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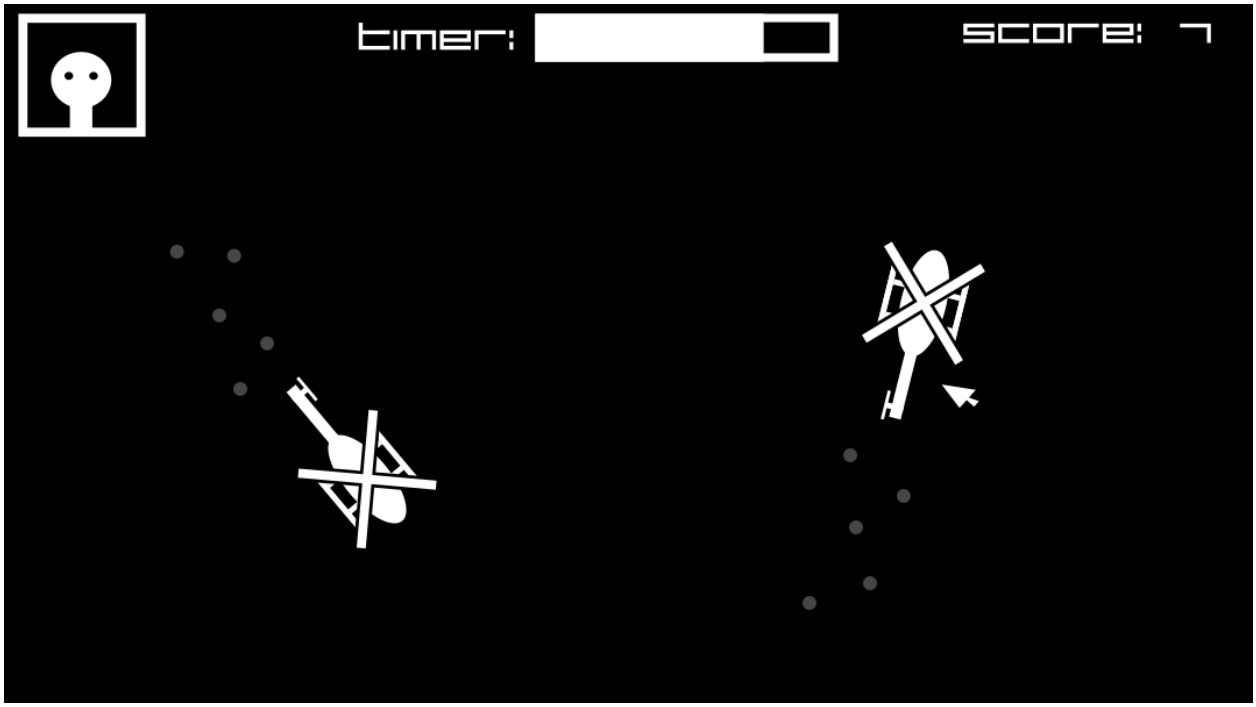
# Assignment 2 Planning




**Game breakdown:**
The game revolves around destroying helicopters by clicking on them - every time one gets destroyed, another one gets spawned in a random location. The goal is to click as many as you can within a 10-second time limit.

**Interactivity breakdown:**

**1) Mouse input must be the primary means of interaction**

- The player clicks on a helicopter to “destroy” it. They have approximately 10 seconds to destroy as many helicopters as they can.
- Instead of actually destroying the helicopter object, it will disappear then randomly teleport to another location, making it seem as if another instance was spawned in.

**2) At least 2 distinct UI elements that serve different purposes (eg HUD, health bar, inventory meter, interface buttons, etc)**

- 1st element: A decreasing slider to represent a 10-second timer
- 2nd element: A TextMeshPro element that counts how many helicopters the players destroyed (i.e. their score).

**3) At least 1 Animator Controller using at least 4 different animation clips**

- The top of the screen will have a “facecam” that responds to the player’s actions by changing the animation clip state.
    - Before the game starts, the character will be in a ***neutral*** state.
    - If the player clicks on a helicopter quickly, the character will enter a ***happy*** / positive state, before returning back to neutral.
    - If the player misclicks or clicks slowly, the character will enter a ***sad*** state, before returning back to neutral.
    - When the game ends (after 10 seconds), the character will enter a ***celebratory*** state (i.e. it’ll play a cheering animation) until the player restarts the game or returns to the menu.

