COS30031 Spike03 Engine report – GODOT

## Features

* Specialised 2D workflow for games and apps
  + Real 2D and pixel-based unit system (no worrying about z axis)
  + Tile map editor
  + Flexible GUI system (The editor itself is an example)

A screenshot of a computer

Description automatically generated

* Simple yet powerful 3D engine
  + Supports high and low end devices (mid level androids to desktops)
  + Robust importing pipline, allowing for animated models and objects to be easy imported and viewd
  + Animated videos and prerendered cutscenes allowed with new 4.0 update.
* Lots of Code support for different languages
  + Has its own, built-in scripting language, GDScript that is inspired by Python and some other languages.
  + Has .NET support as a dedicated engine executable.
  + Due to being open source, there are a number of community supported languages.
* Nodal structure
  + Many things in Godot are created from these nodes, such as characters, scenes, items, making them all easy to link up and structure.

Godots biggest feature is that it is open source. This is a large advantage over Unity and Unreal for 2 significant reasons:

* Its completely free.
* Its far more customizable.

Pricing (I am going to compare it to Unreal over unity as Unreal has the better pricing)

There is 0 cost to developing in Godot, unlike Unreal’s eventual royalties (5% after 1mil gross revenue) allowing for small developers to profit more from the games they make, assuming they do well.

Customizability

With the open source nature, far more community created extensions and features have been created for Godot than would have been in the same time for Unity or Unreal.

There is also the fact that Godot is significantly lighter weight than Unity is, with the editor launching noticeably quicker and having a lower impact on performance.

## Platforms

* Linux
* MacOS
* Windows
* Android
* iOS
* HTML5, WebAssembly
* VR headsets

There is no difference between the engine on different platforms, it all runs the same once complied and exported. Godot has inbuilt support for all these platforms, the only tricky ones are the 2 mobile ones, with android needing the SDK and iOS needing to be routed through a macOS running computer with Xcode (these are necessary for basically all apps anyway).

## Games

Almost all games that have used Godot so far have been indie games. Examples include:

* Brotato (excellent roguelike/bullet heaven)
* Luck be a Landlord (roguelike slot machine, not actual gambling)
* Buckshot Roulette
* Halls of torment
* Cassette Beasts (pokemon like)