Game Ports

With the theme of October, fall, and Halloween, I wish I could say there were new developments in my continuing "Vampire Quest" saga, but there is no new news in newstown. I'm just waiting around to find out if future Vampire stand-along system developments completely moot-out any reasons for having a version attached to classic hardware or not at this point.

In other news, our member-at-large Jim Lawrence sent me this link (https:// thec64.com) for the C64 Mini, a small replica of the "bread box" Commodore 64 system to be released in 2018, which can hook up to a TV via HDMI, use USB game controllers and keyboards, and comes with dozens of pre-loaded games for a price somewhere around $70. It might seem a bit pricey for something akin to Nintendo's recent short-stocked retro systems, but if it is a fully usable C64 computer as opposed to a simple game jukebox (which is strongly implied by the website), or even a small Linux-capable system (which is something I thought I saw at some point, but I'm not finding any confirmation right now), it might just be worth it. Now how do I plug in my decades-old cartridges and floppy discs?

As you may have noticed, I've written about various facets of retro gaming over in these pages over the last few months, as it's a subject I find interesting and have been learning more and more about over time. This time I feel like going over the subject of game "ports." Most in computer circles are already aware, but in software terms a port is the conversion of a program, such as a game, to a different hardware platform or operating system, which can involve anything from minuscule modifications of existing code and data to a complete recreation from the ground up.

Truth be told, the dawn of commercial video gaming is built on ports. The first arcade games, "Computer Space" and "Pong" were ostensibly ports of "Spacewar!" (for a version that didn't require a 50 thousand dollar university computer system and added a 1 player version) and the "Brown Box" by Ralph Baer which would become the first Odyssey (enhancing the gameplay and adding score-keeping).

Of course, these first examples are only "ports" in a debatable sense, as they are more about creating a new game based on the idea, style, or genre of the previous work, making "their version," as it were. This happened frequently in the "wild west" days of early video games, with different game publishers making their own variations or blatant copies of popular games, and still happens as recently as today. Just look at mobile game stores for the number of clones of the well-known, or ask someone what games were ripped off by more popular franchises like Worms, Angry Birds, Candy Crush, or any other thing by King games.

It would seem the concept of professional porting of games started with Atari, converting their early games like Pong and others into forms capable of being played through a home television, though those mid-seventies creations were as much or more hardware design as anything.

Game porting really took off with the advent of the Atari VCS as well as other game consoles, and their software on cartridges. Atari wasted no time putting out home versions of their own arcade games, not to mention unauthorized home copies of other manufacturers' arcade games, though not necessarily with the same names. Atari's first official, properly licensed home port of another's arcade game (possibly the first by anyone) was the 1980 home release of the 1978 paradigm-shifting arcade hit "Space Invaders." Atari could conceivably make a Space-Invaders-alike game under a different title, like nearly every other console available at the time, but they made the effort of getting the rights from Japanese company Taito, so they could sell the "real game" under the real name (though some say it was also partially to stick it to Bally Midway, for their huge success as US manufacturer of the arcade Invaders machines), an approach which paid off, as the game became one of history's first "killer apps," catapulting Atari VCS sales to their highest point.

Taking the hint, Atari and later the third party games companies

snapped up as many arcade licenses for home ports as they could. Atari put out many, between licenses and their own IP, from "Asteroids" and "Missile Command" to "Defender" and "Berzerk" and many more, one of the most famous (and infamous) being Atari's home port of Namco's "Pac-Man."

Porting a game to a new system, such as arcade to home console, carried a set of challenges, especially in the early days. First off, the average arcade machine was usually many times more advanced and costly than the general-purpose home console, and the game might easily be beyond their capacity. The 1977 Atari 2600 VCS was designed around being able to play most of the same games as the single-purpose "Pong consoles" prior. The 1983 Nintendo Famicom, which would become the NES in America, was built around playing "a really good game of Donkey Kong" (not Super Mario...Donkey Kong). Both machines extended their operational lives and played games supposedly "beyond" them through clever programming and hardware enhancements to the software cartridges.

Secondly, in the early days, the only resources devoted to a game port were one or more programmers with access to an arcade machine. Access to source code, developer documents, or graphics data was hardly a given, and with the differences in hardware between various arcade machines or game consoles or home computers, might not be of much use anyway, which leave those doing the porting to essentially create a brand new game that hopefully looks and plays as close to the source material as possible. Certainly everyone has seen a game that bears little resemblance at all to the name on the package, or looks and sounds the part but plays differently or just badly, or the op-posite where the presentation is poor but the gameplay is on point.

Sometimes elements of the game are modified to either play to the strengths or minimize the weaknesses of the hardware it's ported to. (For an offbeat example, the Atari game "Adventure" was created as a visual version of a computer text adventure, for a system not made to display a screen of text.) Other times it's even enhanced, adding value in one way or another, or just adjusting the play to be less punishing and more fun than an arcade game with the purpose of squeezing as many quarters as possible out of players.

