National University of Sciences and Technology (NUST)

School of Electrical Engineering and Computer Science

Department of Computing

Computer Graphics

Class: BSCS and BESE

Assignment 2

Submission Due: Nov 8th, 2015, 11:59 pm

Instructor: M. Muddassir Malik

Assignment 2

Introduction

In this assignment you have to understand and implement the following concepts

- Drawing models
- Texture Mapping
- Camera manipulation

Objectives

- Learn to draw spheres or load spheres

- Learn texture mapping on spheres

- Create a full scale application

Tools/Software Requirement

- WebGL enabled browser and an appropriate IDE.

Problem Statement:

Education App for young astronomers.

Create our solar system containing sun, earth and at least two more planets. Use texture mapping to give realistic appearance to your spheres. Implement perspective projection and give camera control to the user (six keys for positioning, and three keys for selecting orientation). User can navigate around the solar system using keys. **[6]**

Bonus 1: Add more planets, moons and features. **[2]**

Bonus 2: Your tool has all the features required to use your application in class for kids to learn the solar system. **[2]** e.g

- Option to stop and start animation
- Option to position the camera at a specific position so it shows a selected planet or moon and also shows its information

You can work in groups of two and you can get a letter of appreciation if you score 10 and a middle school teacher evaluates and approves your app for use in class.

Deliverables

Submit only ONE zip file on the given LMS link. Make sure to bundle all the dependent libraries in the zip file so your program is ready to run. Your file should be named as asg2[FIRST_NAME-FIRST_NAME].zip

Always submit 1 day before the deadline to avoid any last minute delays.