Creating a Strategy Game Using the Unity Game Engine

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Abstract—**Unity is a software that is used to create video games. The author created a strategy game where the player controls their character by drawing hiragana characters. The implementation of the game uses multiple features that are available on the Unity Game Engine**

Keywords—*Unity; strategy; game; scripts; game engine*

I. INTRODUCTION

A. Unity

Unity is a game engine, a software used to create digital games, that is developed by Unity Technologies. This game engine can be used to develop 2D, 3D, VR, and AR games and can deploy the product to multiple platforms including PCs, consoles, websites, mobile devices, and TV platforms. Unity also provides additional tools and resources to help users create the game as they want. Tools and resources include the Unity Asset Store, where people can find assets that other users have created, Unity Analytics, a dashboard that contains analytics of how people plays the video game, and many other tools.

Unity has four licensing options, one of them, the Personal license, is available for free and already contains most of the features required for users to create a game, the other three, Plus, Pro, and Enterprise, are available for a monthly price and includes extra support to help people further develop their games and have Unity tailor-made for them. The availability of the free personal license and how easy it is to use Unity makes it a very popular option for creating small scale games, but there are also a lot of large scale games that are created using Unity.

Because Unity is very easy to understand and it also has a community that is very active, it is a good option for people without that much experience in developing games to start going into the game industry.

B. Strategy Game

Strategy video games are video games that require the player to be able to think and develop a plan to successfully complete the game. Strategy games usually gives the player multiple units that they can control, each with their own strengths and weaknesses and the player must be able to take actions that are best suited for specific conditions. Besides controlling units, players usually also have to manage resources which are limited.

II. GAME DESCRIPTION

The goal of this game is to defeat all the enemies. The enemies will come in waves (a certain amount for a period of time) and the player has to defeat the enemies before the enemies reaches the player's base or the player will lose.

The player can control their units by drawing hiragana characters. Different units will require different characters to be drawn, and the more powerful units will require harder characters.

III. GAME IMPLEMENTATION

A. Units

One of the main features of Unity that are used in creating units are prefabs. Prefabs are object templates that can be used to create multiple of the same object without having to set everything one by one each time. Because the player can have multiple of the same units at a time this feature is very helpful.

B. Detecting Hiragana Stroke

To detect the player's input we used colliders. When the player touches the colliders it will register as a stroke by the player

C. Menus

Menus are implemented using the UI features of Unity. Unity uses a unique element to apply UI which is called a canvas, all UI elements are child of the canvas. UI elements include buttons, sliders, texts, and other UI related items.

IV. CONCLUSION

In conclusion, the unity game engine is a good way to start developing games for beginners because it is very easy to understand.

ACKNOWLEDGMENT

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