3D MODELS FOR VIRTUAL REALITY

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Outline

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About the course

This course starts one’s journey to making Virtual Reality environments.

In this course we get familiar with the nuts and bolts of 3D illustrations.

We learn strategies like materials and textures that cause your items to seem sensible.

We get familiar with the entirety of this utilizing the expert game and VR motor, Unity3D.

Unity is quite possibly the most utilized game engine and is a generally simple, however completely highlighted, prologue to 3D turn of events.

The course comes full circle in an undertaking in which one will make his/her own VR scene.

Introduction

Virtual Reality

- Virtual reality (VR) alludes to a computer produced reenactment in which an individual can associate inside a counterfeit three-dimensional climate utilizing electronic gadgets, for example, unique goggles with a screen or gloves fitted with sensors.

3D models

- Three-dimensional (3D) models represent a physical body using a collection of points in 3D space, connected by various geometric entities such as triangles, lines, curved surfaces, etc. Being a collection of data (points and other information).

Aim/Objective

To learn the basics of 3D graphics: how we create objects and how to lay them out to create an environment.

To learn techniques like materials and texturing that make your objects appear realistic.

To create your own VR scene.

Tool used(Unity)

Unity is the world’s leading platform for creating and operating interactive, real-time 3D content, providing the tools to make amazing games and publish them to a wide range of devices.

The Unity core platform enables entire creative teams to be more productive together.

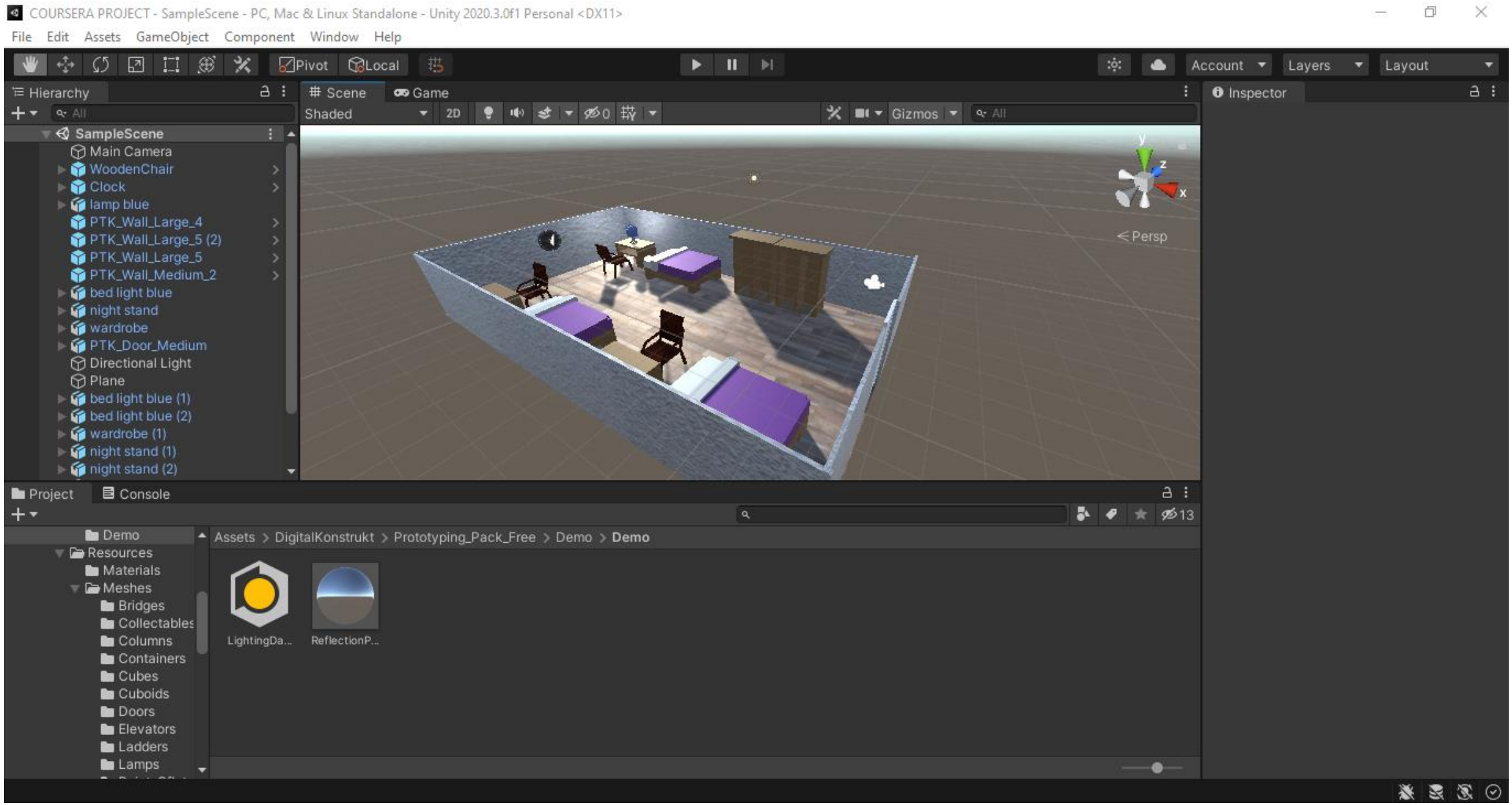
The engine can be used to create three-dimensional (3D) and two-dimensional (2D) games, as well as interactive simulations and other experiences.

