

= Pac @-@ Man (1982 video game) =

In 1982 , Atari Inc. released a port of Namco 's hit arcade game Pac @-@ Man for its Atari 2600 video game console . Like the original arcade version , the player controls the title character with a joystick . The object is to traverse a maze , consuming all the wafers within while avoiding four ghosts .

The game was programmed by Tod Frye , who was given a very limited time frame by Atari to complete the project . The technical differences between the Atari 2600 console and the original 's arcade hardware ? particularly the amount of available memory ? presented several challenges to Frye . Given the popularity of the property , Atari produced approximately 12 million units (which was more than the estimated number of Atari 2600 consoles sold at the time) , anticipating a high number of sales .

While the port is the best selling Atari 2600 game of all time , selling an estimated 7 million copies , and was the best @-@ selling home video game of all time when it was released , critics focused on the gameplay and audio @-@ visual differences from the arcade version . Initially , the port boosted the video game industry 's presence in retail . It was followed by Atari 2600 ports of Pac @-@ Man 's arcade sequels .

= = Gameplay = =

Pac @-@ Man is a version of the original arcade game , which Namco released in 1980 , and features similar gameplay .

The maze has a landscape orientation . The warp tunnel is located at the top and bottom as opposed to the sides . The screen consists of 126 dashes (called wafers) . The ghost box is square with the door on the right side . The four ghosts start in the box one on top of the other . The point values of items are much lower . The prize at the bottom of the ghost box is a square called a vitamin worth 100 points . It behaves like a regular fruit . However , if Pac @-@ Man loses a life when the vitamin is shown , the vitamin may not be necessarily forfeited .

The player uses a joystick to navigate the round , yellow title character , which starts each game at the center of a maze . The goal is to eat wafers scattered throughout the maze by moving Pac @-@ Man over them while avoiding four ghosts (enemies) . Each time Pac @-@ Man comes into contact with a ghost , he dies , losing a life and reappearing at the center of the maze . When Pac @-@ Man runs out of lives , the game ends . The game starts with four lives and a bonus life is earned at each cleared maze .

The ghosts are avoided when they are white . The power pills temporarily make the character invulnerable to the ghosts , and make a distinctive sound effect . During this time , the ghosts turn a purplish blue color and Pac @-@ Man can eat the ghosts for additional points , after which the ghosts return to the center box as eyes and respawn . When the eyes reach the box , they stay there until the power pill elapses . After the power pill elapses , the eyes respawn and the ghosts exit the box . If another power pill is eaten when there are eyes in the box , the eyes stay in the box until that pill elapses . Before the power pill elapses , the sound effect stops and the ghosts (and any eyes if ghosts are eaten) turn pink .

The ghosts are known to flicker and have closed and animated eyes compared to the arcade version where the direction of the eyes determine the direction of the ghost 's travel . A ghost in " eyes " after being eaten blue is shown as two squares that look like eyes . The four ghosts are divided into two pairs with one pair slightly faster than the other pair . It is possible two ghosts can overlap each other and appear as one ghost on the screen .

The game has eight variations offering two different starting speeds for Pac @-@ Man and four different starting speeds for the ghosts . The ghosts get slightly faster each subsequent round , but Pac @-@ Man stays at the same speed . The A @-@ B difficulty switch can be used : in the A position , the power pills ' effects do not last as long .

= = Development = =

In the late 1970s , Atari acquired the rights to produce home versions of Namco 's arcade games . After Pac @-@ Man proved to be a success in the United States , Atari decided to produce a home port for its Atari 2600 console . The company believed the conversion would be simple because the arcade 's success was attributed to the gameplay rather than impressive visuals . Development took around four months ; the process started in May 1981 and finished in September . At the time , Atari projected 10 million consoles were still actively used by video game enthusiasts . Atari decided to produce 12 million game cartridges , anticipating every Atari 2600 owner would purchase the game , while two million new customers would purchase the system to play it ; management predicted sales would reach at least US \$ 500 million .

