Kungliga Tekniska Högskolan
School of Computer Science and Communication

DH2323

A Nice Title

Project Documentation

Michael Hotan
Alexandre St-Onge

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1 Introduction

For this project, we designed and implemented a Unity application to simulate bike traffic in a park scene. In phase 1 of the project we first created a park scene containing a road, park bench, trees and light sources. In phase 2 we started working on the bike traffic. Finally, in phase 3 we worked on shader to apply to our cyclist model.

2 Documentation

2.1 Rendering a scene in Unity

The first step in this project was to create a realistic park scene to use as a background for our application. The simplest way to do this was to use the built-in terrain feature of Unity. With the terrain object we were able to easily obtain a grassy plain with trees and hill. Next we used Jacek Jankowski's street kit[3] to setup a road for our future bike traffic. From there, since we knew we wanted to work with some shader for our bike model, we added some street lights that we got from the asset store[1] and some park bench[2]. Appropriate material for the sky were used with Unity's skybox to obtain a nice sky for the scene. For the daylight scenario, a single directionnal light is used for the sun, while the nightime scenario uses one spotlight attached to each of the four street lights.

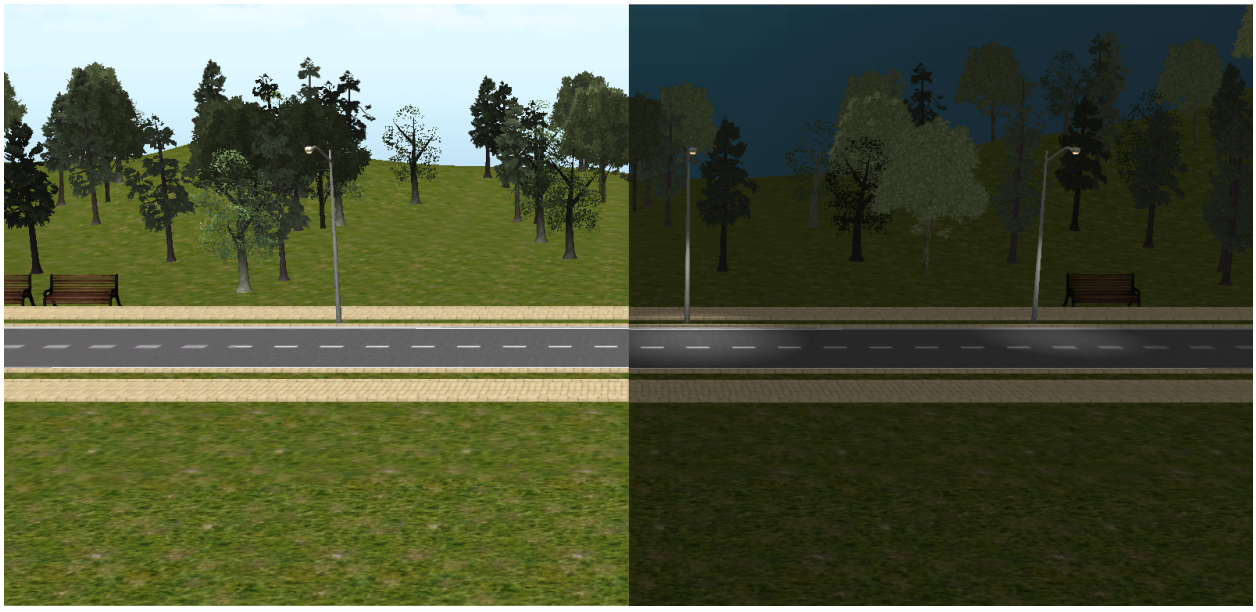

Figure 1: Park scene in Unity

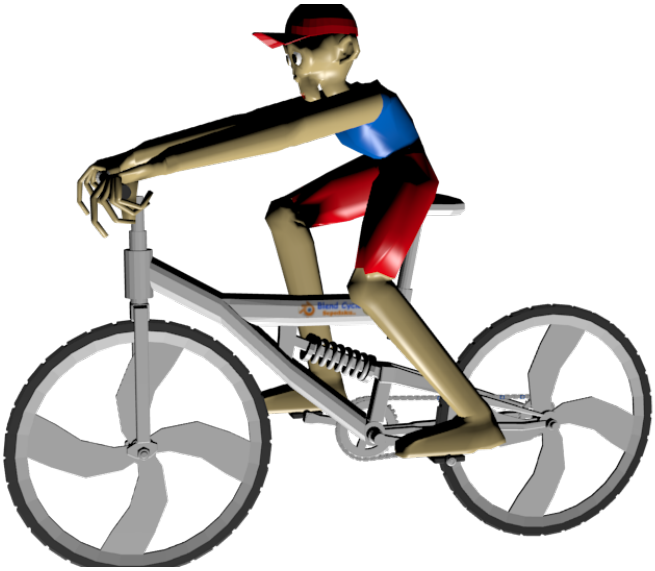

Figure 2: Bike 3d model found on `blenderswap.com`

2.2 Rendering the cyclist

References

[1] Adam Badke. *Urban Props*. URL: `https://www.assetstore.unity3d.com/#/content/708`.

[2] Universal Image. *ParkChair*. URL: `https://www.assetstore.unity3d.com/#/content/850`.

[3] Jacek Jankowski. *Simple Modular Street Kit*. URL: `https://www.assetstore.unity3d.com/#/content/13811`.