

How Abandonware Works

By: [Bernadette Johnson](#)



Who wouldn't want to play "Pong" forever?

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Do you long to play virtual tennis in stunning 8-bit graphics, take a trip on the Oregon Trail, solve crimes with Carmen Sandiego or explore a great underground empire at the risk of being eaten by a grue?

[Video games](#) came into the arcade and our homes in the 1970s, and have been a fixture ever since. There are a multitude of new games available on the market, but many of us still have fond memories of the games we played years or even decades ago. Sometimes those memories make us want to relive the fun of our youth. The collectors or packrats among us might even still have our old games, but we might not have the old hardware, and a fat lot of good those old game cartridges and [floppy disks](#) are going to do in our modern computers.

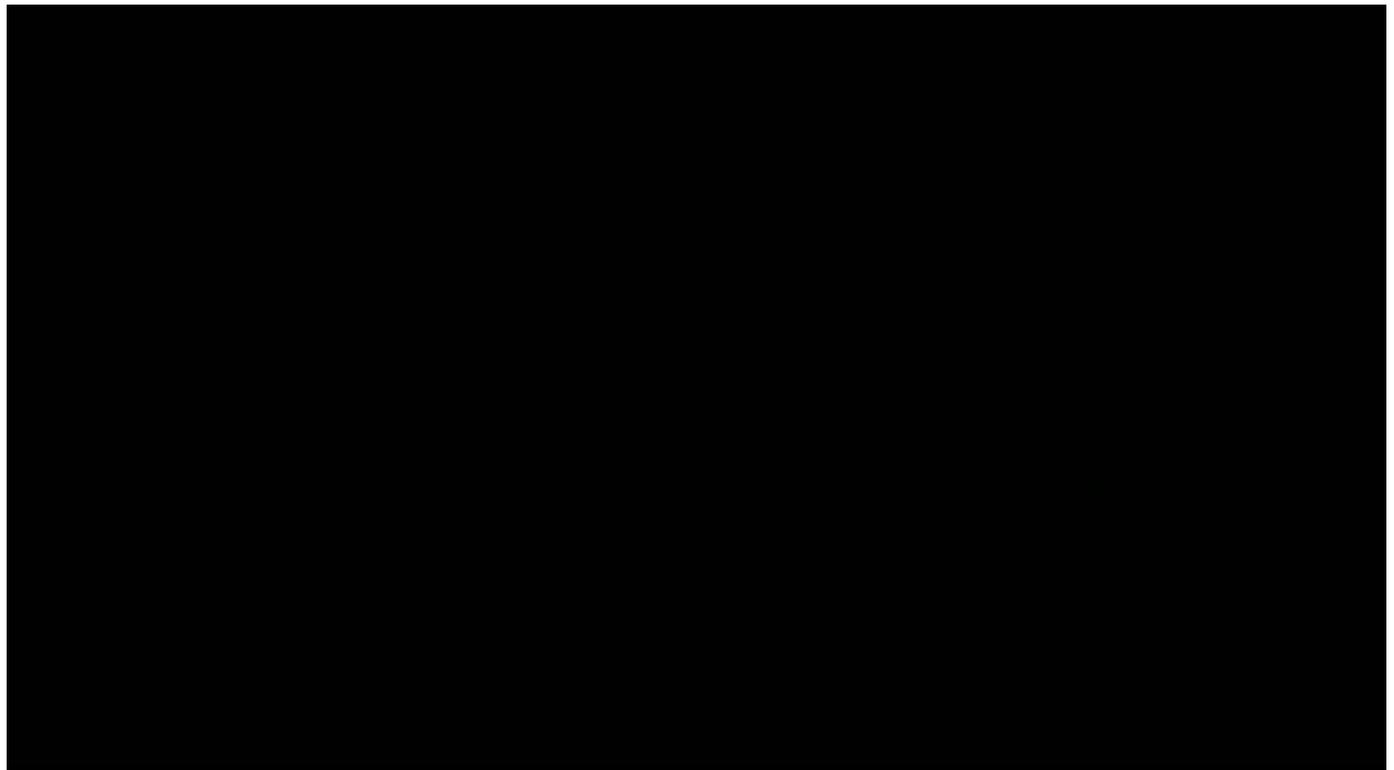
You can hunt for a downloadable copy of a game online to relive the days when you were the "Pong" master, even if the company that created the game no longer sells it.

Many sites dedicated to cataloguing and distributing these apparently abandoned titles have sprung up, dubbing them **abandonware**.

Abandonware is generally defined as any software that's at least a few years old and is no longer distributed or supported by its owner. Usually when people talk about abandonware, they mean out-of-print games or other software that someone is making available online for free, and a lot of the stuff considered abandonware was made for gaming and computing systems that are now obsolete and no longer available.

In most cases, however, it isn't strictly legal. Most software is copyright-protected intellectual property, whether a company is selling it or not. A lot of abandonware flies under the radar, either because there is no one around to protect the copyright or the owner isn't bothering to do so for whatever reason, but game companies and trade organizations have been known to request its removal.

Increasingly, companies are re-releasing old titles for new platforms, sometimes for a price and sometimes for free, making them abandoned no longer. These days there are a great many ways to experience a lot of our childhood favorites, but some are still in danger of disappearing forever.



What Causes Software to be Abandoned

There are a great many reasons why software might become abandoned. The useful life of hardware and software is often only a few years. As old hardware and [operating systems](#) are replaced with newer and more powerful versions, and new applications are created to take advantage of the improved capabilities (like faster processors, more memory and better graphics), older software eventually becomes obsolete and falls out of use. And after a system upgrade or two, a lot of software becomes incompatible with newer computers and gaming systems, especially if the companies don't work in backward compatibility. To make matters worse, the hardware and software media eventually degrade and stop working.

Game studios and other software producers are also prone to going out of business or getting sold to other companies, so the rights to game titles change hands frequently. Some companies may not even realize they own a particular title, especially if they weren't the originators of the work and it's been off the market for a while.

Another possible reason for abandonment of software is a company deciding that it is no longer commercially viable to spend time and money on advertising, distributing and supporting an old game, or porting it to newer platforms. Heck, even new widely anticipated games sometimes get killed before release to save the studios money.

A [copyright](#) owner might intentionally make an older game unavailable to encourage purchase of a sequel (although companies have been known to release older versions as marketing for a sequel, as well). Software might also only be temporarily abandoned, either put out of print to release again later or abandoned for a while before being recreated for a newer operating system or console.

The concept of an orphaned work is similar, although not all abandonware is orphaned. An orphaned work is one where the copyright holder is not known or cannot be located. Some abandonware is orphaned in this manner, but for a lot of it, we know who owns it, but they're no longer distributing or supporting it.

And occasionally, a formerly abandoned software is voluntarily put into the public domain or made publicly accessible by the owner, making it freeware rather than abandonware.

