



BONAFIDE CERTIFICATE

This is to certify that this record of course work is a bonafide work done by **Ajil Padathuparambil Pappachan**, ID No.: **2018UG03077**, in partial fulfillment of the requirements for the **2nd year B.Sc Game Programming** during the academic year 2019 – 2020 and is an original work of the candidate.

Submitted for the **SPII - Game Engine Architecture** module
assessment held on _____.

Verified By

Staff In-Charge



Game Design Document

PREPARED FOR

Specialist Practice III - Game Engine Architecture

PREPARED BY

Ajil Pappachan

L5 Game Programming

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Game Ideas

Idea 1: Militant

- Third Person Battle Royale Shooter Game
- Online Multiplayer
- Offline Survival Mode
- Based on the 2D Android Game “Mini Militia”

Idea 2: Salt Analysis

- Educational Simulation Game
- Timed puzzle solving genre
- Better implemented in VR
- Based on the Qualitative Analysis of Salts Practical Experiment for Students

Idea 3: Attention In Class

- 3D Casual Game
- Single Player Gameplay
- Fast Paced and Replayable Mechanics

Idea Finalization

After doing surveys and research, the game Idea of “Militant Was Finalized. And per popular opinion, the name of the game was changed to “Militia”.

Game Details

Game Mechanics

- Player controls a third person character
- Player spawns at a random position in the map
- Player can pick up weapons from random drop points on the map and can equip two weapons at a time
- The objective of the player is to survive and kill other players (in Online Mode) or AI (in Offline Mode)
- Players earn points with every kill
- The player with the most points at the end of a preset time wins the game

Target Audience

Since the game portrays shooting and violence, the game is aimed at an audience of 13 years or above.

Tools and Assets Required

- Unreal Engine 4
- Mixamo
- Free Weapons pack for UE4
- Free Environment pack for UE4

Asset Consolidation

The Following Asset Packs were downloaded from Epic Games Store and included in the project:

- FPS Weapon Bundle - By Deadghost Interactive
- Open World Demo Collection - By Epic Games
- Megascans Meadow Pack - By Quixel

Animations for the player character was downloaded and imported from www.mixamo.com. Other 3D models used were downloaded and imported from free 3D model markets of www.free3d.com and www.turbosquid.com

Main Menu Level and Outpost Level was designed and assembled by a student of L5 Game Design and Development, using Unreal Engine.

Hardware Specifications

OS: 64-bit Windows 7 or 64-bit Windows 8 (8.1). DirectX 11 is necessary to run the game.

Processor: Intel CPU Core i5-2500K 3.3GHz, AMD CPU Phenom II X4 940. Finding a Gaming CPUs performance chart and comparing one's CPU with our minimum is suggested.

Graphics: Nvidia GPU GeForce GTX 660 or AMD GPU Radeon HD 7870. Finding a graphics card performance hierarchy chart online and comparing one's video card with our minimum is suggested.

