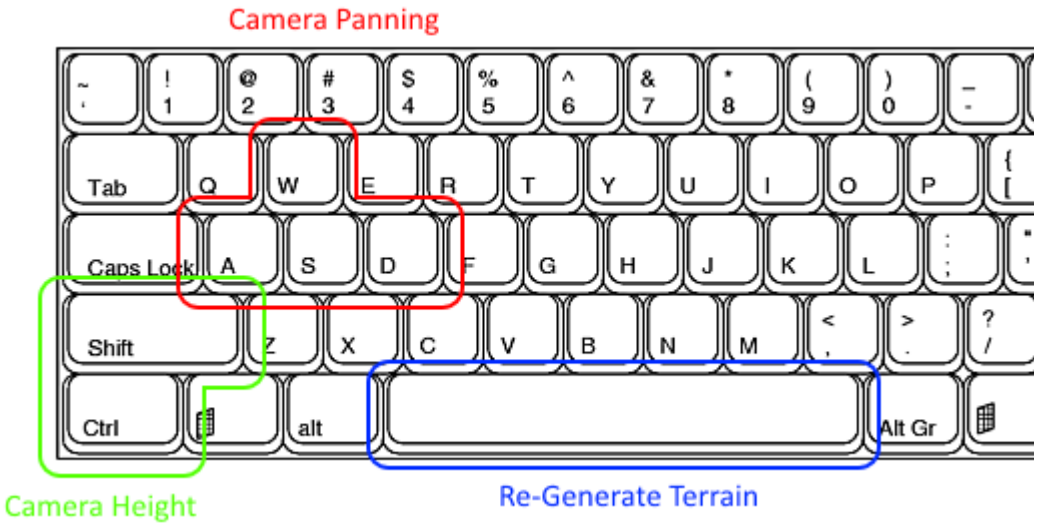
AIE Second Year Assignment 1
Computer Graphics

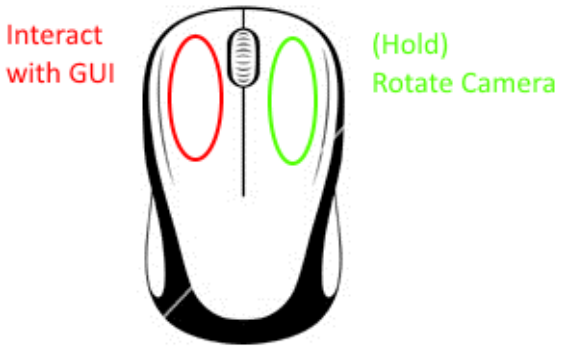
Andrew Giannopoulos

GUI Instructions

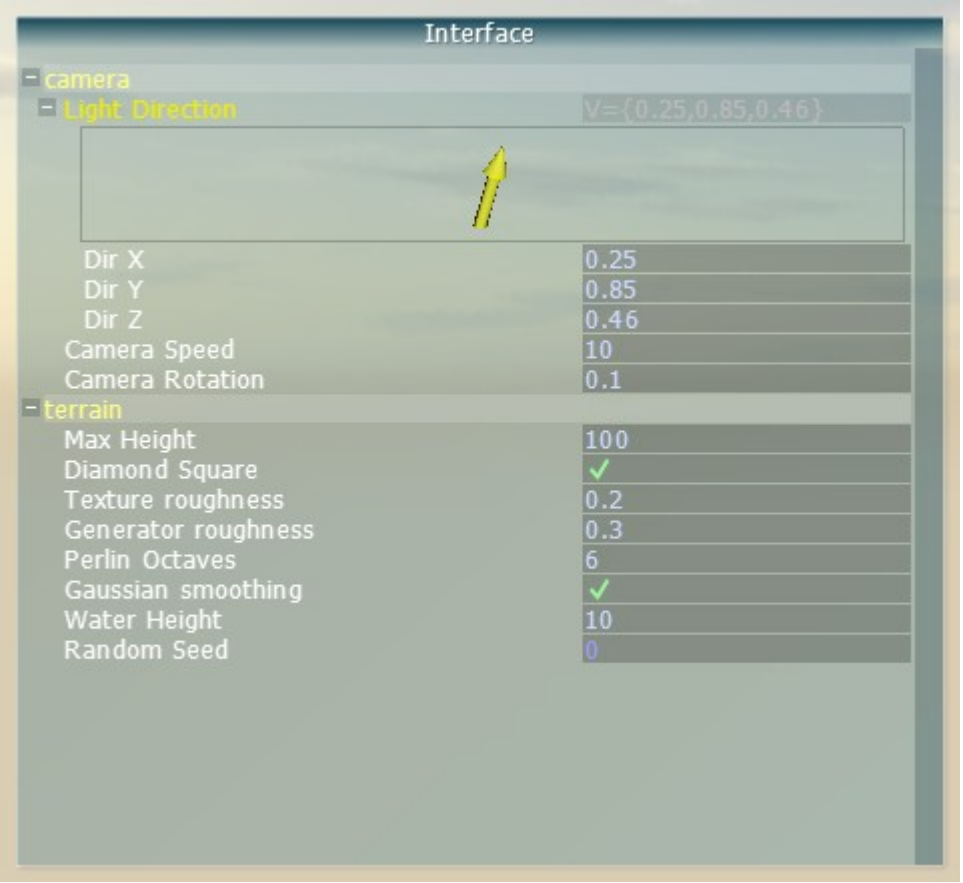
Basic Keyboard Controls



Basic Mouse controls



GUI Layout



Elements that can be manipulated

- Light Direction – For direct manipulation of the vector that determines the directional light
- Camera Speed – Maximum movement speed for the camera matrix
- Camera Rotation – Maximum rotation speed for the camera matrix
- Max Height – The maximum y value assigned when generating terrain. The remaining points are normalized based off this height value.
- Diamond Square – Boolean that determines whether or not to generate terrain using the Diamond-Square algorithm. If false, will instead use Perlin Noise maps for terrain generation.
- Texture Roughness – Roughness value for use in the Oren-Nayar reflectance model lighting calculations for the procedurally generated terrain
- Generator Roughness – Scales the random offsets used in generating via the Diamond-Square technique. Has little visible effect due to normalization by height value.
- Perlin Octaves – Determines the number of octaves used in the Perlin Noise generation.
- Gaussian Smoothing – Choose whether to apply approximated gaussian smoothing to the results of the Diamond-Square terrain generation algorithm.
- Water Height – Sets the y value of the “water” plane and scales terrain textures accordingly.
- Random Seed – Seed for the random generation of the terrain generation and placing of the models.