

# COSC422 Assessment 3

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Computer Graphics (2021); University of Canterbury

## DESCRIPTION

- Enhance the animated display generated by *SkeletonAnimation.cpp* by designing a surrounding environment comprising of simple graphics objects for the model, and also replace the skeletal model generated by Assimp with a more “humanoid-like” or “robot-like” model.
- The graphics environment allows the model to interact with a few objects in the scene during an animation sequence.
- Improvement from Assessment I scene of COSC-363
- Implemented in C++ with OpenGL 2

## Tasks

### Model Enhancement (7 Marks)

- ☒ Modify *render()* from *SkeletonAnimation.cpp*
  - Detailed model is the *Manager*, the employee is just made of GLUT objects

### Character's Environment (6 Marks)

- ☒ Simple Enviroment with GLUT objects
- ☒ Using Assessment I - COSC-363 enviroment
  - Building appon

### Extra Features (4 Marks)

1. ☒ Planar shadows
  - Character model(s) & Scene
2. ☒ Camera motion
  - Moving the camera during the animation
3. ☒ Camera view orientation
  - Change the orientation of the camera
4. ☒ Physics based motion
  - Manager puts a cube back on the shelf or
  - the cannon
5. ☒ Animation looping

## Keys

- SpaceBar
  - Fires the cannon

- Arrow Keys - moving around scene
  - Up
  - Down
  - Left
  - Right
- Zoom
  - (+) or (-)
- D/d - door
- V/v - view
- Exit application
  - 'Esc'

## Compiling & Running Program

- In a Linux enviroment. At the base directory.
- Type - `make && make program`

### Debugging with vscode

- Press F5