The Legalities of Abandonware



“SimCity” has always been a popular title, and older versions will sometimes pop up on abandonware sites.

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Video games are a multi-billion dollar industry. In 2014, games generated \$22 billion in revenue according to the Entertainment Software Association (ESA) [source: ESA]. Software is digital in nature, making it easy to save and distribute online, but like books, movies, songs and other artistic works that can be copied and distributed, software code is subject to copyright laws. Pirating software that's available commercially is clearly illegal and risky, but in the case of abandonware, the ethics and risks become more questionable in a lot of people's eyes, even if the legalities are fairly straightforward.

Technically, any [intellectual property](#) that's still under copyright can only legally be reproduced and distributed by the owner, or by anyone granted distribution rights by the owner via a license or other legal agreement. Some aspects of the software, like the name or logo, might also be protected by a [trademark](#).

Copyright lasts a long time, longer than most software has been around. Ever since the Sonny Bono Copyright Term Extension Act of 1998, U.S. copyright for most works (created on or after Jan. 1, 1978) lasts 70 years beyond the life of the author, or, in the case of works created by companies or as works-for-hire, 95 years from publication or 120 years from creation (whichever expires first). Civil penalties for infringement can carry anywhere from a \$200 to \$150,000 fine per work, or the actual monetary loss to

the owner. Possible criminal charges can result in up to five years imprisonment and \$250,000 in fines, although a smaller settlement or a cease-and-desist letter have been more common [sources: [BSA](#), [Cornell](#), [U.S. Copyright Office](#)].

Even though the time from a software application's release to its relative obsolescence is just a few years, home computer software has only been around for a few decades, so it's essentially all still under copyright, unless the copyright holder has voluntarily put it into the public domain. That means most abandonware is still copyrighted, and a lot of software companies consider it infringement to download and use it.

Both distributing and downloading copyrighted works without permission is considered infringement, so technically if you're getting software from some route other than an authorized source, the owner could come after you or the download site for infringement. It can even be considered infringement if you download a game you have already purchased and still own in another form. Although the Library of Congress did make an exemption to the 1998 Digital Millennium Copyright Act in 2006 to allow users to hack the copy protection on software for computers that are no longer sold or supported for archival purposes, as well as games with copy protection that required physical dongles that could no longer be replaced [sources: [Beschizza](#), [Boyes](#)].

Software companies sometimes see old games as competition to their on-the-market games [source: [Costikyan](#)]. And companies that don't protect their intellectual property rights when they know infringement is going on actually risk losing some of their rights [sources: [Francis](#), [Moby Games](#)]. Industry groups such as the ESA (formerly the Interactive Digital Software Association), and the Software and Information Industry Association (SIIA) try to fight piracy and other copyright infringement of the works of their members. In 1997, when abandonware sites were just starting to come into being (and when the term was coined), these organizations sent cease-and-desist letters to the sites, leading most of them to shut down [sources: [Granade](#), [Huthwaite](#)]. However, more abandonware sites sprang up in their place and some of the old sites were resurrected.

Justifications Given for Abandonware

The age of abandonware titles and their lack of legitimate availability distinguishes them from what people mean when they talk about pirated games or "warez," which are newer games made available illegally despite still being in print.

Abandonware sites will often remove any software that's disputed by a company, and some will go so far as to place links to the official sites where you can buy the removed game. Some sites will put disclaimers up saying the downloads are only legal for people who own a legitimate copy of the game. They also tend to stick to rules such as only hosting games that are at least several years old and are not available through official channels (as far as they can tell) to distance themselves from pirate sites. Some abandonware sites operate outside of U.S. borders, although U.S. copyright is enforceable in a lot of other countries [sources: [Moby Games](#), [Smith](#)].

Advocates for the ability to freely distribute and use abandonware argue that copyright is far too long these days. In 1790, U.S. copyright was 14 years plus one additional period of 14 years if the author renewed, after which the work would fall into the public domain. It has been extended several times since then, and now can potentially last more than 100 years, longer than video games have even existed.

Some fear that if abandoned games do not go out of copyright in a reasonable period, and no one is technically allowed to distribute or download them but the owner, a lot of games will be lost forever, especially given the short shelf-life of computer systems and software and the inevitable degradation of the storage media. For example, in 1996, Polarware (formerly Penguin Software), which produced adventure games in the '80s, released the rights to all their software, but even creator Mark Pelczarski didn't have copies of all of them at that point [source: [Moby Games](#)]. Many popular older games whose copyrights are held by existing companies are available for newer platforms, fortunately. But more obscure titles, especially those created by companies that disappeared, run the risk of being lost to time.

Other reasons for making abandonware available include opening it for scholarly study and historical analysis, and for study by [game developers](#) who want to improve their skills. Most artists at some point study previous artists' work, and software is a

multi-faceted art that includes visual design, music, interactive storytelling and computer science.

And of course, sometimes people just want to relive their favorite games. The very existence and prevalence of abandonware sites point to the fact that there's a market for older games. The popularity of an abandonware title can even give companies information about what titles to re-release. This happened in 1999 when Hasbro released a new version of the 1981 Konami game "Frogger" after noticing that it was still popular. The new version was in the top 10 best-selling games that year [source: [Costikyan](#)].

Ways to Play Abandonware



The trick to playing an abandonware title may be finding the hardware (or a software simulator) to play it.

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Despite the legal quagmires, lots of sites host abandonware that people download and play. Many post strict rules and attempt to only carry titles that are not available through legitimate means.

As of early 2015, The Official Abandonware Ring (one of the first abandonware-related sites) lists, rates and links to more than 70 websites that host abandonware. Some abandonware sites include Abandonia (now owned by Abovo Media), the Classic Gaming Network and Home of the Underdogs. The latter is dedicated to PC games that were underrated in their time, with some abandonware available on the site and some links to purchase sites for games that are still available commercially.

You can also find abandonware scattered about the [Internet](#) on various websites and newsgroups, although as with anything available for free online, you do run the risk of downloading software infected with malware.

Getting games from original media, especially when the hardware that played the media was proprietary, takes programming skills and sometimes special software or hardware. Some games are ripped from the [read-only memory](#) (ROM) of old 1970s and '80s game cartridges and converted to binary so that they can be distributed digitally. These game files will often be called ROMs. You will also hear a lot of old floppy-disk and other DOS games referred to as ROMs. Other games are ripped from CD-ROMS (which took off in the 1990s), and these are often called ISOs.

To run the games available on most abandonware sites, you usually need not only the game software, but an emulator or other secondary applications to run out-of-date software, and possibly a license key (sometimes provided by the abandonware site). An emulator is software that mimics the hardware of another machine so that older software can be run on a modern and otherwise incompatible computer.

Hardware emulators exist for various old consoles and computer systems that aren't produced anymore, including DOSBox, VDMSound and Boxer for DOS programs, MAME for arcade games, Stella for Atari 2600, Snes9x for Super Nintendo, Kega Fusion for Sega Genesis, Vice for Commodore 64, ScummVM for old LucasArts games (which were created with the Scumm language) and many more. There are even some emulators for mobile operating systems, but for the iPhone it might require jailbreaking.

