

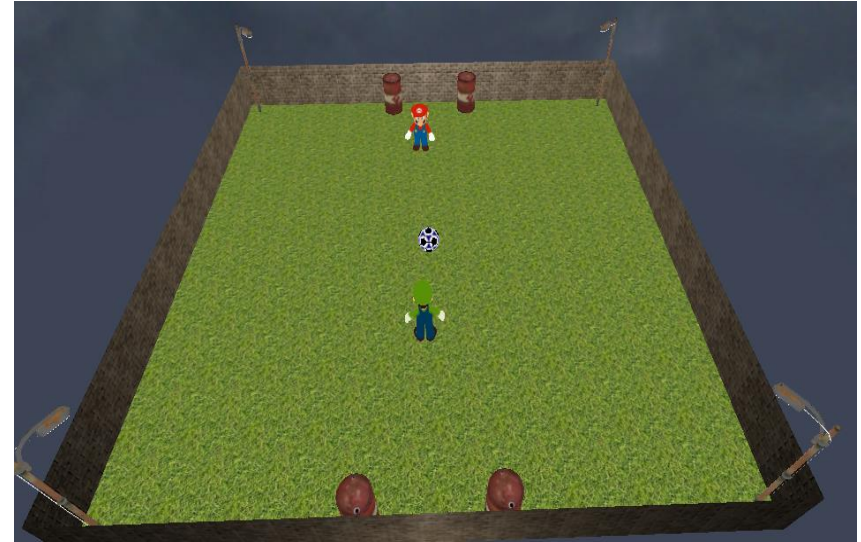
Cpre557 Project: Computer Graphics and Geometric Modeling

Soccer Game

Date: 06/12/2016

Murad

How the Game works



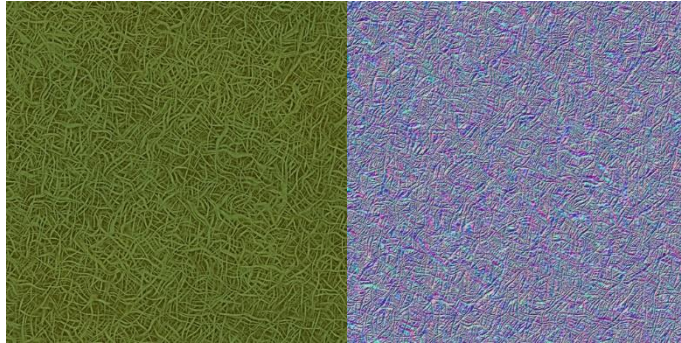
Scene Objects

- A **Cubemap** (skybox) is a (large) cube that encompasses the entire scene. It is basically a texture that contains 6 individual 2D textures that each form one side of a cube: a textured cube.



Scene Objects

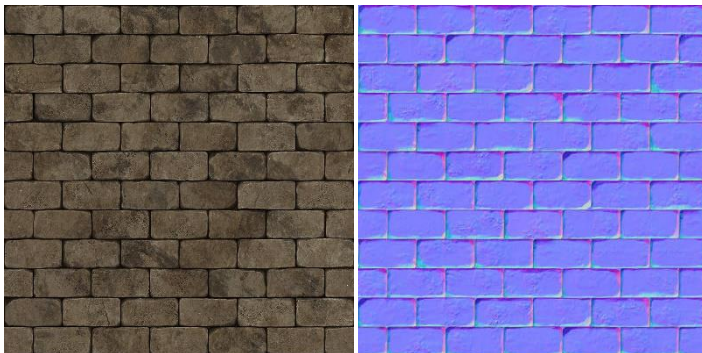
- Ground field is a quad with bump mapping to give more details.



diffuse

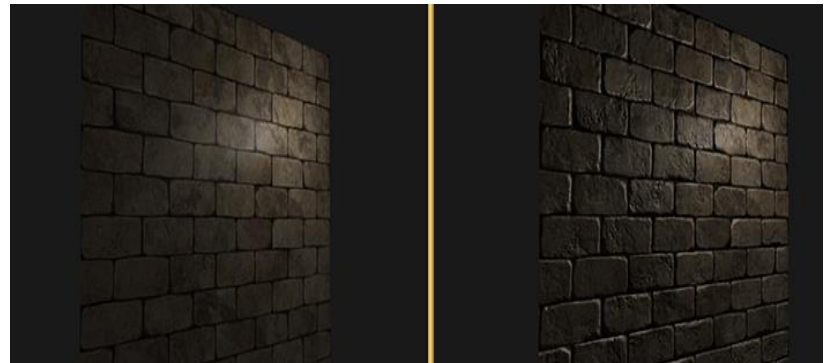
normal

- Walls around the field is a quad with bump mapping to give more details.



