

COMPUTER GRAPHICS

Assignment-3 Readme File

Running the Assignment 3 Application

For running the application, you need to serve the static files using any server.

- Using Visual Studio Code:

- If you are using VS Code, open the 'source_code' folder using VS code.
- Then, you can simply use the 'live server' plugin.
[<https://www.freecodecamp.org/news/vscode-live-server-auto-refresh-browser/>]
- Click on 'Go live'.
- It will host the application on a port and open it on the browser.

- Using Python (from linux terminal):

- Ensure that python is installed. If not, first install python.
- Navigate to 'source_code' folder using 'cd' command.
- If using python3, run following command to host a local server.

```
python3 -m http.server
```

- If using python 2, run following command to host a local server.

```
python -m SimpleHTTPServer
```

- By default, this will run the contents of the directory on a local web server, on port 8000. You can go to this server by going to the URL localhost: 8000 in your web browser or directly click the link provided in the terminal.

Using the Assignment 3 Application

Controls for different features:-

Object Selection

- '2': None
- '3': Teapot
- '4': Sphere

Shading Selection (Works only if object is selected)

- 's': Toggle between Gouraud and Phong Shading (initially Gouraud)

Mesh Transformation Mode (To transform the selected object)

- 'm': Enable/Disable Mesh Transformation Mode
- 'x' / 'y' / 'z' : Translate selected object in positive x/y/z direction
- 'X' / 'Y' / 'Z' : Translate selected object in negative x/y/z direction
- 'Mouse Drag': To rotate the selected object using virtual trackball technique

Illuminator Mode

- 'i': Enable/Disable Illuminator Mode
- '0'/'1': Turns the light of selected object Off/On
- 'Arrow Keys': Translate active light source in x or y directions
- '+'/'-': Translate active light source in positive/negative z directions

Color Picking

UI to select color for respective object