Programming was handled by Tod Frye . The game uses a 4KB ROM cartridge , chosen for its lower manufacturing costs compared to 8KB cartridges , which had just become available at the time . After Atari acquired the rights to produce the game , Frye began work on a prototype version . The company wanted to release the prototype to capitalize on the 1981 holiday season . Development was hindered by the technical differences between the original Pac @-@ Man 's hardware and that of the Atari 2600 . The original 's arcade boards stored four times as much read @-@ only memory (ROM) in addition to 2KB of both video and general random @-@ access memory (RAM) . The memory types are used to store and switch between graphical sprites . By contrast , the Atari 2600 had only 128B (1 / 16 of the arcade board) of general RAM and none dedicated to video . In addition , the Zilog Z80 CPU microprocessor used by the Namco Pac @-@ Man arcade system was three times faster than the MOS 6507 CPU used by the Atari 2600 .

With limited memory , Frye simplified the shape of the maze with block corners as opposed to rounded ones and a less intricate pattern of corridors . The round , white pellets in the original were changed to rectangular , brown ones on the Atari 2600 . This change was to consolidate resources by using the same sprite used to create the walls . To achieve the visual effect of wafers disappearing after Pac @-@ Man eats them , the console redraws the entire maze and wafers , excluding those that had been eaten . To accommodate technical limitations the sprites were animated differently . The Pac @-@ Man character sprite as well as the maze and wafers sprites are drawn every frame , while the four ghosts are drawn at intervals . The four different ghosts take turns displaying on the screen and only one ghost is present at any given time , which creates a flickering effect . This effect takes advantage of the slow phosphorescent fade of CRT monitors and the concept of persistence of vision , resulting in the image appearing on screen longer than once every four frames .

After seeing the game , Coin Division marketing manager Frank Ballouz informed Ray Kassir , Atari 's president and CEO , that he felt enthusiasts would not want to play it . His opinion , however , was dismissed . The company ran newspaper ads and promoted the product in catalogs , describing it as differing " slightly from the original " . To help sales , Atari promoted and protected its exclusive licensing of Pac @-@ Man . It took legal action against companies that released clones similar to Pac @-@ Man . Atari sued Philips for its 1981 Magnavox Odyssey 2 game Munchkin and obtained a preliminary injunction against the company to prevent the sale of Munchkin cartridges , but failed to stop other games , such as On @-@ Line Systems ' Jawbreaker and Gobbler . Several retailers assisted Atari with the release of the game . J. C. Penney was the first retailer to launch a nationwide advertising campaign on television for a software title . Continuing a long @-@ standing relationship between it and Sears , Atari also produced Pac @-@ Man cartridges under the department store 's label .

= = Reception = =

Anticipation for the game was high . Atari stated in 1981 that it had preorders for " three or four million " copies of the Atari 2600 version . Goldman Sachs analyst Richard Simon predicted the sale of 9 million units during 1982 , which would yield a profit of \$ 200 million . Pac @-@ Man met with initial commercial success , selling 7 million copies and eventually becoming the best @-@ selling Atari 2600 title ; Frye reportedly received \$ 0 @-@ 10 in royalties per copy . More than one million of

those cartridges had been shipped in less than one month , helped by Atari 's \$ 1 @. @ 5 million publicity campaign . However , purchases soon slowed and , by summer 1982 , unsold copies were still in large quantities . Many buyers returned the games for refunds , and Atari was left with 5 million excess copies in addition to the returns . By 2004 , the cartridges were still very common among collectors and enthusiasts ? though the Sears versions were rarer ? and priced lower .

