

Clash of Knights

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Introduction

Our aim was to learn game and app development using Unity. A new game - Clash of Knights is proposed for board size varying from 4 x 4 to 8 x 8 as per the user input. The project is created in Unity using the interface provided by the unity and C# as supporting language for the Scripting purpose.

How the Game Works

- The play area is defined with the size selected by the player i.e. for 4x4, the board play area is restricted to 4 rows and 4 columns from the down-left. The knights are spawned at the end blocks of the play area (diagonally opposite)
- The game starts with spawning 2 knights of the opposite teams (green and white) diagonally opposite at corners i.e. green knight at the left uppermost corner and a white knight at the right lowermost corner as per the board size selected.

Technology used

The technologies used are Unity and C#.

A typical workflow when working with assets on Unity:-

- Import-Importing is the process of bringing your source files into the Unity Editor to work with.
- Create-During the creation process, you can decide on a strategy on how to group your assets into separate bundles, and implement the code for choosing when to load them.
- Build-Building refers to the process of exporting your completed project to binary files which you can then distribute and run on the platform of your choice.

We used C# as it broaden our horizons and give us the ability to create custom and complex features, unlocking the full potential of the Unity game development 3D engine.

Some of the main library used in the C# for controlling the function in the unity environment :

- UnityEngine.SceneManagement
- UnityEngine.UI
- UnityEngine
- System.Collections.Generic
- System.Collections

Rules of the game

- Knights can move as per their designed moves in chess i.e. L-shaped
- Knights can't kill each other
- As soon as the knight moves to any block on the board, the previous position gets inaccessible for both the knights and the play area reduces
- The game continues till either of the knights gets out of moves i.e. if there is no block left for the knight (whose turn it is) to move, the opponent's knight is declared as the winner



Figure 1:
Gameplay Screen



Figure 2:
Home Screen

Result

The final apk file and source code for the game is available on github: <https://github.com/Akhil-Sharma30/AI-BASED-2-PLAYER-GAME>.