You can also find Flash-based recreations or games streamed through browser-based emulators online at various sites. Nesbox is a web-based emulator that lets users upload and play games for NES and Sega systems directly in a browser.

There are even some downright scholarly methods of experiencing older games, as well. "Videotopia" is a collection of playable arcade and home games, hardware and related elements designed to show the evolution of games and computer technology, curated by The Electronics Conservancy. It travels to various museums and science

centers. But this means a limited number of people will be able to see it and experience the games.

Another is designed to reach a much wider audience. The Internet Archive is a non-profit organization that collects cultural artifacts and makes them available online as part of their giant digital library for the purposes of preservation and study, including lots and lots of video games. At the time of this writing, they have thousands of games, including hundreds of arcade games and more than 2,600 MS-DOS games that can be played directly online using their own browser-based emulator called EM-DOSBOX.

Official Revival of Abandonware

Sometimes copyright owners decide to release games for free themselves. Companies like Id Software, makers of the popular "Doom" and "Quake" franchises, have been known to release the source code of their older games to the public. Activision, Apogee and Sierra have released old titles as freeware. The company Parallax Software released the source code of their game Descent in 1997. The website Remain in Play hosts a lot of games that have been released by their owners in this way.

And these days, lots of companies are reviving old titles for [smartphones](#) and newer gaming consoles, for a price, of course. The 1993 game "Myst" was ported and re-released to smartphones and modern gaming consoles in 2009. Xbox Live Arcade includes lots of classic game downloads, and PlayStation Network includes many of PlayStation's older games.

A number of other companies have made mobile versions of their old games. Activision released an anthology of their Atari 2600 games that includes "Pitfall," "River Raid" and "Kaboom," and released a "Lost Adventures of Infocom" app that allows you to purchase Infocom text based games. Atari has similarly made their games available for smartphones and tablets, including "Centipede," "Asteroids," "Missile Command," "Yar's Revenge" and many others. The games of Bandai Namco ("Pac-Man"), Capcom ("Street Fighter II" and "Ghosts 'n Goblins"), Midway ("Joust," "Defender" and

"Rampage"), Sega ("Sonic the Hedgehog") and lots of others are available for mobile devices, as well.

The current owner of Atari lets you play revamped versions of the company's old games online at [Atari.com/arcade](https://www.atari.com/arcade) for free. But if you'd really rather play the original versions with an old-school controller, the Atari Flashback game console was created solely for playing old Atari 2600 games, which are preinstalled in the console (no cartridges required).

GOG.com gets the rights to and sells downloads of older PC and Mac games at reasonable prices. Steam is also a good source to purchase downloads of games you might think are abandonware but are still available for official sale on newer platforms.

And you can, of course, go really old-school and purchase working vintage computers, gaming consoles and games via eBay and other online avenues, or pull them out of your own closet and test them out. A lot of them are still out there for now. But eventually, all old hardware and physical media will go the way of the dodo bird. And when that happens, abandonware or similar sites might be the only way to relive our game-riddled childhoods.

Lots More Information

Author's Note: How Abandonware Works

I often long to play the video games of my youth, so I understand why people seek out abandonware. I have made many a purchase of an older game on GOG or Steam. And I downloaded an emulator once to play my physical CD-ROM copy of "Jones in the Fast Lane" when it stopped working after a hardware and OS upgrade. I'm still addicted to it, and now have to satisfy myself with an online Flash version every now and then. I have never thrown away any of my software. I have Atari cartridges, actually floppy 5.25 inch floppy disks, the harder 3.5 inch disks, CDs and DVDs in boxes, not to mention a small museum worth of old gaming systems. But I doubt most of them will boot up, so it's more like a sad video game graveyard. Hopefully the digital preservation of old games will be legally sanctioned one of these days (in a way that allows us access to them) so that we don't lose part of our heritage.

Related Articles

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More Great Links

- [Gog.com](#)
- [Abandonia](#)
- [Atari Arcade](#)

Sources

- Abandonia. "Abandonia Story." March 21, 2009. (May 10, 2015) <http://www.abandonia.com/en/story>
- Abandonia. "FAQ." (May 10, 2015) <http://www.abandonia.com/en/faq>
- Abandonia. "Programs." January 18, 2009. (May 10, 2015) <http://www.abandonia.com/en/node/23027>
- Abandonware DOS. "F.A.Q. - About Abandonware DOS." (May 6, 2015) <http://www.abandonware-dos.com/abandonware-faq.php>
- Activision. "Activision Anthology." (May 12, 2015) <http://www.activision.com/games/activision-anthology/activision-anthology>
- Amazon. "Atari AtGames Flashback 5 Retro Game Console." (May 12, 2015) <http://www.amazon.com/Atari-AtGames-Flashback-Game-Console-Electronic/dp/B00K2CS9FE>
- Apple. "iTunes Preview - Lost Treasures of Infocom." (May 12, 2015) <https://itunes.apple.com/us/app/lost-treasures-of-infocom/id577626745?mt=8>
- Apple. "iTunes Preview - Midway Arcade." (May 12, 2015) <https://itunes.apple.com/us/app/midway-arcade/id476467441?mt=8>
- Association of Research Libraries. "Copyright Timeline: A History of Copyright in the United States." (May 12, 2015) <http://www.arl.org/focus-areas/copyright-ip/2486-copyright-timeline#.VVLuTNNViko>
- Atari Interactive Inc. "Atari arcade." (May 11, 2015) <https://atari.com/arcade>