**4) One vector math calculation from the following:**

a) Calculate the direction between two points for the purpose of moving a game object

- When the helicopter spawns, it randomly generates two points - one spawn point and one “destination” point. The helicopter will spawn at the first point, and move towards the second point.

**5) At least one example of linear interpolation of values (eg position, speed, colour, etc) using Lerp with an Animation Curve**

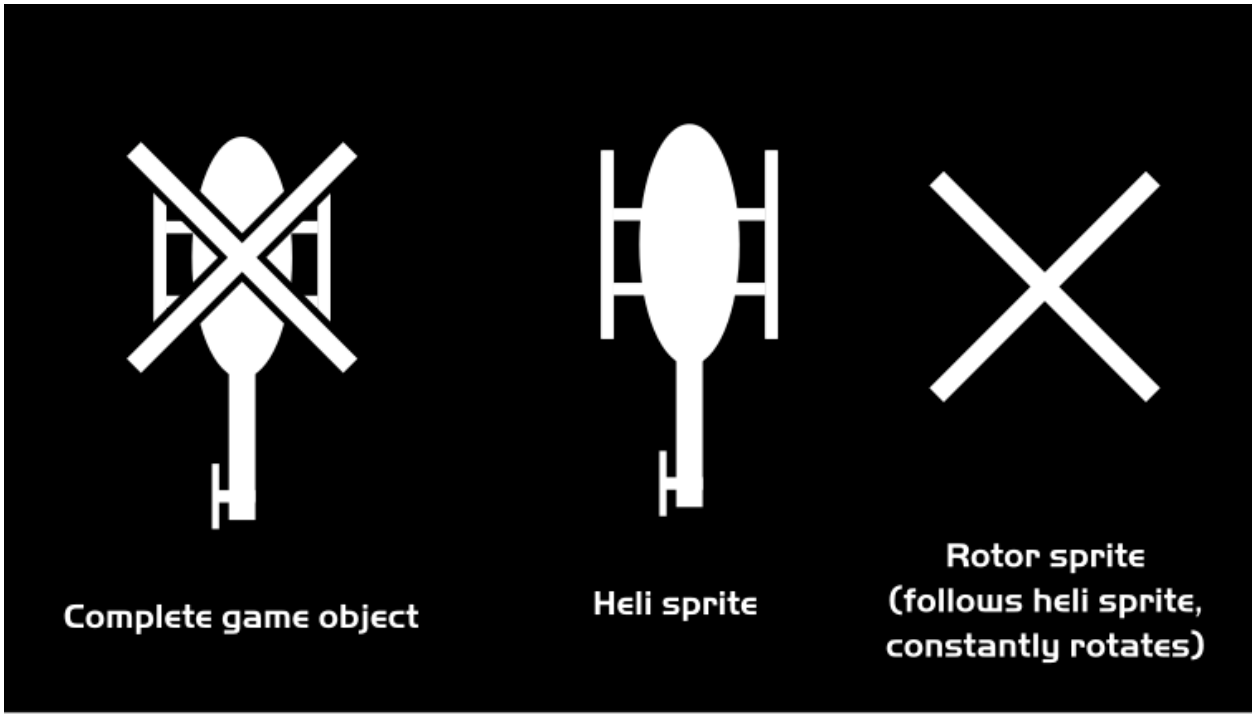
- When the player destroys a helicopter, it will disappear in the same way that planes land from the in-class assignment (i.e. the sprite will scale down).

**6) At least 1 example of inter-object communication using SendMessage**

- When the player clicks a helicopter, SendMessage will be called to “destroy” it.

**7) At least 2 scenes (eg title scene, menu scene, game over scene, plus the game scene)**

- Scene 1: Main menu (links to the game scene)
- Scene 2: Main game scene
- Scene 3: Game over screen (shows the player’s score, lets the player restart or go back to Scene 1)




**Helicopter object breakdown:**

The helicopter consists of a main body sprite, and one ‘rotor sprite’ that follows the heli’s position and rotates at a constant speed.

It can use the same movement / spawning code as the plane landing in-class assignment, combined with the ‘attack’ function of the knight to click on it.