diffuse

normal



Without bump mapping

With bump mapping

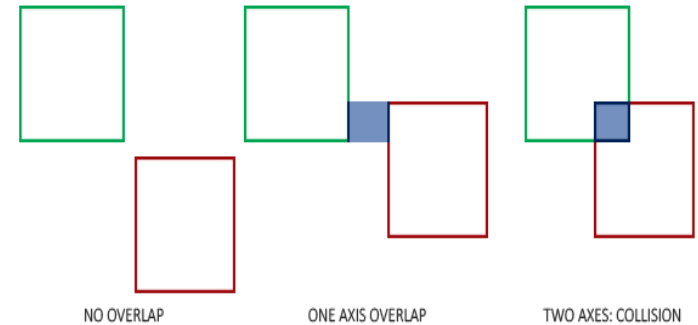
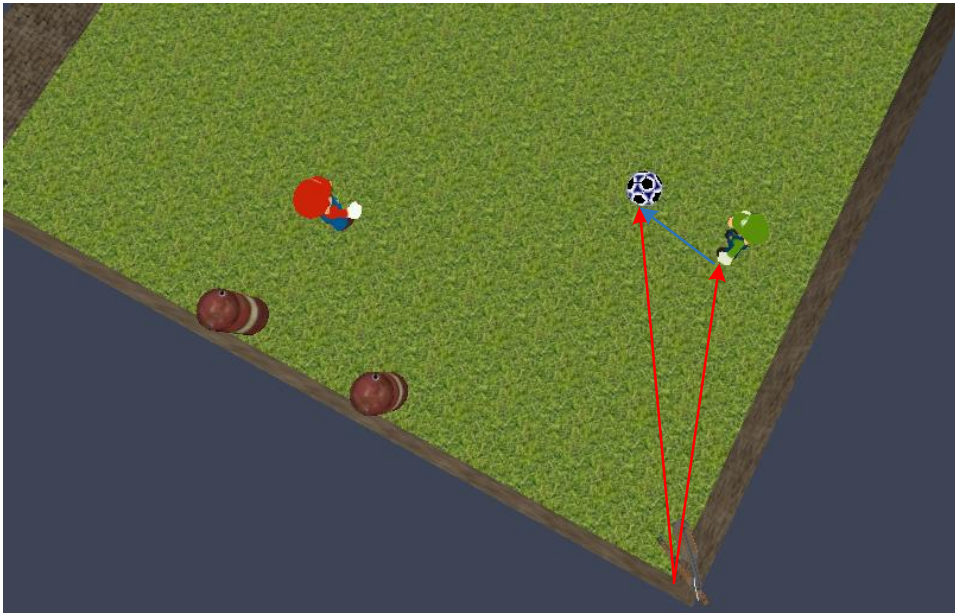
Objects

- Load models using Assimp (*Open Asset Import Library*). Each model has two files (Wavefront **.obj** : that contains the model data) and **.mtl** that contains the material.
- **Two players:**
 - Mario : 60956 vertices
 - Luigi : 72768 vertices
- **Soccer ball:**
 - 576 vertices
- **Light Pole:**
 - 60956 vertices
- **Oil drum:**
 - 476 vertices



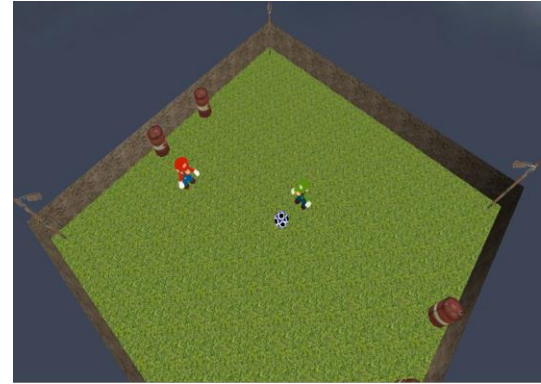
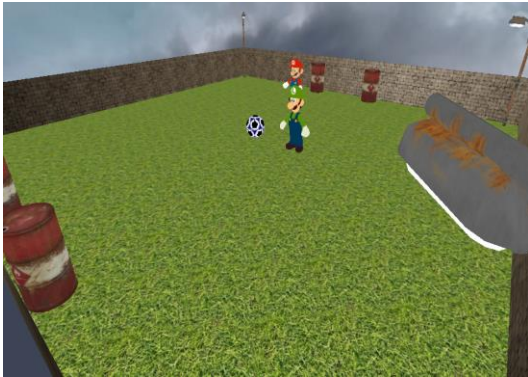
Collision detection

- **Collision detection** : we check if the horizontal edges overlap and if the vertical edges overlap of both objects.
- If both the horizontal **and** vertical edges overlap we have a collision.



