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Csci452 Topics in Computer Science. Project Topic: Indie game development in 2024/5

General Background:

Background: in the past 10 years game development has been easier due to the development of game engines. But sometimes a good game needs development from scratch and for the person to make his own game engine. I will be presenting all the different games I made in the past as examples: -Java- native : Snake Game. -Java- LibGDX framework: Water Drop Catching. -Dart- Flutter : Pokémon like top-down RPG for mobile + DB -GML- game maker : harvest moon like top down RPG for PC -C#- visual studio: multiple choice question game. The purpose is to compare time vs effort and quality and cost. Since the market leaders in this domain are unity and unreal engine. But some creative people are able to turn profit games with low-end cost simply by understanding the different concepts of game development and the needs of the final product. This is why we will be studying the following sequentially in our research: -What is a game engine -Source engine(Used by valve the company that owns the steam store) -Unity vs Unreal -Developing your own game engine - game maker and GML(case study) -Flutter vs Visual studio(preliminary) -Cross platform development –

Comparing each of the before mentioned software(Table):

Engine, Language, Target, Cost ,Learning Curve, Efficiency.

I will be using as reference indie developers that were able to achieve success by understanding these concepts and the methods they used.

Context Information:

-brief history of Nintendo: (Pokémon, Harvest Moon, Super Mario)

-Indie Success stories: (Minecraft, Angvik, StardewValley, Valheim)

-Games I developed as examples:

Snake(java native), Bucket(java libgdx),Lebamon(flutter),greenfields(GML),multiple choice(Visual Studio).

-Game engines: Unity, Unreal, Game maker,

- Dev software: Visual studio, Libgdx, Asperite/Illustrator, 3d max/autodesk maya/blender
- Indie developers as examples: Eric Barone, Markus Alexej Persson, Jason Thor Hall.

Project Goals:

Understanding the fundamentals of Indie game development, recognizing commercial vs hobby project, building your development environment, Engineering a successful game.

Objectives:

Architecture,

Design,

Scope,

Asset Creation & curation(open game art),

Optimization,

Integration,

Testing(pre alpha to closed Beta & Marketing)

Final example Showcase:

Greenfields(the most optimized game in my collection: Made with game maker using gml coding language.)

References:

- Indie dev's personal YouTube channel and select videos
- Game journalist websites and reviews
- Steam ratings
- Successful KickStarters.