Alexei (Alosha) Gusev: alexei.gusev@stonybrook.edu
Andersson Lora: andersson.lora@stonybrook.edu
Justin Lee: justin.lee.2@stonybrook.edu
Nick Alberto: nicholas.alberto@stonybrook.edu

ISE 301

The Legacy of Pong

Pong was a video game designed by engineer Allan Alcorn and developed by video game developer Atari Inc. in November of 1972. It became one of the first electronic arcade games to hit the market at the time. Kids from the 1970's may be familiar with this simple yet addicting game, possibly even sinking hundreds of hours and quarters into it. Originally, Atari's co-founder Nolan Bushnell tasked Allan Alcorn to produce the game as a warm-up exercise. The goal was to provide Alcorn with some game development experience considering he had none prior to joining Atari. However, the simple warm-up exercise ended up becoming one of Atari's greatest achievements.

Pong's gameplay consists of a small moving ball with vertical bars on the left and right hand side of the screen that act as paddles. Each player controls a paddle on their respective side of the screen which slides vertically. The goal of each player is to position their paddle in front of the moving ball in order to rally it back to their opponent. The rally continues until one player misses the ball, netting the opposing player 1 point. The game ends once a player reaches 11 points.

Due to its simplistic controls and objective, people of all ages were quickly drawn to its allure. Upon installing the first Pong machine at a local bar, the game was an instant success. Within the first few days of installation, the machine began experiencing technical difficulties due to a malfunctioning coin mechanism. The malfunctioning coin mechanism was triggered due to so many people playing the game, which caused quarters to overflow and jam the coin slot mechanism.

The arcade version's overall success prompted Atari to create a home port of the game called Home Pong which released in 1975. Home Pong was actually Atari's first consumer product which led to it being the most recognized company in the video game industry. Home

Pong was released through Sears, which sold around 150,000 units. This simple game was ultimately the catalyst that sparked a video game revolution for decades to come.

As revolutionary as Pong was for its time, there exists controversy surrounding who truly invented the game. Some believe that Nolan Bushnell should be credited due to Atari's success with Pong. Others believe that Ralph Baer, a German game developer and engineer, should be credited since Pong was based on Magnavox Odyssey's Table Tennis game, which was developed in May of 1972. Bushnell had played a copy of Table Tennis, which inspired the exercise in the first place. However, William Higinbotham, head of Brookhaven National Laboratory, beat both of them to the punch by creating Tennis for Two. Higinbotham developed the game back in 1958 using an oscilloscope screen to simulate playing an electric tennis game. Tennis for Two became extremely popular during its exhibition, though was forgotten about until the late 1970's during the lawsuit between Atari's Pong and Magnavox Odyssey's Table Tennis. Since then, the game has been celebrated as one of the earliest successful video games and has helped carve a path for one of the most successful industries to exist.

For our reenactment, we chose a picture of two teenagers enjoying their time playing Table Tennis, the predecessor to Atari's Pong. The black and white photo displays the Magnavox Odyssey console and a CRT TV. Our group reserved a room in the Wang Center and acquired a CRT television from the staff at the Wang Center for the reenactment. As we were setting the equipment up, we ran into several technical difficulties with the CRT television due to it being a legacy device. In order to resolve the technical problem, we had to swap and test out equipment so that picture could be seen on the CRT TV. While doing that, we requested the help of a female friend of ours to play the role of the woman in the picture.

For the image editing process, we chose to use Adobe Photoshop because it was the image editing software we were most experienced with and immediately had at hand. The first thing to edit was to superimpose the model of the Magnavox Odyssey and its respective controllers into the image. The model of the console was the easiest: only light shadowing was done under it to give it more depth and to blend it in with lighting. The main challenge was to edit in the controllers into the model's hands. Although not perfectly executed, the goal was to overlay the correct hand to make it seem as natural-fitting as possible and to cover the black prop that the models were holding in the photo. To try and match the color of the television set, the levels were adjusted (brightness, contrast, selective color) to match the original photo's dark cabinet housing. The back white wall was given some texture with the brush tool and low opacity strokes to match the textured wall in the original photo. The TV plant was taken from the original photo and edited into the recreation of the photo. Due to the refresh rate of the television, the image of the screen we had displayed was not received well by the camera we used. To fix this, the image of the game was superimposed onto the television of the recreated shot. The decision to do this was because the original photo did not have a TV glare, so we wanted the recreated shot to be as accurate as possible. The final step of the editing process was to apply a black & white filter, render noise (gaussian distribution), and make minor adjustments as needed to match the original photo's tone, color, and vintage nature. Included below is the original image on the left and our reenactment on the right.

Final Image & Comparison

Citations

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