

Carolina Pereira - Skateboarding Simulator Task

Development Overview and Self-Assessment

The goal of this assessment was to develop a functional skateboarding simulator prototype, focusing on responsive player control, basic skating mechanics, and a simple but coherent gameplay loop. From the beginning, my priority was to ensure that the core mechanics felt solid before expanding into level design and UI.

I started by implementing **player movement and animation**, as this is the foundation of the entire experience. This included character locomotion, rotation, jumping, and animation blending, using a Mixamo jump animation to meet the requirements. Establishing smooth transitions and grounded movement early on helped prevent issues later in development.

Next, I implemented the pushing (speed-up) functionality. Instead of treating slowing down as a separate triggered mechanic, I designed it as a natural consequence of gameplay, where the player gradually loses speed after pushing. This approach felt more intuitive and aligned with the physical behavior of skateboarding.

After the movement mechanics were solid, I introduced the points system through collectibles, which are earned by successfully jumping over obstacles. To enhance visual feedback and player engagement, the collectibles were given a subtle looping motion animation, moving up and down to make them more noticeable.

With the gameplay loop established, I designed a simple and clear HUD to display collectible progress and basic control information, keeping the UI minimal so the focus remains on gameplay.

For the environment, I used a free marketplace level as a base. Since the original asset was very large and heavy, I significantly reduced and adjusted it, removing unnecessary sections to optimize performance and better suit the scope of the prototype while still providing a believable skate park/street setting with jumping obstacles.

During development, I identified several features I would have liked to expand further, such as dynamically adapting the skateboard and character's feet to the ground and implementing custom lateral movement behaviour when moving sideways. However, I consciously chose not to pursue these additions, as they would have required significantly more development time and risked destabilizing existing systems.

Overall, I believe my performance was strong, particularly in planning and prioritization. By focusing on core gameplay first and layering features afterward, I was able to deliver a complete, functional prototype that meets all required features within the given scope.

Task	Duration
Movement Functionality	6 hours
Small Designed Level with Jumping obstacles	3 hours
Jumping	1 hour
Pushing Functionality	3 hours
Slow Down Functionality	4 hours
Points system	4 hours
Animations	3.5 hours
TOTAL	24.5 hours