THE THREATS OF GAME EMULATION TO DEVELOPERS:

Are you worried enough?

Even though it is hard to estimate the precise number of players who emulate Nintendo Switch games on PC, it is easy to find million-follower online forums dedicated to emulation and piracy. This fact demonstrates the widespread use of video game emulations, particularly for titles developed and/or distributed by gaming giants, like Nintendo.

Game emulation is not necessarily detrimental. For legacy reasons, the use of emulators to bring some of the old and nostalgic games back to life on PCs is popular – but there is a catch. Pirates can also use emulation and make your licensed games, even the newly released ones, available to the public for free.
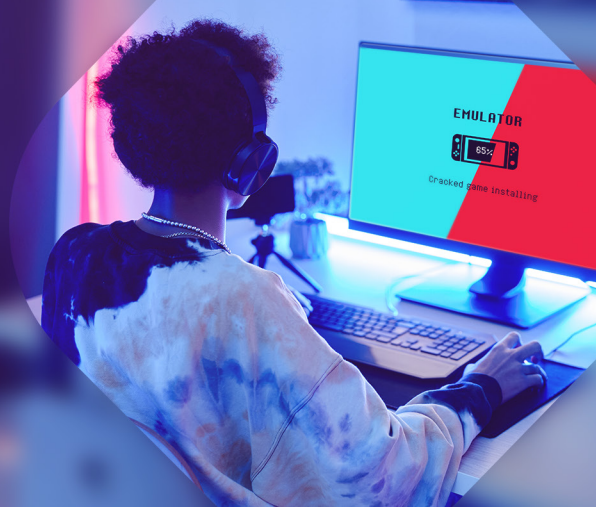
Let's explore reasons why a huge number of players are so in love with video game emulations, what dangers it brings, how you, as a developer, can be impacted by it and what you can do to prevent it from negatively affecting your business.

Happy reading!

Contents

Video game emulation:
What you need to know

Video game emulation is the practice of simulating any hardware game platform on a computing device. It allows players to play games designed for a console on a PC, tablet, smartphone and so on.

This is feasible with the aid of programs called video game console emulators. These can replicate any console, from home consoles (such as Nintendo Entertainment System - NES, Super NES, Nintendo 64, GameCube, Wii, Wii U, PlayStation), handhelds (Game Boy, Nintendo 3DS, PlayStation Portable), to hybrid consoles like Nintendo Switch.

Most emulators are created by examining the construction and functions of the original video game console and its computer programs, which are protected as original copyrighted works, in order to decode and imitate its operating system. In some countries, this process may be permitted in very limited circumstances. However, many unauthorized acts conducted in relation to the creation and use of emulators are likely to violate the law, such as by infringing the copyright in these works as well as breaching the terms of user agreements.

To play a game on an emulator, players need its digital image, known as a Read-Only Memory (ROM) file. These files are ripped from the original source (such as disk or cartridges) and ported into a new file format. The game, now in a new file format, can then be made available on other hardware systems, giving players free access to a copyrighted title. For example, Nintendo Switch games can be run and played on Switch Emulators for PC.

ROMs are copyrighted intellectual property. Consequently, the usage of ROMs, including sharing, downloading and using them without permission, is illegal. The center of the legal debate revolves around different perspectives on intellectual property rights for legacy titles that are no longer available for sale and possibly in outdated formats. This leads to ongoing debates between game developers, publishers, console makers and the emulation community about whether video game emulations should be accepted or not.

How could video game emulation have developed at such a rapid pace?

From a simple purpose…

The original idea behind video game emulators was to create software capable of imitating favorite game consoles. Due to the increasing difficulty in obtaining copies of both old (and classic) game titles and discontinued devices, using emulators and ROMs has therefore often been the only means for gamers to play these types of games.
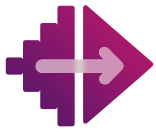
This has made it become popular among gamers. Emulation, in the opinion of many players, is critical for video game preservation since it extends the lifecycle of a game and allows players to easily approach older titles that are no longer accessible on the market. According to this school of thinking, not only is emulation harmless, but it also opens up new opportunities to game developers. The emulation community believes that forgotten games can gain a second life thanks to emulation and that developers can use this opportunity to launch sequels and generate more revenue from the reputation and nostalgia attached to the previous titles.

…to a lucrative industry!

But that simple purpose has evolved. Nowadays, not only are older, iconic games emulated, but so are the recently released titles. The advantages of game emulation are immensely appealing to any player, whether they own licensed games or not.

First of all, accessing newly released console games is easier than ever. Gamers can enjoy them without purchasing the latest consoles or game licenses. Meanwhile, others who already purchased games may still choose to run them on any chosen device (often a PC) due to advantages gained from extra features.

<u>These include:</u>

Thanks to the higher frame rate of their PCs' hardware and available filters, the game graphics on an emulator are usually displayed better than on the original console.

Instead of restarting the game each time, players can save their current game progress at any time and come back to it later, even if their character dies.

The game is considerably simpler to play when players have the option to fast-forward and rewind a few seconds of the game.

