James Caleb Way

Bachelor of Science in Computer Science

Dr. Sean Hayes, Project Advisor

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Problem Statement

An aspect of a video game that has good replay value is one that is enjoyable and allows the player to experience something new with each playthrough. However, many games are generic and do not offer diversity in gameplay. Replay value is very important because being able to get more hours of enjoyment from a second or third playthrough of a video game instead of just the initial playthrough is well worth the player’s time and money.

Providing players with a vast number of achievements, secrets, alternate story lines, side quest, starting character classes, etc. adds to the replay value. Games like *Minecraft* and *Valheim* have replay value because they use a seed to generate new worlds. Unlike other games that have predefined worlds the player will not know where items, structures, bosses, etc. are so the player will need to search for them. Additionally, *Detroit: Become Human* has over 40 different endings to the story which encourages the player to replay the game multiple times to unlock all the endings. And games like *Elden Ring* and *Dark Souls* have multiple starting character classes that the player gets to choose from. Each class requires different playstyles which gives the player different ways to play the game.

By implementing random world generation and multiple character classes into the game players can have a new experience with each playthrough. This would allow the player to experience aspects of the game that they missed on the first playthrough and can create more diversity in how the player plays the game.

In conclusion, the lack of replay value of video games can be challenged with procedurally generated worlds and multiple starting classes for the player to choose from to provide diversity and a unique experience with each playthrough.

Project Description

This project is designed to create a melee combat video game with a high replay value. This will be achieved with procedurally generated worlds and multiple starting character classes. The game will be open world where the player can explore in whatever way they choose. Additionally, the player will be able to choose from a wide selection a starting character classes to play as. Because of multiple starting classes and procedurally generated worlds the player can have a different experience on each playthrough.

Proposed Implementation Language(s)

C++ and Unreal's Blueprints.

Libraries, Packages, Development Kits, etc. to be used in in the proposed implementation languages(s)

None at the moment.

Additional Software/Equipment Needed

Unreal Engine 5, Visual Studio Code, and Blender.

Personal Motivation

Many game studios use Unreal Engine to build video games and having an understanding of Unreal Engine 5 will help develop needed skills to enter into the game development field.

Outline of Future Research Efforts

Don't Yet Know!

Schedule

Don't Yet Know!