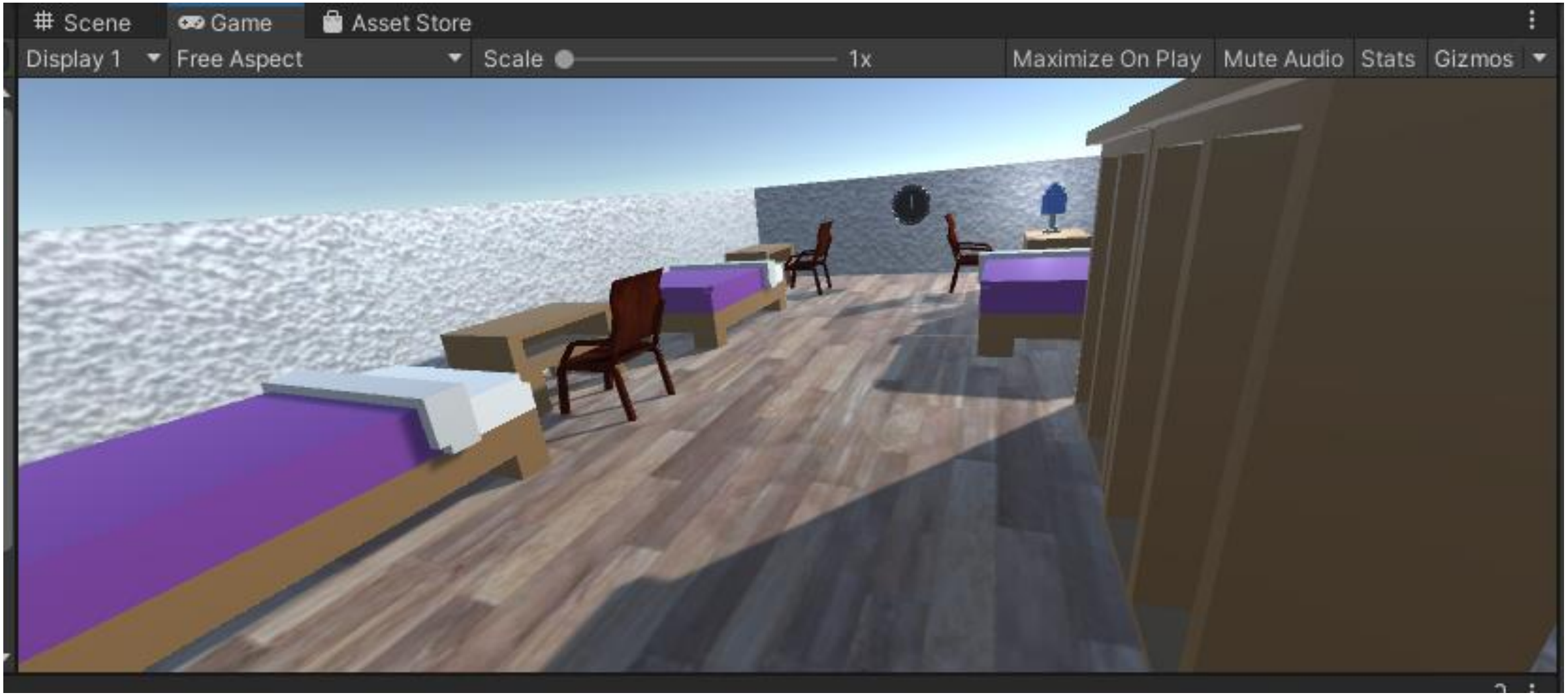
Syllabus

Week 1	Week 2	Week 3	Week 4
• 3D Graphics • begin developing 3D Virtual Reality Environments	• VR Graphics • Learning about 3D graphics, including how to use transforms to lay out a 3D scene and how to use materials to give your objects a distinctive appearance.	• VR Audio • Learn about using sound in Virtual Reality and how you can use advanced 3D Audio techniques to enhance your experience.	• Content Creation: What works in VR? • Looking behind the scenes at how 3D graphics hardware works and why VR can be so demanding of computing power. Think about the particular requirements of content creation for VR.

Application(Project)

Description and Instruction	
	Here I have tried to replicate my hostel room.
	It is a room for 3 people.
	It has 3 beds, 3 tables, 3 chairs, 1 clock, 1 table lamp and an open shelf.
	I have also made walls and door to give a room like feel.
	I have added chairs, clock, and lights in week 3-4 of this course.
	While entering from the door on your left you have 1 bed and, on your right, you have the open shelf.
	Further ahead you have 2 beds on your either sides and you can see 3 tables and chairs next to each bed.
	Straight on the wall you can see a clock and I have added a ticking sound in the clock.
	The table lamp has a point light, it is in the corner so you can see it emitting light.
	You can see all the materials(including textures) I have created/used in the Assets.
	Here upon opening you can select “SampleScene” in hierarchy to view my work.


COURSERA PROJECT - SampleScene - PC, Mac & Linux Standalone - Unity 2020.3.0f1 Personal <DX11>
File Edit Assets GameObject Component Window Help
