PONG Clone

Introduction

PONG is an arcade game created by Atari in 1972 and said game would be re-created in Unity as part of understanding how to program simple video games. (Atari Inc., n.d)

Prior to creating the game, some research would be conducted so as to get a rough idea as to how long the original game took to be created and afterwards, a production schedule would be created for the game's eventual recreation in the Unity engine.

Despite the decision to recreate PONG, initially, Pac-Man was meant to be recreated for this project due to being one of the most popular arcade games of all time, but the swap to PONG was done due to PONG being one of the first major video games ever created, as well as being the first game I would be recreating as part of my learning experience.

Production Timeline (Original game)

According to the history timeline on the official Atari website, PONG was likely developed in roughly 5 months, where the first month would be spent on establishing the main ideas and concepts for the game, the following 3 months for the programming and testing, and the final month for publishing and distributing the arcade cabinets.

First Month	Develop ideas
3 months	Programming
3 Months	Testing
1 Months	Distribution
	Estimated Total Time: 5 Months

Production Timeline (Recreation)

Due to the project being a clone of an existing game, as well as the clone being done on modern hardware, the development process should not take a long time to complete, in comparison to the original 1972 game.

Since the ideas are already in place, the first 2-3 days would be spent on setting up the project files, gathering the necessary resources and setting up the scene, the next week or so would be spent programming the game, and the last two days would be spent handling the publishing of an executable file for the game.

31 March	Setting Up project file
31 March – 1 April (2 days)	Gathering of resources (Sprites) and setting up the scene

1 April – 12 April (11 days)	Programming the game
12 April – 13 April	Finalising Project

Software Model to be implemented

Being a clone of an existing game, the Waterfall Model would be implemented due to its linear and straightforward nature and that certain stages of the design process are automatically completed.

Since the original PONG game was creating during the early 70's, and that the Waterfall Model was also created around this time, the game most likely followed said model during its development process.

Despite the implementation of the waterfall model in the original game, the developers most likely may have strayed away from it during various parts of the development process, especially when a design element done during the planning stage did not work as intended during the coding process.

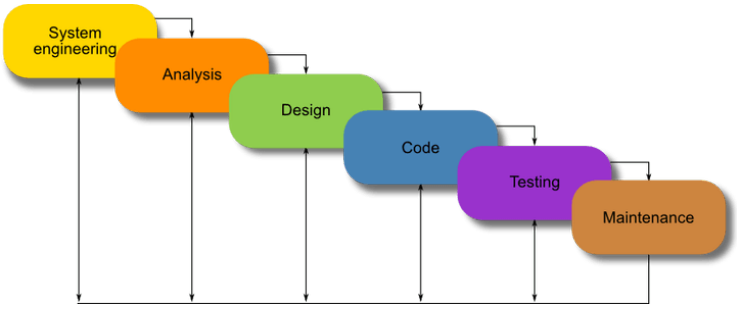


Figure 1 - WaterFall Model *(Morse-Powell, 2016)*

Code Structuring

Original

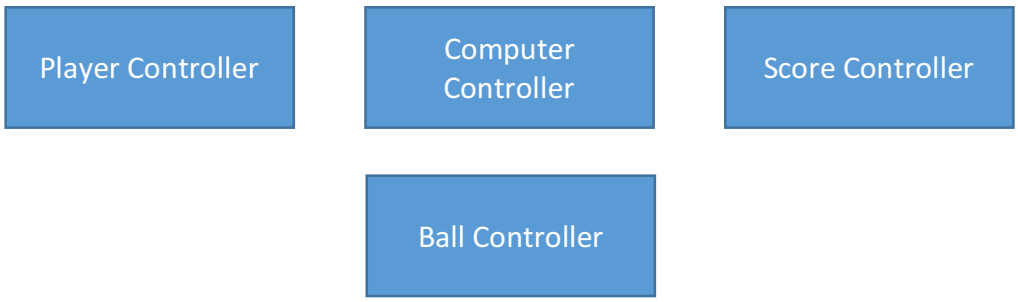
Being an arcade game made during the early 70's, the game was most likely coded using assembly language or the C programming language.

For the recreation

The Clone would be created on the Unity engine using the C# programming language. For said clone which is to be created, multiple C# scripts would be created for each respective area of the game:

- The Player Controller would handle the Left Paddle's Movements

- The Computer Controller would focus on the Right Paddle's AI
- The Score Controller deals with the score
- The Ball Controller would deal with the ball's physics and movements



References

Atari Inc. (n.d). *Atari - 1972 - 1984*. Retrieved March 31, 2017, from Atari: https://www.atari.com/history/1972-1984-0

Morse-Powell, A. (2016, December 8). *Waterfall Model: What Is It and When Should You Use It?* Retrieved March 30, 2018, from Airbrake: https://airbrake.io/blog/sdlc/waterfall-model