- Atari Interactive Inc. "Atari's Greatest Hits." (May 12, 2015)
<https://www.atari.com/buy-games/arcade/ataris-greatest-hits>
- AtariAge. "Atari 2600 Emulation." (May 12, 2015)
<http://atariage.com/2600/emulation/index.php?SystemID=2600>
- AtariAge. "Beginner's Guide to Emulation." (May 12, 2015)
http://atariage.com/common/emu_intro.html
- Bandai Namco. "iOS Games." (May 12, 2015)
<http://www.bandainamcoent.com/platform/ios.html>
- Baxter, Elissa. "Armchair Thieves." Age (Melbourne). November 8, 2007. (April 23, 2015)
- Beschizza, Rob. "U.S. Copyright Office Allows Hacking of Cellphone Lockout and Abandonware Copy Protection." Wired. November 23, 2006. (May 12, 2015)
http://www.wired.com/2006/11/us_copyright_to/
- Boxer. "What Does Boxer Do?" (May 10, 2015) <http://www.boxerapp.com/>
- Boyes, Emma. "Abandonware now legal?" November 27, 2006. (May 12, 2015)
<http://www.gamespot.com/articles/abandonware-now-legal/1100-6162308/>
- BSA - The Software Alliance. "Software Enforcement and the U.S. Law." (May 10, 2015) http://www.bsa.org/anti-piracy/tools-page/software-piracy-and-the-law/?sc_lang=en-US
- Buchanan, Levi. "Myst Review." IGN. August 13, 2009. (May 12, 2015)
<http://www.ign.com/articles/2009/08/13/myst-review>
- Calvert, Justin. "IDSA renamed ESA." Gamespot. July 21, 2003. (May 10, 2015)
<http://www.gamespot.com/articles/idsa-renamed-esa/1100-6071998/>
- Capcom Mobile. "CAPCOM Arcade." (May 12, 2015)
<http://www.capcommobile.com/product.php?id=60>
- Cavalli, Earnest. "700MB 'Myst' Hits iPhone." Wired. May 4, 2009. (May 12, 2015) <http://www.wired.com/2009/05/700mb-myst-hits-iphone/>
- Classic Gaming Network. "FAQ." August 25, 2012. (May 11, 2015)
<http://www.classic-gaming.net/documents/faq/>
- Cornell University Law School. "17 U.S. Code § 504 - Remedies for infringement: Damages and profits." (May 10, 2015)
<https://www.law.cornell.edu/uscode/text/17/504>
- Costikyan, Greg. "New Front in the Copyright Wars: Out-of-Print Computer Games." New York Times. May 18, 2000. (May 9, 2015)

<http://www.nytimes.com/library/tech/00/05/circuits/articles/18aban.html>

- Cyan Worlds Inc. "Myst." (May 11, 2015)

http://cyan.com/iOS_Myst/Myst_iOS/Info.html

- DOSBox. "DOSBox FAQ." August 5, 2012. (May 10, 2015)

http://www.dosbox.com/wiki/DOSBox_FAQ

- DOSBox. "Welcome to the Wiki page of the DOSBox project." April 28, 2012. (May 10, 2015) http://www.dosbox.com/wiki/Main_Page

- Edwards, Benj. "Why History Needs Software Piracy." Technologizer. January 23, 2012. (May 6, 2015) <http://www.technologizer.com/2012/01/23/why-history-needs-software-piracy/>

- Electronics Conservancy, Inc. "Videotopia." (May 9, 2015)

<http://www.videotopia.com/>

- Electronics Conservancy, Inc. "Videotopia - Booking Info." (May 10, 2015)

<http://www.videotopia.com/booking.htm>

- Electronics Conservancy, Inc. "Videotopia - Electronics Conservancy." (May 9, 2015) <http://www.videotopia.com/ec.htm>

- Electronics Conservancy, Inc. "Videotopia - Introduction." (May 9, 2015)

<http://www.videotopia.com/intro.htm>

- Entertainment Software Association. "About ESA." (May 10, 2015)

<http://www.theesa.com/about-esa/>

- Entertainment Software Association. "Industry Facts." (May 10, 2015)

<http://www.theesa.com/about-esa/industry-facts/>

- Entertainment Software Association. "Video Games: The New Social Setting." (May 10, 2015) <http://www.theesa.com/wp-content/uploads/2015/04/Essential-Facts-2015-Infographic.pdf>

- Fielder, Joe. "Frogger Review." Gamespot. December 2, 1997. (May 12, 2015)

<http://www.gamespot.com/reviews/frogger-review/1900-2547630/>

- Francis, William J. "A developer's guide to copyright and trademark in Google Play." TechRepublic. November 16, 2012. (May 10, 2015)

<http://www.techrepublic.com/blog/software-engineer/a-developers-guide-to-copyright-and-trademark-in-google-play/>

- GOG. "What is GOG.com?" (May 10, 2015)

http://www.gog.com/support/website_help/what_is_gog_com

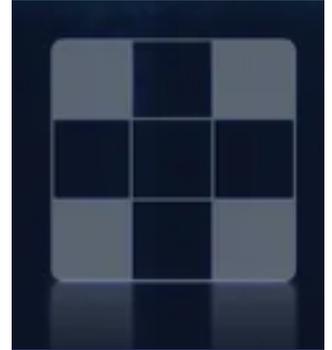
- Google. "Google Play - Sonic The Hedgehog." April 13, 2015. (May 12, 2015) <https://play.google.com/store/apps/details?id=com.sega.sonic1&hl=en>
- Granade, Stephen. "Warez, Abandonware, and the Software Industry." Brass Lantern. (May 7, 2015)
- Home of the Underdogs. "Home of the Underdogs FAQ." August 6, 2004. (May 12, 2015) <http://homeoftheunderdogs.net/faq.php>
- Huthwaite, Thomas. "'Abandonware': A separate category to orphan works?" Play It Again. April 15, 2014. (May 12, 2015) <http://playitagainproject.org/abandonware-a-separate-category-to-orphan-works/>
- IGN. "IDSA Becomes ESA." July 21, 2003. (May 10, 2015) <http://www.ign.com/articles/2003/07/21/idsa-becomes-esa>
- Information Today. "Words at Work." September 2009, Volume 26, Issue 8, Page 32. (April 23, 2015)
- Internet Archive. "About the Internet Archive." (May 11, 2015) <https://archive.org/about/>
- Internet Archive. "Console Living Room - About." (May 11, 2015) <https://archive.org/details/consolelivingroom&tab=about>
- Internet Archive. "Console Living Room - Collection." (May 11, 2015) <https://archive.org/details/consolelivingroom&tab=collection>
- Internet Archive. "Internet Arcade - About." (May 11, 2015) <https://archive.org/details/internetarcade&tab=about>
- Internet Archive. "Internet Arcade - Collection." (May 11, 2015) <https://archive.org/details/internetarcade&tab=collection>
- Internet Archive. "The Internet Archive Software Collection - About." (May 11, 2015) <https://archive.org/details/software&tab=about>
- Internet Archive. "The Internet Archive Software Collection - Collection." (May 11, 2015) <https://archive.org/details/software&tab=collection>
- Internet Archive. "Software Library: MS-DOS Games - About." (April 26, 2015) https://archive.org/details/softwarelibrary_msdos_games&tab=about
- Internet Archive. "Software Library: MS-DOS Games - Collection." (April 26, 2015) https://archive.org/details/softwarelibrary_msdos_games&tab=collection
- Internet Archive. "Software Library: MS-DOS Showcase - About." (May 10, 2015) https://archive.org/details/softwarelibrary_msdos_showcase&tab=about

