game," Kotaku, last modified 13 March 2013. Available at <http://kotaku.com/5990392/islamic-extremists-made-this-video-game>; Kristin Deasy, "New Jihadi-Made 'Muslim Mali' Video Game Pits Militants against French Forces," PRI, last modified 14 March 2013. Available at <https://www.pri.org/stories/2013-03-14/new-jihadi-made-muslim-mali-video-game-pits-militants-against-french-forces>; Red Pikeman, "Muslim Mali," YouTube, last modified 17 January 2014. Available at <https://www.youtube.com/watch?v=K5f1iNNSqkM> (accessed 9 June 2017).
41. Daniel Terdiman, "Counting the Real 'Second Life' Population," CNET, last modified 4 January 2007. Available at <https://www.cnet.com/news/counting-the-real-second-life-population/> (accessed 9 June 2017).
42. "World of Jihadcraft," Jihad Watch, last modified 2 August 2007. Available at <https://www.jihadwatch.org/2007/08/world-of-jihadcraft> (accessed 9 June 2017).
43. Aidan Kirby Winn, Vera L. Zakem, "Jihad.com 2.0: The New Social Media and the Changing Dynamics of Mass Persuasion," in James J. F. Forest, ed., *Influence Warfare. How Terrorists and Governments Fight to Shape Perceptions in a War of Ideas* (Westport, CT: Praeger Security International, 2009), p. 39.
44. Ravi Gupta and Hugh Brooks, *Using Social Media for Global Security* (Indianapolis: Wiley, 2013), p. 10.

45. “Grant Theft Auto 5 has Now Sold-In 75 Million Copies,” IGN, last modified 7 February 2017. Available at <http://www.ign.com/articles/2017/02/07/grand-theft-auto-5-has-now-sold-in-75-million-copies> (accessed 9 June 2017).
46. Ahmed al-Rawi, “Video Games, Terrorism and ISIS’s Jihad 3.0,” *Terrorism and Political Violence* 28(4) (2016), p. 7.
47. See, for example, Nix, “How To Change Your Player Model in GTA V,” YouTube, 2 April 2016. Available at https://www.youtube.com/watch?v=dLd9iwr_GZI (accessed 10 June 2017).
48. Ahmed al-Rawi, “Video Games, Terrorism and ISIS’s Jihad 3.0,” *Terrorism and Political Violence* 28(4) (2016), p. 7.
49. Ted Thornhill, “ISIS Use Top Video Game Grand Theft Auto 5 to Recruit Children and Radicalise the Vulnerable,” *DailyMail*, 22 September 2014. Available at <http://www.dailymail.co.uk/news/article-2765414/Isis-use-video-game-Grand-Theft-Auto-5-recruit-children-radicalise-vulnerable.html> (accessed 10 June 2017).
50. Ahmet Abi, “ISID den Bilgisayar Oyunu Fragmani,” YouTube, last modified 26 October 2014. Available at <https://www.youtube.com/watch?v=WAA8sM5gROg> (accessed 14 May 2017).
51. ElTrevorani Abu Bakar, YouTube, <https://www.youtube.com/channel/UCqVVARLOwX97NoAVyQNFw3Q> (accessed 14 May 2017).
52. ElTrevorani Abu Bakar, “GTA 5 Saleel AsSawaarim,” YouTube, last modified 15 May 2015. Available at <https://www.youtube.com/watch?v=AeBjTJfTeIg> (accessed 14 May 2017).
53. See, for example, Saar Fresco, “This Video Game Lets Jihadis Play as ISIS Fighters,” Vocativ, last modified 2 February 2015. Available at <http://www.vocativ.com/world/isis-2/isis-video-games/>; John Hall, “This Video Game that Allows You to Play as an ISIS Fighter Slaughtering Westerners: Islamists Give Away Combat Simulator in a Bid to Recruit Children and Young Men,” *DailyMail*, last modified 3 February 2015. Available at <http://www.dailymail.co.uk/news/article-2937641/ISIS-fighters-distributing-video-game-allows-players-play-role-Islamist-kill-Westerners.html>. Interestingly, the author of the IS-Mod has removed this piece of software from the Internet. His statement, criticizing media and declaring that he had never supported the Islamic State, is available here: “IS-Mod Released,” *Armaholic*. Available at <http://www.armaholic.com/page.php?id=27912> (accessed 14 May 2017).
54. See Jihadi Mark, YouTube, accessed 13 May 2017. Available at <https://www.youtube.com/channel/UCd1C3kzk1bZqn5WZAB8N0Mg>; Jihadi Mark, “Arma 3 Islamic State fighting against Syrian Army,” YouTube, last modified 11 June 2015. Available at <https://www.youtube.com/watch?v=JvD3d9BS3Z4>; Jihadi Mark, “Arma 3 Islamic State ISIS Ambushing Iraqi Abrams,” YouTube, last modified 9 June 2015. Available at <https://www.youtube.com/watch?v=CZXJ1KwEful> (accessed 13 May 2017).
55. In fact, even the “Caliphate’s” predecessor—the Islamic State in Iraq—used references to the *Call of Duty* in promotional banners posted on the *Shumukh al-Islam jihadist* forum. At the time one could also encounter online Al Qaeda-linked references to the *Insurgency* modification of the widely acclaimed *Counter-Strike* game. See Prucha, “Worldwide Online Jihad,” pp. 165–167.
56. Daveed Gartenstein-Ross, Nathaniel Barr, and Bridget Moreng, “The Islamic State’s Global Propaganda Strategy,” *ICCT Research Paper* (March 2016), p. 22.
57. Ari Soffer, “Watch: How ISIS Imitates Video Games and Movies to Recruit,” Israel National News, last modified 23 December 2015. Available at <http://www.israelnationalnews.com/News/News.aspx/205367> (accessed 15 May 2017).
58. Jay Caspian Kang, “ISIS’s Call of Duty,” *The New Yorker*, 18 September 2014. Available at <http://www.newyorker.com/tech/elements/isis-video-game> (accessed 15 May 2017).
59. Terrence McCoy, “The Islamic State’s ‘Call of Duty’ Allure,” *The Washington Post*, last modified 28 October 2014. Available at https://www.washingtonpost.com/news/morning-mix/wp/2014/10/28/the-islamic-states-call-of-duty-allure/?utm_term=.71896104af78 (accessed 15 May 2017).
60. Tom Wyke, “ISIS Use Images from Call of Duty Video Game Depicting the Fall of the Eiffel Tower as They Threaten London, Berlin and Rome in Latest Propaganda Video,” *DailyMail*, last modified 5 April 2016. Available at <http://www.dailymail.co.uk/news/article-3524252/ISIS-use-images-Call-Duty-video-game-depicting-fall-Eiffel-Tower-threaten-London-Berlin-Rome-latest-propaganda-video.html> (accessed 15 May 2017).

