

# Computergraphics UE

## Summary

We programmed a defend your base type shooter. We spawn at our camp and have to defend the base from the occurring monsters. Those are currently only walking to the pole and if they reach it the game is lost. If you shoot the monsters before they reach the pole by using the left mouse click you win the game.

## Features in the game

Model Loading: We load a nanosuit into our game and use it as enemies.

Standard shooter gameplay: We can move around using the WASD keys and using the mouse. Then we can shoot at our enemies with the left mouse button.

Light System: We use a point light to provide a darker feeling.

Physics: Arguably the most time consuming task in our project was integrating the bullet physics engine into our game. We move our objects using forces and use gravity in our game. Collision detection is partly handled by the physics engine. For this to work we need to provide bounding boxes on our objects.

## Textured and Illuminated Objects

We are currently using a point light to light up our scene. In our opinion this works quite well, because it gives the game a darker tone and doesn't show the enemies until they are very close. The enemies, ground, start podium and the projectile use the lighting information and are textured with the textures provided in the Assets folder.

## Libraries

Bullet: Physics library for collision detection and physics in the 3d world.

Assimp: Used in our Model Loading step.

FreeImage / SOIL: Used for Texture Loading. SOIL is used in the Model loading and FreeImage is used everywhere else.