- Internet Archive. "Software Library: MS-DOS Showcase - Collection." (May 10, 2015) https://archive.org/details/softwarelibrary_msdos_showcase&tab=collection
- Janssen, Cory. "Abandonware." Techopedia. (May 4, 2015) <http://www.techopedia.com/definition/10396/abandonware>
- Kamen, Matt. "Internet Archive now hosts 2,300 MS-DOS games." Wired UK. January 7, 2015. (May 12, 2015) <http://www.wired.co.uk/news/archive/2015-01/07/internet-archive-ms-dos>
- Khong, Dennis W.K. "Orphan Works, Abandonware and the Missing Market for Copyrighted Goods." International Journal of Law and Information Technology. 2007, Volume 15, Issue 1, Pages 54-89. (April 23, 2015)
- Locker, Melissa. "You Can Now Play 'Oregon Trail' Online for Free." Time. January 6, 2015. (May 12, 2015) <http://time.com/3656635/play-oregon-trail-ms-dos-games-free/>
- Martin, Joe. "Abandonware: The Ethics and Essentials." January 24, 2009. (May 4, 2015) <http://www.bit-tech.net/gaming/pc/2009/01/24/abandonware-the-ethics-and-essentials/1>
- Miller, Ross. "US Copyright Office grants abandonware rights." Engadget. November 23, 2006. (May 12, 2015) <http://www.engadget.com/2006/11/23/us-copyright-office-grants-abandonware-rights/>
- Moby Games. "Abandonware In A Nutshell: Why Nobody Wins." (May 6, 2015) http://www.mobygames.com/featured_article/feature,7/
- Nesbox. "Nesbox Emulator." (May 11, 2015) <http://nesbox.com/>
- Noack, Anthony. "Forever lost in the Myst of time." Age (Melbourne). April 28, 2011. (April 23, 2015)
- Official Abandonware Ring. "FAQ." (April 26, 2015) <http://www.abandonwarering.com/?Page=FAQ>
- Official Abandonware Ring. "Site Listing." (April 26, 2015) <http://www.abandonwarering.com/?Page=Listing>
- Parrish, Kevin. "id Software Finally Releases Edited Doom 3 Source Code." Tom's Hardware. November 23, 2011. (May 12, 2015) <http://www.tomshardware.com/news/DOOM-source-code-depth-fail-john-carmack-FPS,14079.html>
- PC Magazine. "Encyclopedia - Definition of: abandonware." (May 5, 2015) <http://www.pcmag.com/encyclopedia/term/37317/abandonware>

- PlayStation. "PlayStation Store - Games." (May 12, 2015)
<https://store.playstation.com/#!/en-us/home/games>
- Remain in Play. "Remain In Play mission statement." (May 10, 2015)
<http://www.remaininplay.com/mission.php>
- ScummVM. "What Is ScummVM?" (May 12, 2015) <http://www.scummvm.org/>
- Slangen, Simon. "4 Sites Where You Can Download Old PC Games Free." MakeUseOf. September 11, 2009. (May 10, 2015)
<http://www.makeuseof.com/tag/4-sites-where-you-can-download-old-pc-games-for-free-nb/>
- Sloan Longway. "Sloan Museum - Videotopia - January 24 - May 10, 2015." (May 10, 2015) <http://www.sloanlongway.org/sloan-museum/exhibits-and-galleries/videotopia>
- Smith, Matt. "What Is Abandonware & Is It Legal?" MakeUseOf. February 7, 2013. (May 10, 2015) <http://www.makeuseof.com/tag/what-is-abandonware-and-is-it-legal/>
- Snes9x. "Snes9x: Beyond Limits." (May 12, 2015) <http://www.snes9x.com/>
- Software & Information Industry Association. (May 10, 2015) <http://www.siiia.net/>
- Starr, Michelle. "Play 2,314 classic games in your browser for free." CNET. January 7, 2015. (April 26, 2015) <http://www.cnet.com/news/play-2314-classic-games-in-your-browser-for-free/>
- Stella. "About Stella." (May 12, 2015) <http://stella.sourceforge.net/>
- Turner, Adam. "Old-school gaming lives on." Sun-Herald (Sydney). January 5, 2014. (April 23, 2015)
- U.S. Copyright Office. "Copyright Law of the United States." December 2011. (May 10, 2015) <http://copyright.gov/title17/circ92.pdf>
- United States Patent and Trademark Office. "Basic Facts: Trademarks, Patents, and Copyrights." (May 11, 2015) <http://www.uspto.gov/trademarks-getting-started/trademark-basics/basic-facts-about-trademarks-videos>
- Valve Corporation. "Welcome to Steam." (May 12, 2015)
<http://store.steampowered.com/about/>
- VICE. "What is VICE?" (May 12, 2015) <http://vice-emu.sourceforge.net/>
- WhatIs. "abandonware." (April 26, 2015)
<http://whatis.techtarget.com/definition/abandonware>

- Xbox. "Xbox Live Arcade - Classics." (May 12, 2015)
<http://marketplace.xbox.com/en-US/Games/XboxArcadeGames>

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What are the best video games that were never made?

By: [Jonathan Strickland](#)



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 EVERY TIME A VIDEO GAME DIES,
 THIS YOUNG BOY WEEPS. SEE MORE
[VIDEO GAME SYSTEM PICTURES.](#)

There's no denying that it's a great time to be a gamer. The game library for [video game consoles](#) is enormous. [PC](#) gaming is going strong even though some people predict its demise. And handheld video gaming continues to thrive. But some games

never make it to stores. In fact, some never even make it out of **development**. In the early days of **video games**, it was possible for a small team or even a single person to program a game from start to finish. Today, most video games are too sophisticated and complex for a few people to design and program. Instead, video game companies dedicate entire departments to create new games.

Video Game System Image Gallery

With such a long and complex development process, there are many ways things can go wrong. Companies might go bankrupt or merge with other corporations before a game is finished. Game developers can leave the company in the middle of a project to go work somewhere else. Video game technology sometimes advances significantly during a video game's production cycle, which means the game looks dated before developers have finished making it. Sometimes developers discover that the game is difficult or even impossible to play. In these cases, companies face a tough decision: Continue developing a flawed game, or cancel the project and concentrate on something else.

There are probably hundreds of abandoned games that most of us will never know about. These are the games that companies gave up on before announcing them to the world at large. Only the people who worked on these games -- and anyone they've talked to -- are likely to know about them. There are also dozens of games that companies promoted but that never made it into stores. This article is dedicated to those games and what could have been.

What are some of the games that should have given us hours of enjoyment but never got the chance? Keep reading to find out.

Vaporware

Sometimes companies will announce when they cancel projects, but other times they'll remain silent about promised products that never emerge. There's a special

term for products that never seem to get out of the development cycle: **vaporware**.

Canceled Video Games

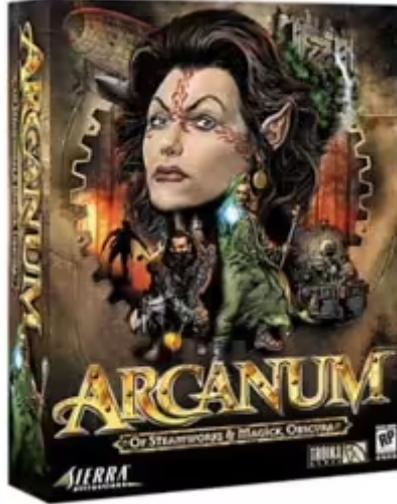


IMAGE COURTESY
AMAZON THE SEQUEL
TO ARCANUM WAS
NEVER MEANT TO BE.

