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Class code: COS30031

Start date: 02/08/2024

## Framework Analysis

We all know what a game framework is, a collection of libraries and tools that help simplify some aspects of game development. At this document I'll talk about 3 frameworks: Monogame, FNA, and Kha.

**Monogame** is an open-source framework that mainly uses C# language and other .NET languages on Microsoft. The recommended IDEs to use this framework are VS Community (most recommended), VS Code and JetBrains Rider. Monogame allows the user to build cross-platform games, since it works for IOS, Windows, Linux, Android, all 3 actual game consoles, etc. As I said before Monogame is an open-source framework which is available from GitHub.

**FNA** is a framework that uses C# language, and it works mainly as a reimplementation of the Microsoft XNA Game Studio libraries. FNA primary focus are desktop devices, and therefore, it supports Windows, MacOS, and Linux. But FNA does not ignore game consoles or mobile devices, since they also support IOS, Xbox devices, Nintendo Switch, and the beloved (not really) Google Stadia. Lastly FNA is also open-source and uses other open-source software to work.

**Kha** is a framework that uses C++ language, and it can also work with cross-compatible code. It allows us to make applications that are native to desktop, mobile devices and all actual consoles. Kha works better on VS Code than on other IDEs; it even has an extension pack to make the installation easier. Lastly, just like the other 2 frameworks, Kha is open source, allowing developers to modify what they need at their free will.

## Comparative between Monogame VS FNA.

	Monogame	FNA
<b>Similitudes</b>	<ul style="list-style-type: none"><li>• Both are based on Microsoft's XNA framework.</li><li>• Both aim to provide cross-platform capabilities, to allow developers the ability to make games on different operating systems.<ul style="list-style-type: none"><li>• Both use the same programming language, this being C#.</li></ul></li><li>• Both are Open-Source frameworks, allowing continuous support from the community.</li><li>• Writing about community. Both frameworks have active communities that works to improve their respective framework.</li></ul>	
<b>Differences</b>	<ul style="list-style-type: none"><li>• Monogames' aim is to be a modern, rich in features and forward-looking framework, that acts as an extension of the original XNA.</li><li>• Monogames fully supports the development for most platforms, from desktop (like Windows or Linux) to consoles (e.g. Xbox &amp; Play Station).</li></ul>	<ul style="list-style-type: none"><li>• FNA wants to provide an accurate and faithful recreation of XNA.</li><li>• Although FNA allows the development of a lot of platforms, it focuses mostly on desktop, lacking the support for console platforms.</li></ul>

There are more similitudes and differences, but these are the ones that I thought were the most important.

## Overview between C# frameworks and Kha.

	Monogame & XNA	Kha
Game development	Both Monogame and XNA allow developers to make the coding and implementation (e.g. rendering graphics,	In game development Kha would work better in the platform management, where the easier to port from platforms the better.

	implementing game logic, etc.) part of the game easier.	
Games best suited	Monogame and XNA are best suited 2D games, and for 3D games, but most specifically simple 3D games and retro style 3D games.	The games that work best for Kha are casual 2D games, but it also works well on browser games.

I decided to divide the comparison of Monogame and XNA, and the Overview of the frameworks because Monogame and XNA are pretty similar.

## References:

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*MonoGame* | *MonoGame*. (n.d.). <https://monogame.net/>

*FNA*. (n.d.). <https://fna-xna.github.io/>

*Kha*. (n.d.). <https://kha.tech/>