Camera location

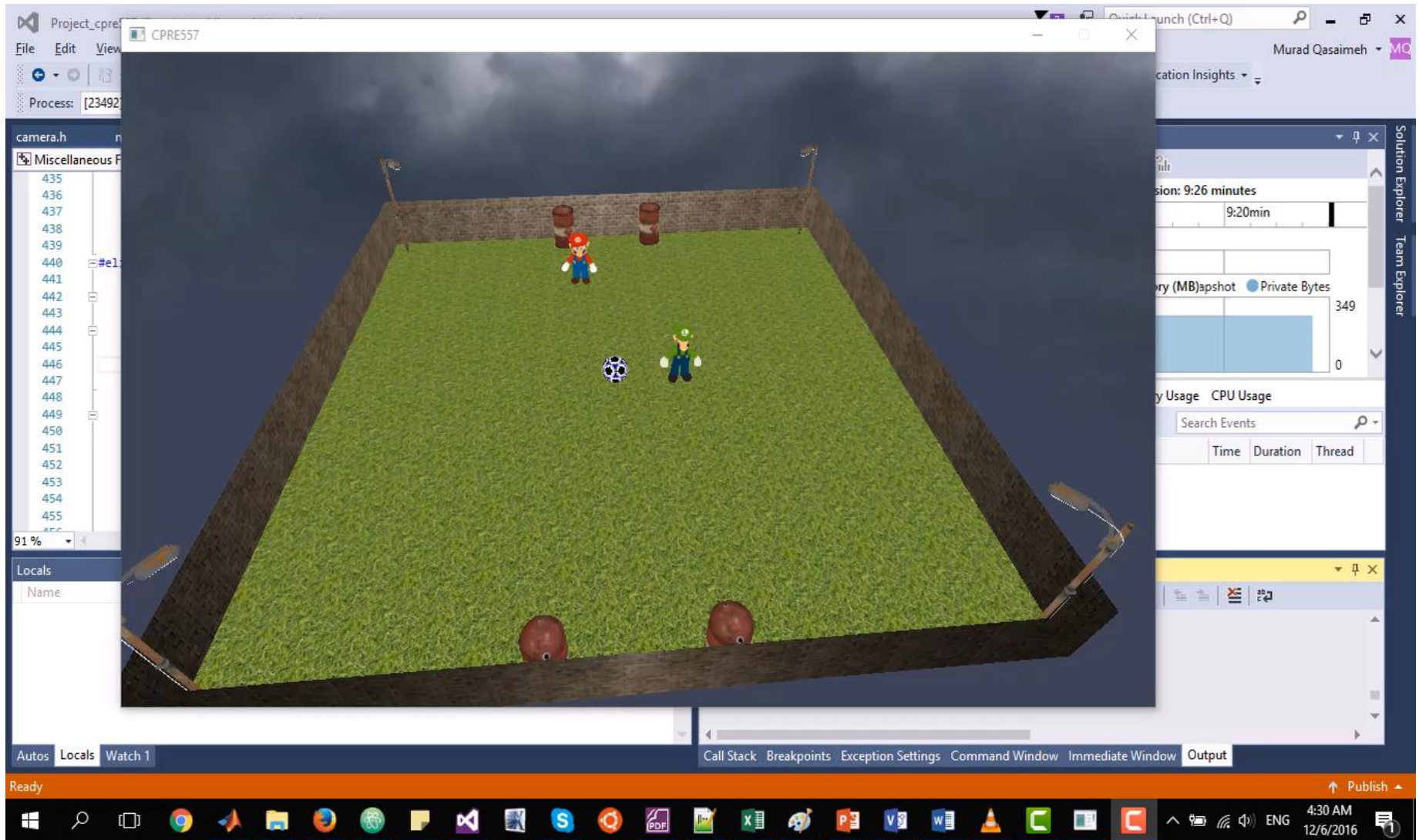
- Fixed: (can be changed between three views)



- Follow the player (or controlled by the user):



Demo Video



Questions