Pivot Local
Account Layers Layout
Hierarchy
SampleScene
Main Camera
WoodenChair
Clock
lamp blue
PTK_Wall_Large_4
PTK_Wall_Large_5 (2)
PTK_Wall_Large_5
PTK_Wall_Medium_2
bed light blue
night stand
wardrobe
PTK_Door_Medium
Directional Light
Plane
bed light blue (1)
bed light blue (2)
wardrobe (1)
night stand (1)
night stand (2)
Scene
Game
Shaded
2D
Gizmos
Persp
Inspector
Project
Console
Demo
Resources
Materials
Meshes
Bridges
Collectables
Columns
Containers
Cubes
Cuboids
Doors
Elevators
Ladders
Lamps
Assets > DigitalKonstrukt > Prototyping_Pack_Free > Demo > Demo
LightingDa...
ReflectionP...


Scene
Game
Asset Store
Display 1
Free Aspect
Scale
1x
Maximize On Play
Mute Audio
Stats
Gizmos

UNIVERSITY OF LONDON

COURSE CERTIFICATE

Apr 8, 2021

Ashutosh Devkota

has successfully completed

3D Models for Virtual Reality

an online non-credit course authorized by University of London, Goldsmiths, University of London and offered through Coursera

Dr Sylvia Xueni Pan
Lecturer, Department of Computing
Goldsmiths, University of London

Verify at coursera.org/verify/JJBTMAKX5P7D

Coursera has confirmed the identity of this individual and their participation in the course.

Conclusion

With this internship course 3D Models for Virtual Reality, I got an opportunity to learn about one of the most popular VR development engines i.e. Unity.

I also got to learn about the importance of factors like lighting, shading, texture, audio, etc, to make an effective VR environment.

Even though this course is not directly related to my current curriculum, but I believe the knowledge I gathered from this course will be beneficial for me in the coming days for courses such as game programming.