RAM: 6GB

Development Timeline

Build 1 : Basic Level Layout and Character Control

Build 2 : Character Animations

Build 3 : Weapon Pickup System Implementation

Build 4 : Bullet Spawning System Implementation

Build 5 : Health and Boost System Implementation

Build 6 : UI Implementation

Build 7 : Main Menu Implementation

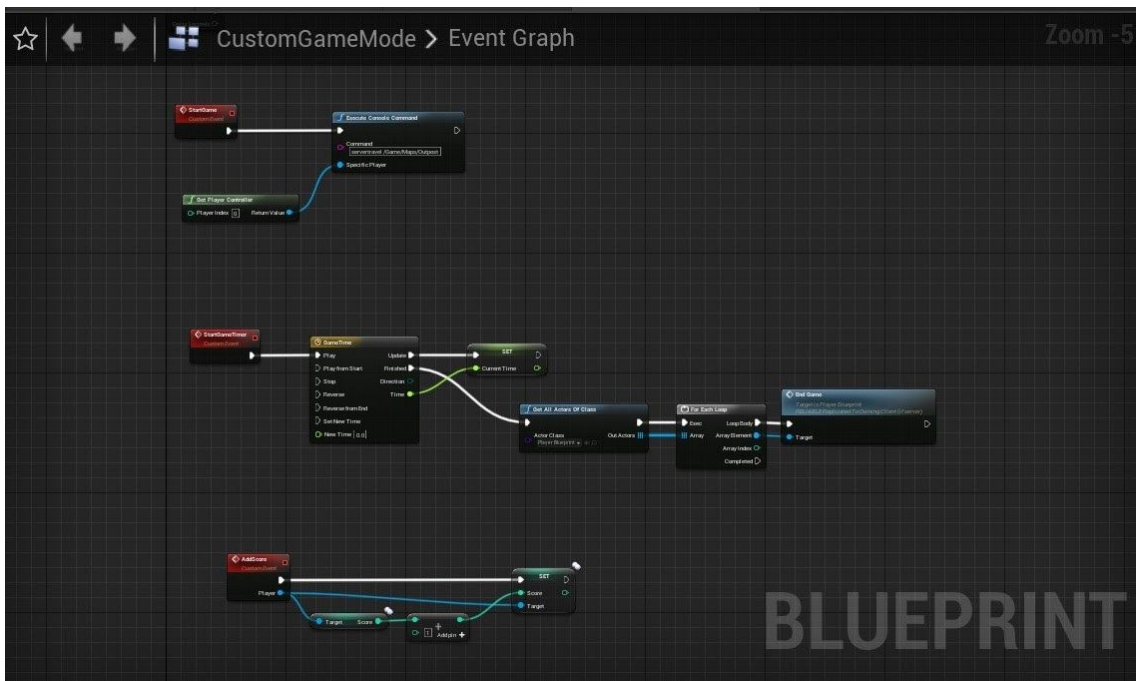
Build 8 : Networking Implementation

Build 9 - 16 : Optimizing Game for Networking

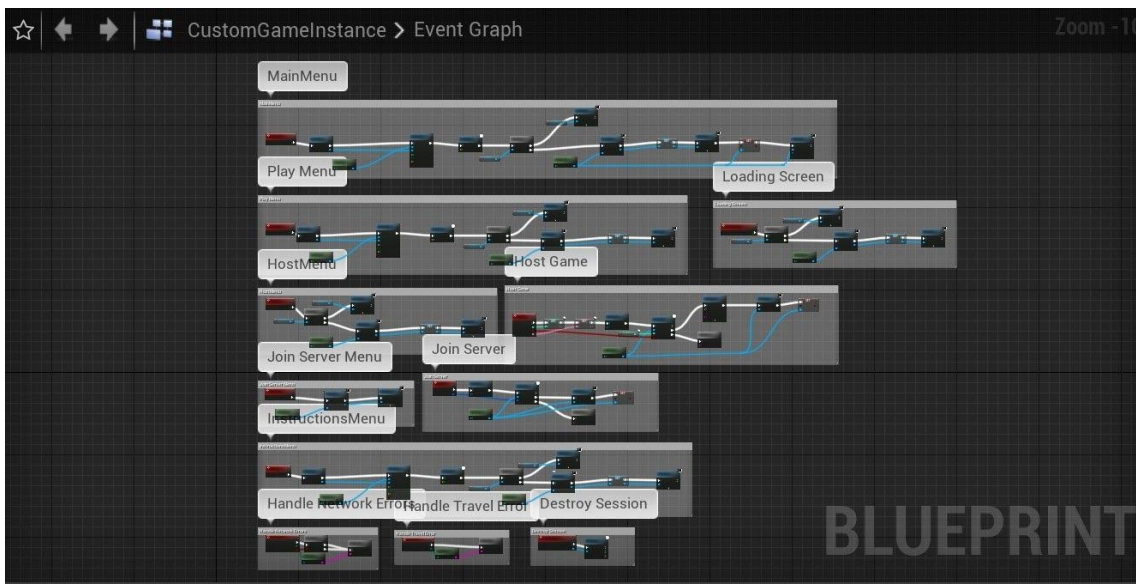
Build 17 - 24 : Bug Fixes and Final Optimizations

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Game Mode Blueprint



Game Instance Blueprint



Gameplay Screenshots

Main Menu



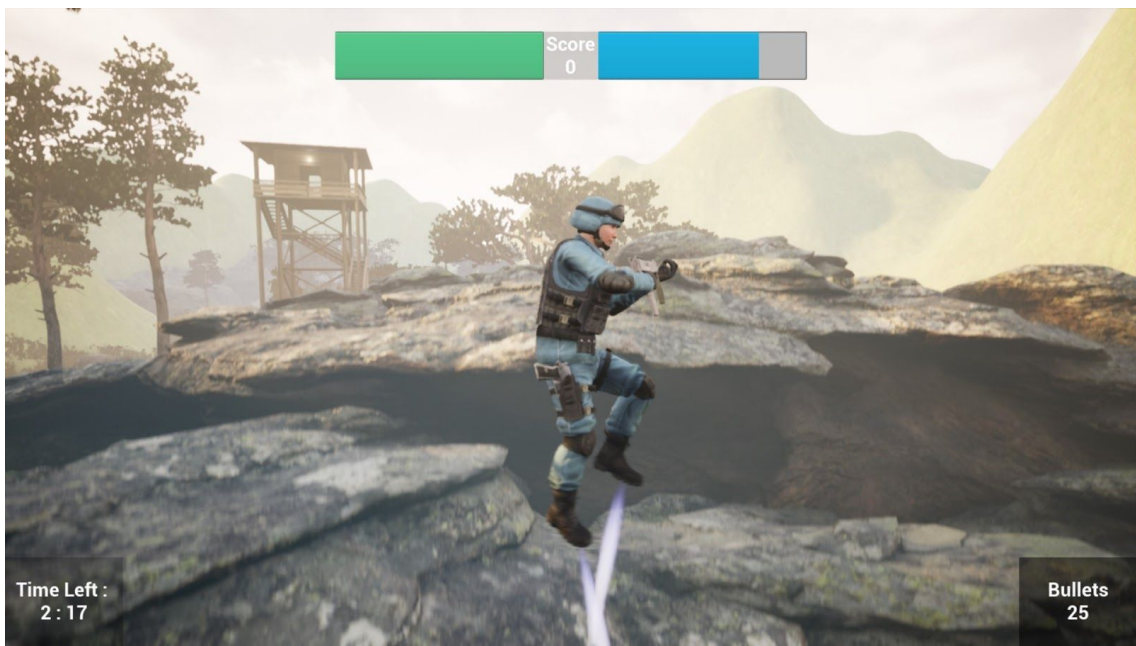
Instructions Menu



Host Menu



Gameplay



Future Enhancements

- Improved Player ID UI
- Weapon Swap System and Inventory
- New Maps
- New Weapons and Throwables
- Lobby and Chat System
- Single Player Mode against AI