By customizing the keyboard controls or connecting any suitable controller to their system, players can fully personalize their setup.

These are just a few of the additional features that emulators can offer to players' gaming experiences, but there can be a lot more depending on the emulator. Gamers therefore love emulation.

The positive reception of the players has facilitated video game emulation's evolution beyond its original purpose and into a business today. The fact that developers behind the most well-known Switch emulator, Yuzu, earn around €17,000 per month via membership fees on <u>Patreon</u> exemplifies this.

What are the downsides of emulation usage for game developers?

Players adore emulation, but game developers do not. Emulating games may be harmless in some cases, but at the end of the day, it is still a major means of piracy. In recent years, many gaming giants, like Nintendo and Sony to name but a couple, have attempted to stop the rise of emulation.

Why do they have to do so?

1. Emulation poses an economic threat

Players, nowadays, can access every game made for any system for free, including the most recent ones. Pirates will not pass up this opportunity and as a result, many games are available for emulation and ready to be freely distributed from the moment of release. Considering the Switch's pricing strategy, in which a game costs as much as €70, many players will go for the free option, to have a similar, if not better, experience in the case of Switch emulation. The more prevalent and future titles are emulated and played without buying licenses, the greater the economic loss for game developers.

Emulation threatens not only the revenue of new games, but also that of old and classic ones, because selling retro games is becoming a profitable business for license holders. Nintendo provides legal and licensed emulation through Nintendo's Virtual Console, as well as Switch Online, an online subscription service exclusively for the Nintendo Switch. This Virtual Console and subscription-based online library give access to many old titles for Wii U, Wii and Switch at full price. They allow players to buy and play games for old systems on modern hardware. Playing those on emulators means that players do not need to pay. This is where emulation affects the sales and revenues of not only game developers and publishers, but also console makers.

2. Offering a pirate-able game is not great for your brand reputation

Because emulators are simply a replica of the original console hardware, not all games operate perfectly on them. Players may encounter issues ranging from small visual glitches to game-breaking crashes, depending on the game and emulator being used. When players' experiences are negatively affected, they may first blame the original game's quality – which may not be fair.

Additionally, due to their popularity, many emulators have been impersonated by hackers in order to deceive players into downloading a virus masquerading as an emulator. The repercussions on the player's side can be huge. Personal details of the impacted player, including name, address, phone number, email, credit card number and banking information, can be stolen and sold on the black market.
Even worse, they may need to pay a ransom to prevent the disclosure of their private information.

Aside from that, the main issue is that utilizing an emulator in a Player-Versus-Player (PVP) game is no different from any other sort of cheating in which a player gains an unfair edge over others. If there are any multiplayer elements, then players playing on PC have a strong advantage by using keyboard and mouse. If the game and its brand name are associated with cyber threats and cheating, it will have a significant impact on other titles in the future.

3. The intellectual property right is violated

The largest concern is copyright infringement related to the game's ROM files. Openly releasing those ROMs on the internet for others to download and play, regardless of whether they own a genuine copy of that game, is not allowed. In that instance, game developers' intellectual property rights are breached. This is why Nintendo continuously fills lawsuits left and right to fight with ROM uploaders and protect the fruits of their developers' labor.

Should game emulations be accepted?

As we have seen, pirates have unfortunately tarnished emulation's original goal of preserving gaming heritage. It is fair to say that emulators can be accepted as long as the game developers have complete control over whether or not their game is playable on an emulator.

In addition, there should be an acceptable length of time where developers get paid for their hard work and it must be up to them to decide when the time is perfect to open up the game to everyone (including emulators). According to Rufus Pollock, a British economist, activist and social entrepreneur, the optimal period for copyright to serve the public interest should be at least 14 years.

This ideal scenario, however, appears difficult to achieve, as pirates use video game emulation as an excuse to rampage on popular titles. That is not fair for game developers since they work hard to build them. Fortunately, there are effective ways of defending the result of their laborious efforts.

Don't let your game become the next pirated target!

It is a pity that emulating any Nintendo Switch game on a PC is easy and there are almost 4,500 of them available at present. Fortunately, a solution that protects your titles against emulation does exist and you now can keep your game away from this never-ending list. Our Denuvo Nintendo Switch Protection helps prevent emulation from the get-go and stops pirates from getting hold of your game via the PC.

Curious how it can help protect your title? Contact us today!

Contact us for a free consultation

Denuvo by Irdeto is the world leader in gaming security, protecting games on desktop, mobile, and consoles. Denuvo provides core technology and services for game publishers/platforms, independent software developers, e-publishers and video publishers across the globe, enabling binary protection for games and enterprise applications across multiple platforms. Denuvo's gaming security solutions prevent piracy and expose cheats in competitive multiplayer games, empowering publishers to innovate while also protecting their revenue, the integrity of their game, and the gaming experience. With a rich heritage of security innovation and rapid adaptation to the changing demands of the cyber security space, Irdeto is dedicated to being the security partner to empower a secure world where people can connect with confidence.