A definitive list of all the games that companies have canceled over the years could fill a book. Here are just a few [video games](#) that gamers never had the chance to play:

"Journey to the Centre of Arcanum" was meant to be a sequel to the computer role-playing game (CRPG) "Arcanum" by Troika Games. "Arcanum's" mythology combined fantasy creatures like elves and dwarves with [steampunk](#) technology. Unfortunately, the company faced financial troubles and dissolved before developers could complete the game.

Black Isle Studios' game "Fallout 3" suffered a similar fate. It was supposed to be the third game in the Fallout series, role playing games set in a postapocalyptic environment. Black Isle Studios dissolved before the game was finished. Bethesda Software plans to publish a game in 2008 called "Fallout 3" set in the Fallout universe, though the company designed the new game from scratch.

"Call of Cthulhu: Destiny's End" is another game that fell apart along with a company. Game publishing company Hip Interactive went out of business in 2005 before the game was finished. The game's developers tried to find an alternative publishing company without success. The game was set in a world inspired by H.P. Lovecraft's [Cthulhu](#) mythos. Gamers would have been able to play this third-person survival horror game on the [Xbox](#), [PlayStation 2](#) or [PC](#).

An Xbox game called "BC" would have given gamers the chance to control a tribe of primitive humans in a prehistoric environment. The player's task was to help the tribe survive in a hostile world inhabited by vicious dinosaurs and other creatures. Lionhead Studios scrapped the game in order to focus on other projects.



IMAGE COURTESY
[AMAZON CHEER UP.](#)
YOU CAN STILL PLAY
WEREWOLF: THE
APOCALYPSE AS A
PENCIL AND PAPER
RPG.

Game publisher 2K Sports canceled its basketball video game "College Hoops 2k9" when negotiations with Collegiate Licensing Company stalled. Without the licensing agreement, 2K Sports wouldn't be able to use real college team names, logos and players. Rather than publish a game with fictional teams, the company decided to scrap the project.

"Werewolf: The Apocalypse" was going to be a PC game based on White Wolf's tabletop RPG about [werewolves](#). Several video game [Web sites](#) hosted videos showing the game's cinematic sequences and ran stories about the game's features. Sadly, the developers canceled the project after the game's mechanics became too complex.

Designed with the Xbox and PC systems in mind, Micro Forte's "Citizen Zero" was an online game set on a prison planet. Players would be able to form groups with other players, stake out turf in the game and battle with other players. Micro Forte worked on the project for several years, but eventually left it behind it to begin work on a different game.

It's rough when you find out a company has scrapped a game you wanted to play, but it can be even worse if you don't hear anything at all. In the next section, we'll look at some games that may or may not ever hit store shelves.

So Close, Yet So Far Away

Sometimes even finishing a game isn't a guarantee that it will hit the market. In 1998, a game development company called Paradox created "Thrill Kill" for the [PlayStation](#) console. It was a fighting game for up to four players, featuring extreme gore and violence. Game publishing company Electronic Arts decided to cancel publication even though the game was ready for the market. Allegedly, executives at Electronic Arts considered the game's content inappropriate [source: [GameSpot](#)].

Video Game Vaporware

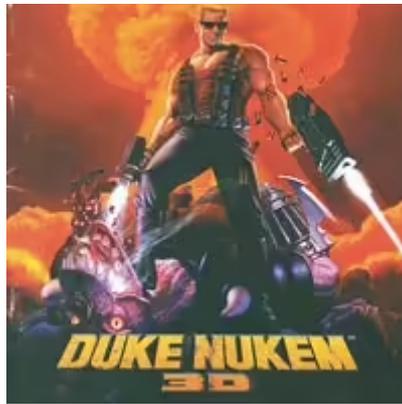


IMAGE COURTESY
[AMAZON](#) STILL HOLDING
YOUR BREATH? THE
SEQUEL TO DUKE
NUKEM 3D HAS BEEN IN
DEVELOPMENT NOW
FOR 11 YEARS.

Ask gamers to come up with an example of video game vaporware and most will give the same answer: Duke Nukem Forever. Game developer company 3D Realms first announced this [PC video game](#) title in 1997. It's a sequel to "Duke Nukem 3D." In late 2007, 10 years after the initial announcement, 3D Realms said the game was still in [development](#) but would make it into stores soon. Skeptical gamers sometimes compare 3D Realms to the boy who cried wolf. Rather than get excited, these gamers prefer to take a wait-and-see approach.

Another game that has been in development for several years is "StarCraft: Ghost" from Blizzard Entertainment. Blizzard's [Web page](#) for the game describes it as a tactical-action console game set in the StarCraft universe. The company first announced the game's development in 2002. According to Blizzard's official FAQ, the game should have been finished before 2004. But since Blizzard's announcement, gamers have moved on to a new generation of consoles. Blizzard hasn't officially canceled the game, but many people consider it vaporware.

Ritual Entertainment's planned first-person shooter series called "SiN Episodes" was meant to give gamers access to episodic content. Ideally, gamers would be able to purchase episodes as they became available, expanding the game's world and storyline with every download. Unfortunately, the series seems to have stalled after

just one episode called "Emergence." The episode found a small but enthusiastic fan base. Gamers still hold out hope that the series will continue.



IMAGE COURTESY
AMAZON FANS OF
LUCASARTS' MONKEY
ISLAND SERIES HOPE A
FIFTH GAME IS STILL A
POSSIBILITY.

LucasArts' four-game series of Monkey Island adventures cast the player as the awkward would-be [pirate](#) king, Guybrush Threepwood. In 2002, a Monkey Island fan Web site convinced some gamers that a fifth game called "Return to Monkey Island" was in development. It even went so far as to get LucasArts' blessing for the joke and partnered with the voice actor for Guybrush, Dominic Armato. Skeptical gamers pointed out that the announcement came on a suspicious date: April 1. In 2009, game developer Telltale Games answered the pleas of many a scurvy gamer and released "Tales of Monkey Island," a serialized adventure. While a sequel to the Monkey Island series, "Tales of Monkey Island" isn't the same game as the purely fictional "Return to Monkey Island."

The games in this article represent only a tiny percentage of all the projects that never made it into the hands of gamers. Some games might not have made a big impact even if published, but more than a few of them developed an eager fan base. Will we ever see any of these games emerge from what is popularly known as "development hell?" Only time will tell.

To learn more about video games and related topics, check out the links on the next page.

Tough to be the Duke

Duke Nukem Forever's development process is the stuff of legend in the video game community. More than one gaming [Web site](#) announced the game's release as an [April Fools' Day](#) joke. One Web site maintains a list of major events that have happened since 3D Realms first announced the game as a way of illustrating how much time has passed. Some gamers worry that even if the game is released, no one will take it seriously after more than a decade of waiting around for it.

