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# **CS427 - Game Development and Visualization**

## **Mini project 1: 2D Games**

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### **REPORT**

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#### **I. Idea:**

The game is about an adventurous fox in a world called Sunny Land. The fox must overcome obstacles and collect as many cherries as possible and return to his home.

#### **II. Feature:**

- The game has two levels.
- There is a main menu for players to watch the tutorial and start playing
- Each level has many enemies (some enemies are designed as pitfalls) and rewards. Game also includes a system to control the lives of character (heart system)
- Interact with the keyboard to control the character

#### **III. Techniques:**

Using Tilesets to build map:

Using Tile Palette and Tilemap Collider 2D

Main Menu, Score and Hearts Bar:

Using UI and TextMeshPro

Enemy system:

Create a script enemy and every type of enemy inherited enemy script. Frog enemy has an AI system to identify where the ground is so that it does not jump into abyss. In addition, We put 2 left and right points to limit the reach of the frog.

Sound system:

Using audio source

Some C# script to manage the physical system and gravity in the game

Camera moves along with players

Using cinemachine and cinemachine confiner to control the game screen.

#### **IV. Resources:**

- Game  
Resource: <https://assetstore.unity.com/packages/2d/characters/sunny-land-103349>
- Health  
Bar: <https://assetstore.unity.com/packages/tools/gui/simple-heart-health-system-120676>
- Background  
Sound: <https://assetstore.unity.com/packages/audio/music/music-starter-kit-63054>
- Another  
Sound: <https://assetstore.unity.com/packages/audio/sound-fx/sound-fx-retro-pack-121743>
- Footstep character  
sound: <https://assetstore.unity.com/packages/audio/sound-fx/footstep-snow-and-grass-90678>
- Destroy enemy  
sound: <https://assetstore.unity.com/packages/audio/sound-fx/retro-noisy-explosion-sound-pack-lite-69305>