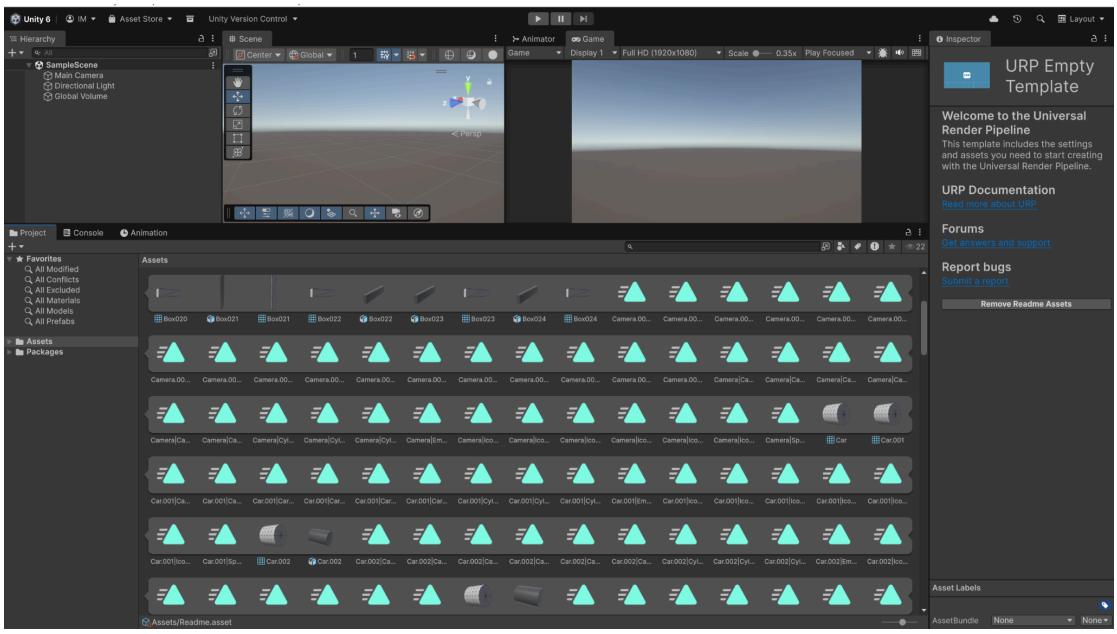
We recorded gameplay from the Cheese Land map in **Mario Kart 8 Deluxe** because that track has a lot of interesting movement happening at the same time. There's drifting around corners, small jumps and flying sections, and moments where you overtake NPC racers. We chose a clip that had all of these things happening together because it gave us a good challenge to try to recreate. We also included a Chain Chomp animation that triggers when the player drives past it, just like in the real game.

For our first prototype, we only used primitive shapes (cubes, spheres, planes, etc.). Even though it was simple, the basic motion looked surprisingly close to the real gameplay. The timing and overall path were similar, but there were still a lot of things missing mainly the visuals, the feeling of speed, and the ability to clearly see how the player was steering or reacting. Because everything was made from simple shapes, it was harder to understand what the "car" was actually doing, and there was no way to show things like tire rotation or drifting.

Once we moved on to the version with assets, the scene looked much better. We added our downloaded models, plus a bunch of custom objects we made ourselves such as the fences, the road pieces, and some props. With the new models, the animation felt much closer to the reference video. You could clearly see the direction the car was facing, how it moved on the curve, and the overall animation looked more believable.

The biggest problem we had was when exporting animations into Unity. When we exported the file, Unity created over 100 animation clips automatically. We wanted only one clean animation clip, or at least one clip per object that actually had keyframes, but Unity split everything into tiny clips. This made the workflow extremely messy, and we couldn't find a proper fix in time. Because of this issue, we decided to finish the asset based prototype fully inside Blender instead of Unity.



Even inside Blender, we still faced a few challenges. When the car followed the curve, sometimes the tires would slightly go through the floor at certain points. When we tried fixing this by adjusting the Bézier curve, solving one part would cause another part to break. Another problem was that most of the models we used did not come with rigs, so we couldn't animate things like tire rotation, suspension movement, or steering. Those details would have made the animation look even more accurate, but they weren't possible without re-rigging the entire car model.

Overall, adding assets definitely improved the final result, and the prototype feels much closer to the real gameplay. There are still small issues, but for the time and tools we had, the outcome shows the main ideas well using curves, triggers, motion, and timing to recreate the behaviour from Mario Kart.

Assets used -
https://sketchfab.com/3d-models/chain-chomp-super-mario-bros-dd1c74820f694990a3715e137ec30c5d
https://sketchfab.com/3d-models/wii-u-mario-kart-8-gold-glider-0d9f7c3cfc9c431c82ba91874819ad92
https://sketchfab.com/3d-models/sports-bike-a80259b859c842d5824c25c61e0fc421
https://sketchfab.com/3d-models/mario-kart-8b846b10ea9f45359c0197191a117800
https://sketchfab.com/3d-models/banana-peel-mario-kart-c7fd163741614859ba02f302ce0bce32
https://sketchfab.com/3d-models/boo-super-mario-bros-e0e42b39cc5a4de79469ecc2d1b33f78
https://sketchfab.com/3d-models/mario-mushroom-25ceb29e25ac4a11b244a291af7d6345