Lots More Information

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- [The International House of Mojo](#)

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Sources

- GameSpot <http://www.gamespot.com>
- Such Things That Never Was <http://sttnw.blogspot.com/>
- The International House of Mojo <http://www.mixnmojo.com/>
- "X Play." G4TV.com. <http://www.g4tv.com/xplay/>

10 Reuses for Old Video Game Controllers

By: [Laurie L. Dove](#) & [Josh Peterson](#), Planet Green



That old NES controller you have lying around can be repurposed in a hundred different ways. See pictures of [video game systems](#).

EVAN-AMOS/WIKIMEDIA COMMONS

It isn't only death and taxes. You can also be sure the technology you crave today will become tomorrow's dust collectors. Whether it's a simple Atari joystick, a rectangular Nintendo Entertainment System controller outfitted with arrows and buttons, or a once-modern Nintendo 64 controller, it may be time to give them a new purpose.

After all, you probably worked hard for this gear. Doing odd jobs for the parents, mowing lawns for the neighbors or borrowing money from your little sister (a sign of true desperation) -- just to get your hands on the latest console and accessories. If you've kept this classic gear in good working order, hook it up and play it. At least once in awhile.

If, however, you have an oddball assortment of parts -- particularly controllers -- it's time to put them to good use. From desk accessories to iPod docks, we've got plenty of solutions to keep your old controllers out of a landfill.

10: Turn Atari 2600 Joystick Into Remote Control



The Atari 2600's joystick can be turned into a cool TV remote control.

EVAN-AMOS/WIKIMEDIA COMMONS

If you're looking for a clever way to control a few simple actions on your TV, try converting an Atari 2600 joystick into a remote control.

First, you'll need to purchase a standard miniature remote control and remove its circuit board. Then remove the batteries inside the Atari 2600 joystick. Use a heated soldering gun to remove one of the plastic partitions between the batteries; this will make room for the circuit board of the mini-remote, which will fit snugly into this space. The mini remote and the joystick use the same type of switches, so making it operational is simply a function of replacing the existing wires with the mini remote's wires. You can use the coin battery that came with the mini remote and the existing infrared LED lights to send the signal out of the remote.

After your modifications are complete, you'll be able to activate the TV by inserting two AA batteries and pressing the joystick's "fire" button. In addition, you can press the joystick to the right to turn the volume up and the left to turn the volume down. The "reset" button will mute the TV, and you can move the joystick up and down to change channels. The "audio/video select" button will allow you to toggle between TV and components [source: Hacked Gadgets].

9: Make NES Controller Into Belt Buckle



These compact, flat, rectangular controllers can make great belt buckles for your skinny jeans.

[KAWAIIIFURGEAR/ETSY](#)

Ah, the Nintendo Entertainment System. Not only does it provide plenty of fodder for which children can mock their parents, but it's so absolutely retro that even hipsters think it's cool. Well, the NES controllers at least. These compact, flat, rectangular controllers are now seen holding up skinny jeans on the pages of FHM and Wired. You could purchase your own or you could make one out of a repurposed controller.

To begin the transformation, cut the cord off the controller. (Make sure it's not plugged in, of course). Then bend and solder a stretch of wire into a square (the bottom section of a wire hanger is the ideal length), add a couple of brackets to the back of the controller with the wire underneath. Affix the entire affair to one end of a belt. Your NES belt buckle is ready to wear. Be sure to tuck your T-shirt in, though. You wouldn't want the world to miss out on your awesomeness [source: [Instructables](#)].

8: The Duck Hunt Gun as Accessory



This ubiquitous gun was part-and-parcel of the Nintendo Entertainment System's Duck Hunt game.

JCD1981NL/WIKIMEDIA COMMONS

If you're a child of the '80s, you probably know your way around a Duck Hunt gun. This ubiquitous gun was part-and-parcel of the Nintendo Entertainment System's Duck Hunt game. It was state-of-the-art at the time and worked by employing a series of sensors in the gun that could detect light changes on the TV screen during the game [source: Patent Storm]. After Duck Hunt became outdated, the gun had few other applications. Until now.

Paint it black or keep it as-is, and pair it with a Halloween costume. You can also use it as a play prop or donate it to the kids for pretend play. It's time the Duck Hunt gun was revived for a second round.

7: Sell the Super Scope (and Your Controllers)



You can sell or trade old controllers and cartridges online or at game retailers

ETHAN MILLER/GETTY IMAGES

The Super Nintendo had a gun called the Super Scope. It was 2.5 feet (76 centimeters) long and shaped like a bazooka, and it's not likely to be something you use anymore. So why keep it around? Gather your old controllers and make some scratch. You could trade them in at local game retailer like [GameStop](#), but you're likely to make more money if you sell them outright. Try listing them on eBay, Craigslist or an online gaming forum. Some of the rare ones are worth a lot: A PlayStation Move motion controller for a Sony PS3 Move was selling for \$9,000 on eBay.

You could also explore Web sites that buy electronic gear like [BuyMyTronics](#), [Cash For Gamers](#) or [Nextworth](#), which has a brick-and-mortar presence at retailers like Target. Most companies that buy electronic gear will give you a quote before you make a final decision to send them your gear, and they'll pay for shipping.

6: Convert Them to Work With Your Computer



You can buy a Microsoft connector that will link a wireless Xbox controller to a computer's USB.

MICROSOFT

Have an old PS3 or Xbox controller lying around? By making some minor adjustments, you can pair outdated controllers with a PC (and in some instances, a Mac). If you're a fan of console-to-PC games (think Steam), then you can see why this might be a good idea. Using an old controller will save the expense of buying a custom PC controller. Plus you'll have better control (pun intended) when playing on the PC.

For about \$20 you can purchase a Microsoft connector that will link a wireless Xbox 360 controller to a computer's USB. You'll need this workaround because a PC can't read this wireless controllers' proprietary tech. Other wireless controllers, like PS3, use Bluetooth. This means that if your PC is Bluetooth enabled, you should be able to connect the two. If not, you can purchase a USB Bluetooth adapter [source: [Plunkett](#)].

5: Transform NES Controller Into a Wallet



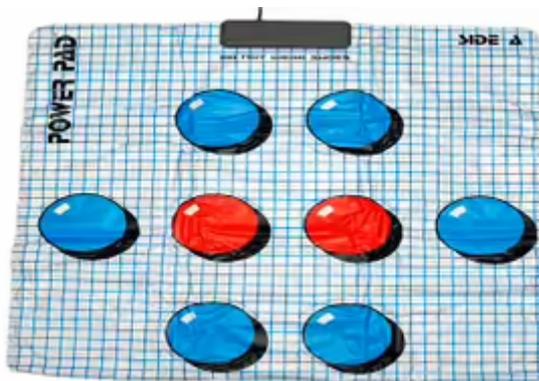
The versatile NES controller can also be transformed into a wallet.

