

Hello, this is my explanation of the thought process behind the implementation of this task. I completed the assignment in the 2-day span required by doing the following steps:

Gameplay implementation (12 hours)

- The most important part for me was implementing a proper skateboard movement aligned with the task requirements and have user-friendly controls. I am not familiar with skateboard games, so I had to do some research on how other games solve the control problem.
- The skateboard is a custom C++ Pawn with a static mesh as the root component. There are methods for accelerating, steering and jumping. Extra logic is implemented to check whether the skate is in an impossible rotation (a.k.a. the player has fallen off the skate) or if the skate is near the ground (to avoid the player from air jumping).
- Most of the game classes are built with C++ and have BP derived classes that adjust parameters.

Level design (6 hours)

I must admit that I am not very skilled at level design. My starting point was checking the City Pack asset pack that you provided and tried to use the map already available, but it was extremely large and useless for this project.

I ended up migrating many of those assets and creating a very small landscape where I placed the obstacles and props.

An obstacle class was created that contains a static mesh and a trigger that is fired when the player passes it. Variations of this obstacle (as blueprint child classes) were created with the props available.

UI (2 hours)

Three widgets were implemented for this game. A gameplay widget that displays the timer and the obstacles passed. The other widgets are displayed when the player loses or wins the game. These widgets are added to the viewport by the HUD blueprint class.

Sound integration (1 hour)

To improve the player experience, I searched for some basic sounds available to use for the skateboard and other game events as well as a relaxing song to play in the background. These were trimmed and integrated into the game logic.

Testing and adjustments (2 hours)

The obstacles triggers were fixed for a proper detection of the player jumping over them. I also decided to increment the timer for every obstacle passed by the player. This makes for a more fun experience as you try to keep jumping over obstacles to avoid losing.

I spent approximately 23 hours on the assignment over the course of two days.