Going back to two previously-mentioned arcade ports, Atari's "Space Invaders," which launched Atari to new heights, and "Pac-Man," which punctuated their decline. I was wondering exactly what makes "Pac-Man" a "bad port" and "Space Invaders" a good one. Anyone will point out that Atari "Pac-Man" falls far short of the arcade version visually, not matching the original's colors or sounds or maze layout. However, if you look at the Atari and arcade versions of "Space invaders" side-by-side, you could make a similar argument. Nothing on it looks exactly the same as the arcade either, and it doesn't really look any closer than the "Space Invader" clone games on Intellivision or Odyssey2 or Astrocade as far as I can tell. For example, an arcade Invaders wave contains 55 invaders of three designs in an 11 x 5 layout. Atari Invaders does 36 on screen, 6 x 6, with six different alien designs, none of which look the same as the arcade aliens. In later years, fans have hacked the Atari game to make it a closer graphical match to the arcade (simply tweaking the graphic data and colors and leaving the rest unchanged), which makes me wonder why Atari made up their own origi-nal alien graphics instead of trying to copy the arcade visuals. (Even the versions for Atari's 5200 and 8-bit home computers did a similar thing, even adding a rocket on the edge of the screen for the aliens to march out of). You can bitch about Atari "Pac-Man" and his ghosts being pale and flickery, but at least they appear to be the right general shape. Perhaps there's something less tangible in play here, where despite the differences from their respective sources, Atari "Space Invaders" captures the spirit of the arcade gameplay while Atari "Pac-Man" does not. In truth however, Atari's "Pac-Man" was a documented rush-job done to get the game to market as fast as possible. It also sold well, but not well enough for the overblown production run, resulting in financial losses. It was shown that a "Pac-Man" game could be done competently within the Atari VCS hardware limits later on, with ports of "Ms. Pac-Man" and "Jr. Pac-Man," and several different home-brew remakes of the first Pac-Man (one of which was used for the 2017 Atari Flashback Portable system instead of Atari's own. Apparently Namco thought that would be better).

Official arcade game ports continued on the Atari 2600 as far along as 1990, when it was sold against Nintendo's NES as a "budget system." These included arcade games that should be well beyond the power of the humble 1977 hardware, such as "Kung-Fu Master," "Double Dragon," and "Rampage." And to be honest they were, but it is testament to the resourceful programmers that they came anywhere near as close as they did.

I'll finish this off bringing it around to the venerable Amiga. Being the gaming powerhouse it was at its height, game ports were a big fact of life for the system, both to and from. In its earlier days, the Atari ST

took an early hold on the market, especially in European countries, and the basic similarities between ST and Amiga meant many games were written for the ST first, then converted for the Amiga with little to no enhancements for the Amiga's audiovisual advantages. With the rise of the Amiga 500 flipping the balance of the market, the reverse became true. The Amiga became the "gold standard" of games for a time, being the machine where many games got their start, and were then ported and "converted down" to other systems like the ST, PC, and even 8-bit computers and game consoles.

Later still, as the modular DOS/Windows PCs got more brute force in their CPUs, video, and sound hardware, the standard shifted to them along with the more modern and powerful game consoles, leaving the poor Amiga left trying its best to manage a game like Doom or Quake on hardware better suited to more two-dimensional imagery.

Over its life, the Amiga like every other game console and computer before and since had its (heavy) share of home ports of arcade machines, which ran the gamut from faithful to unrecognizably bad. Sadly, the Amiga probably had an unfair share of poor arcade ports, as too many were handled by the software companies as cheap cash-ins on known names. (Thankfully Amiga originals closed any quality gaps left by poor ports.)

There were plenty of exceptions to the mediocre, however, which matched or even bettered the original. A personal favorite of mine is "Rodland," a home version of an obscure cutesy 1990s platform game from Jaleco. (In fact, the various home versions are probably better known than the arcade game itself.) The developers were fortunate enough to be provided data from the arcade game itself, so the Amiga version looks extremely faithful to the arcade visuals, with only a slight hit to the color palette. After playing the original arcade game through MAME, I can state that the Amiga version plays more smoothly and consistently in my opinion, with better music. The game "logic" changes makes a bit more sense too. (In the Amiga version, you can't grab an enemy and slam it onto a piece of floor that isn't there, for example, unlike the arcade, which is happy to let you smash things into thin air.) There are things lost from the arcade version though, such as a secret set of extra game levels with their own story, which the Amiga developers might not have known about. Perhaps the Amiga game would have been two floppy discs instead of one if they were included.

...by Eric Schwartz
From the AmiTech Gazette,
October 2017

November Calendar