[ONEUPGALLERY/ETSY](#)

Why carry around an ordinary wallet when you can put your cash in an icon? The versatile NES controller can be transformed into a wallet. It's as easy as splitting the controller lengthwise, removing its interior working parts and gluing a zipper along the length of it.

Start by removing the six screws on the back of the controller; this should allow the front and back of it to separate. If a screw sticks, gently pry until it releases. Then, remove the circuit board and use a wire snip to cut its connections to the controller case. Dab some craft glue or super glue onto the back of the rubber keys so they don't fall out. Finally, glue a zipper along three sides of the controller and connect the fourth edge by gluing in a strip of ribbon [sources: [Instructables](#), Preuss].

4. NES Power Pad as Room Decor



While the NES Power Pad didn't work so well as a game controller, it does make an awesome area rug.

[EVAN-AMOS/WIKIMEDIA COMMONS](#)

The NES Power Pad was a two-sided floor mat game controller -- circa 1988 -- for early generations of the Nintendo Entertainment System. Think "Dance Dance Revolution," but without the engaging technology or widespread popularity. One side of the NES Power Pad had 12 button-style sensors, while the other side had eight. Gameplay was supposed to happen when you stepped on the buttons with your feet, but it reportedly worked better when slapped with your hands. Well, at least it was a start in the dance pad category.

If you have one lying around that never really worked, cut your losses by converting it into a lovely area rug. Don't have one, but still want to incorporate it into your "gamer chic" décor? You may be able to pick one up on eBay for less than \$20 [source: [Retro Gaming Nation](#)].

3: From Controller to Desk Caddy



This controller seems almost tailor-made to be a desk caddy.

[GREENCUB/ETSY](#)

An old Nintendo GameCube controller can make a fine desk caddy. Start by removing the mini joystick and use the space to store paperclips instead. Keep some of the buttons for aesthetic effect, but drill out others to hold pens and pencils. Retrofit the D-pad slot to become a USB port [source: [Personal Money Network](#)]. You'll have the coolest desk accessory on the cubicle block.

You can also find them already retrofitted and ready for your desk on [Etsy](#).

2: Create an iPhone Dock From an NES Controller



This iPhone dock was cleverly repurposed from an NES controller.

[WOODY6SWITCH/ETSY](#)

Here's a way to repurpose old tech for new tech: Use an old NES controller to make an iPhone dock. To do so, you'll need the controller, an iPhone or iPod cord, scissors, utility knife, sandpaper, a small Phillips screwdriver and wire cutters.

First, remove the six screws and take off the plastic back of the controller. Then, remove the circuit board, notch out a space for the iPhone/iPod cord and cut the cord that connects the circuit board to the NES. While you're wielding your scissors and utility knife, be sure to cut a hole in the top of the controller and connect the iPhone/iPod connector through it. Once you've finished, reassemble the controller and plug the cord into an outlet.

You can nest your iPhone on top of the controller, plug it into the cord that is now emerging from the controller and voilà! -- charge your iPhone [source: [Instructables](#)].

1: Fashion the Finest Steampunk Controller of All Time



You can Steampunk your clothes and even your controller.

ALEX POTEMKIN/VETTA/GETTY
IMAGES

Steampunk is a science fiction subculture that showcases steam-powered technology and Victorian-inspired touches to modern, working technology. Think Jules Verne or the 1999 movie, "Wild, Wild West."

Better still, Steampunk is rife with possibilities when it comes to repurposing old tech. To accomplish this, outfit your old N64 controller in a wood veneer, add copper finials to the buttons and, literally, put the on/off function under lock and key. Instead of simple pushing a perfunctory plastic button to power on, you can insert an old-fashioned skeleton key into a brass lock.

Of course, you can create a Steampunk look all your own; Steampunk caters to the customized. Try layering your controller in a brass finish. Use wood buttons. And, if you can figure out a way to actually power it using steam, that's definitely extra credit [source: [Kain](#)].

Lots More Information

Author's Note: 10 Reuses for Old Video Game Controllers

I may not have had an NES controller lying around when I started researching this article, but that hasn't stopped me from making a few DIY plans. I like the idea of creating an iPhone dock out of a retrofit NES controller and have plans to make my own -- just as soon as I can snag a bargain controller on eBay. And I probably won't stop there. An Atari 2600 TV remote control is next on my list. Who knows? I may just make a desk caddy while I'm at it, too.

Related Articles

- [How the Wii Balance Board Works](#)
- [How Joysticks Work](#)
- [How does the light gun for a video game work?](#)

Sources

- Hacked Gadgets. "Atari 2600 Joystick TV Remote Control." May 16, 2007. (Nov. 23, 2013) <http://hackedgadgets.com/2007/05/16/atari-2600-joystick-tv-remote-control/>
- Instructables. "NES Belt: DIY Version." (Nov. 23, 2013) <http://www.instructables.com/id/NES-Belt---DIY-Version/>
- Instructables. "Turn a NES Controller into an iPhone Dock." (Nov. 23, 2013) <http://www.instructables.com/id/Turn-a-NES-controller-into-an-iPhone-Dock/>
- Instructables. "No Sew NES Controller Wallet." (Dec. 4, 2013) <http://www.instructables.com/id/no-sew-Nes-controller-Wallet/>
- Kain, Erik. "Three Awesome Xbox 360 Steampunk Controllers." Forbes. Sept. 15, 2012. (Nov. 23, 2013) <http://www.forbes.com/sites/erikkain/2012/09/15/three-awesome-xbox-360-steampunk-controllers/>
- Patent Storm. "Video Target and Sensing Circuit for Photosensitive Gun." June 10, 2007. (Nov. 23, 2013) <http://www.patentstorm.us/patents/4813682.html>
- Personal Money Network. "Repurposing Retro Gadgets to Score Points and Save Cash." Sept. 20, 2012. (Nov. 23, 2013) <http://personalmoneynetwork.com/moneyblog/2012/09/20/repurposing-retro-gadgets-3/>
- Plunkett, Luke. "How to Use a Console Controller on Your PC." July 23, 2013. (Nov. 23, 2013) Kotaku.com. <http://kotaku.com/how-to-use-a-console-controller-on-your-pc-889800353>
- Preuss, Simone. "Ten Recycled NES Controller Mods." 1 800 Recycling. Feb. 8, 2011. (Dec. 4, 2013) <http://1800recycling.com/2011/02/recycled-nes-controller-mods/#.UoUpNvmsim4>
- Racket Boy. "The Rarest and Most Valuable NES Games." (Nov. 23, 2013) <http://www.racketboy.com/retro/nintendo/nes/the-rarest-and-most-valuable-nes-games>
- Retro Gaming Nation. "NES Power Pad." March 26, 2012. (Nov. 23, 2013) <http://retrogamingnation.blogspot.com/2012/03/nes-power-pad.html>