61. Lizzie Dearden, "ISIS Releases App for Children to 'Learn Arabic Alphabet' Using Jihadist Songs and Cartoons of Weapons," *The Independent*, last modified 12 May 2016. Available at <http://www.independent.co.uk/news/world/middle-east/isis-releases-app-for-children-to-learn-arabic-alphabet-using-jihadist-songs-and-cartoons-of-weapons-a7025476.html>; Caleb Weiss, "Islamic State Launches Mobile App for Children," *Long War Journal*, last modified 11 May 2016, <http://www.longwarjournal.org/archives/2016/05/islamic-state-launches-mobile-app-for-children.php>
62. *Rumiyah*, no. 2 (2016), p. 31. (accessed 15 May 2017).
63. See John G. Horgan, Max Taylor, Mia Bloom, and Charlie Winter, "From Cubs to Lions: A Six Stage Model of Child Socialization into the Islamic State," *Studies in Conflict & Terrorism* 40(7) (2017).
64. See Ivan O. Taylor Jr., "Video Games, Fair Use and the Internet: the Plight of the Let's Play," *Journal of Law, Technology & Policy*, no. 1 (2015).
65. See "Facebook, Microsoft, Twitter and YouTube agree to Curb Terror Content Online," *Times of Israel*, last modified 7 December 2016. Available at <http://www.timesofisrael.com/facebook-microsoft-twitter-and-youtube-agree-to-curb-terror-content-online/> (accessed 3 May 2017).
66. See "Horrible Islamic Terrorist Go On A Killing Spree Shooting Random People [Graphic]," LiveLeak, last modified 2 June 2014. Available at https://www.liveleak.com/view?i=f3e_1401719527 (accessed 3 May 2017).
67. These scenes were included, among others, in the infamous *nasheed* video *Let's Go for Jihad*.
68. Prucha, "Worldwide Online Jihad," pp. 167–168.
69. See, for example, Nicolas Ducheneaut, Nicolas Yee, Eric Nickell, and Robert J. Moore, "The Life and Death of Online Gaming Communities: A Look at Guilds in World of Warcraft," in *Proceedings of ACM CHI 2007 Conference on Human Factors in Computing Systems* (New York: ACM, 2007), p. 845.
70. See, for example, Sarah Perez, "Facebook, Microsoft, Twitter and YouTube Collaborate to Remove 'Terrorist Content' from their Services," TechCrunch, last modified 5 December 2016. Available at <https://techcrunch.com/2016/12/05/facebook-microsoft-twitter-and-youtube-collaborate-to-remove-terrorist-content-from-their-services/> (accessed 12 June 2017).

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