Critics negatively compared the port to its original arcade form , panning the audio @-@ visuals and gameplay . In 1983 , Creative Computing Video & Arcade Games reviewer Danny Goodman commented that the game fails as a replica of its arcade form . Conversely , he stated that such criticism was unfair because the hardware could not properly emulate the arcade game . Goodman further said that the port is a challenging maze game in its own right , and it would have been a success if fans had not expected to play a game closer to the original . That year Phil Wiswell of Video Games criticized the game 's poor graphics , mockingly referring to it as " Flickerman " , while Softline questioned why Atari opposed Pac @-@ Man clones when the 2600 version was " less like Midway 's original than any of the pack of imitators " . In 1998 , Next Generation magazine editors called it the " worst coin @-@ op conversion of all time " , and attributed the mass dissatisfaction to its poor quality . In 2006 , IGN 's Craig Harris echoed similar statements and listed it as the worst arcade conversion , citing poor audio @-@ visuals that did not resemble the original . Another IGN editor , Levi Buchanan , described it as a " disastrous port " , citing the color scheme and flickering ghosts . Skyler Miller of AllGame said that although the game was only a passing resemblance to the original , it was charming despite its many differences and faults .

Ed Logg , a former lead designer at Atari , considered the development a rushed , " lousy " effort . Frye did not express regret over his part in Pac @-@ Man 's port and felt he made the best decisions he could at the time . However , Frye stated that he would have done things differently with a larger capacity ROM . Video game industry researchers Nick Montfort and Ian Bogost attribute the poor reception to the technical differences between the 1977 Atari 2600 console and the 1980 arcade hardware used in Pac @-@ Man cabinets . They further stated that the conversion is a lesson in maintaining the social and cultural context of the original source . Montfort and Bogost commented that players were disappointed with the flickering visual effect , which made the ghosts difficult to track and tired the players ' eyes . The two further said that the effect diminishes the ghosts ' personalities present in the arcade version . Chris Kohler of Wired commented that the game was poorly received upon its release and in contemporary times because of the poor quality . However , he further described the game as an impressive technical achievement given its console 's limitations .

= = Impact and legacy = =

Initially , the excitement generated by Pac @-@ Man 's home release prompted retail stores to expand their inventory to sell video games . Drugstores began stocking video game cartridges , and toy retailers vied for new releases . Kmart and J. C. Penney competed against Sears to become the largest vendor of video games . The game 's release also led to an increase in sales of the Atari 2600 console .

In retrospect , however , critics often cite Atari 's Pac @-@ Man as a major factor in the drop of consumer confidence in the company , which led to the North American video game crash of 1983 . Bill Loguidice and Matt Barton of Gamasutra stated that the game 's poor quality damaged the company 's reputation . Buchanan commented that it disappointed millions of fans and diminished confidence in Atari 's games . Former Next Generation editor @-@ in @-@ chief Neil West attributes his longtime skepticism of Atari 's quality to the disappointment he had from buying the game as a child . Calling the game the top video game disaster , Buchanan credits Pac @-@ Man as a factor to the downfall of Atari and the industry in the 1980s . Author Steven Kent also blames the game , along with Atari 's E.T. the Extra @-@ Terrestrial , for severely damaging the company 's reputation and profitability . Montfort and Bogost stated that the game 's negative reception seeded mistrust in retailers , which was reinforced by later factors that culminated in the crash .

Poor critical reception made this game one of many decisions that led to Atari 's report of a \$ 536

million loss in 1983 and the division and sale of the company 's Consumer Division in 1984 . On December 7 , 1982 , Kassar announced that Atari 's revenue forecasts for 1982 were cut from a 50 percent increase over 1981 to a 15 percent increase . Immediately following the announcement , Warner Communications ' stock value dropped by around 35 percent ? from \$ 54 to \$ 35 ? amounting to a loss of \$ 1 @.@ 3 billion in the company 's market valuation . Atari attempted to regain its market share by licensing popular arcade games for its consoles . The revenue from selling these console games did not reverse Atari 's decline and the company went further into debt . In 1983 , the company decreased its workforce by 30 percent and lost \$ 356 million .

In late 1982 , Atari ported Pac @-@ Man to its new console , the Atari 5200 . This version was a more accurate conversion of the original arcade game and was a launch title for the console , along with eleven other games . The port was also followed by conversions of Pac @-@ Man 's arcade sequels , Ms. Pac @-@ Man and Jr . Pac @-@ Man , for the Atari 2600 . Both were better received than Atari 's first Pac @-@ Man title . Ms. Pac @-@ Man , for example , features a larger ROM cartridge and addressed many critics ' complaints of Pac @-@ Man .