**Game Design Documentation**

Introduction

This game is a first-person shooter breakout game. The most inevitable part of developing a game is programming, which is undoubtedly difficult for someone with weak programming skills, but with the help of the UE4 engine blueprint, game programming can be made simple and easy to follow. I did all the programming through the Unreal IV blueprint system, which involved 1. an intelligent navigation system for the enemies and bosses, a pathfinding system, a player discovery system, a player attack system, and a life system that gives life to the AI and can be destroyed. 2. a movement system for the main character, which allows for free exploration of the world. The player's shooting system simulates real-world gun recoil, and bullet scatter. The random blueprint module allows bullets to be fired randomly into areas within the range of the focus, draws the field of view closer when the scope is on, and makes shooting bullets more controllable and precise, for which I made two different sets of recoil and bullet scatter data to try to restore a realistic feel.

FPS games are one of the most popular game modes at the moment, such as PUBG, Call Of Duty, CS GO and many other great fps games. Most of the current fps games are online multiplayer co-op games. I wanted to develop a single-player fps game to remember some of the classic single-player fps games we used to play 10-20 years ago.