SCS 3213 / IS 3112 / CS 3213 - Game Development

Guidelines for the group assignment

- Create a 2D or 3D game with 2 or 3 levels using any of the tools such as Three.js, Unity, Unreal, Godot game engine
- No restrictions on using libraries or frameworks.
- Your application should demonstrate behaviors and physics(player(s) and NPCs should move, clash, fight, sounds etc..)
- You can create any type of game where you have the freedom to be creative and choose your own design for a 2D or 3D game.
- Demonstrations and viva will take place on the **3rd of September 2025 (Wednesday)** from 3.00 p.m to 7.00 p.m. Please note that the game should be playable during the demonstration.
- All the members must contribute to the development of the game. During the demonstration we will evaluate the individual contribution.
- Some of the game ideas are listed below. You are not obligated to follow the following ideas.

1. Stealth Adventure Game

Concept: Players control a character who must navigate through different environments while avoiding detection by enemies or cameras. The objective is to complete missions by gathering information or stealing items without being seen. **Features:**

- **Level 1:** Simple layout with basic enemy patterns and minimal hiding spots.
- **Level 2:** More complex environment with added security measures like cameras and guards with varying patrol patterns.
- **Level 3:** Incorporates gadgets or tools like noise-makers or invisibility cloaks to create distractions or bypass security.
- Multiple ways to complete each level, encouraging replayability.
- Scoring based on time taken and level of stealth (fewer detections increase the score).

2. Puzzle Platformer with Environmental Interaction

Concept: Players solve puzzles by interacting with the environment, moving objects, or manipulating physics to reach the goal. The platformer combines traditional side-scrolling action with brain-teasing challenges.

Features:

- **Level 1:** Basic puzzles involving moving blocks or flipping switches to open doors.
- **Level 2:** Introduces elements like water, fire, or electricity that the player must manipulate to solve more complex puzzles.
- **Level 3:** Combines multiple environmental elements, requiring the player to think creatively and use timing to progress.
- Additional challenge modes or hidden collectibles for completionists.

3. Rhythm-Based Adventure Game

Concept: Players must perform actions in time with the music or rhythm to progress through the levels. The game combines rhythm elements with traditional adventure gameplay.

Features:

- **Level 1:** Simple rhythm sequences that align with basic movements like jumping or attacking enemies.
- **Level 2:** Introduces more complex rhythm patterns and environmental interactions, such as triggering platforms or avoiding obstacles.
- **Level 3:** Combines rhythm challenges with boss fights or timed sequences that require precision and quick reflexes.
- Customizable soundtracks or themes that change the rhythm patterns and difficulty.

4. Time-Loop Mystery Game

Concept: Players are trapped in a time loop and must solve a mystery by gathering clues and making different choices across multiple iterations of the same day. Each level represents a new loop with slight variations.

Features:

- **Level 1:** Introduces the time loop mechanic with simple choices and a basic mystery to solve.
- **Level 2:** Adds more layers to the story, with multiple characters to interact with and branching storylines depending on the player's actions.
- **Level 3:** Complex puzzle-solving and decision-making, where the player must piece together clues from previous loops to break the time loop and solve the overarching mystery.
- Multiple endings based on player decisions, encouraging replayability.

5. Strategic Defense Game

Concept: Players must defend a base or territory against waves of enemies by strategically placing defenses and upgrading their capabilities. The game combines elements of real-time strategy with tower defense.

Features:

- **Level 1:** Basic enemies and defense options, introducing core mechanics.
- **Level 2:** Introduces new enemy types with different abilities and more advanced defense options like traps, turrets, or units.
- **Level 3:** Combines large-scale battles with multiple waves of enemies, requiring careful planning and resource management.
- Dynamic weather or environmental changes that affect gameplay, such as storms that reduce visibility or earthquakes that alter the map.