**KrisBry Engine README**

Animation Project

To run the project, do the following:

* Ensure that KrisBryGame is set as the start up project
* Build the solution in Debug or Release in x86 or x64
* Run the Project (CTRL + F5)

Notes on specific implementation

* You start the program controlling the Aqua skin mesh
  + Just pressing the Up/Down arrow will switch to the shadow heartless
  + Both characters start the demo in their idle animation
* The scene starts with the camera above the scene but the follow selected entity can be toggled
  + Use CTRL + F to toggle it
  + Once turned back off the controls for the free camera (in the grid) can be used to reposition the camera
* See grid on last page for all controls

Running AnimationDemoSetup.exe will install a playable demo on your machine

* Once installed a short cut named Animation Demo should be created in the Start Menu
* Or it is installed at C:/cnd/KerriganKristian/videogame
  + This is also where the uninstaller is found

Notes on each project in the solution:

* glm project contains the headers for the GLM math library (Use show all files in VS)
* PhysicsInterfaces contains all the interfaces used by the engine (Use show all files in VS)
* BulletPhysics contains the implementation of the interfaces using the Bullet engine (Use show all files in VS)
* KrisBryEngine contains the core OpenGL game engine (Use regular filters in VS)
  + Used to render graphical objects and lights to the screen
  + Controls the game loop
  + Contains managers for things like the Scene, Shaders, etc
  + Has factories and builders to create the entities and components needed in the engine
* KrisBryGame references KrisBryEngine and uses its system to implement the actual gameplay (Use regular filters in VS)
  + Loads JSON scene files
  + Controls player input
  + Loads the needed shaders, models, textures, etc.

The files to change the objects in the game are found in the KrisBryGame project under assets/maps  
Some notes about each type of JSON file there

config.json contains:

* Window width and height
* Window title
* Physics DLL being used (change between SimplePhysics.dll or BulletPhysics.dll)

cameras.json contains:

* Selected light and entity at the start of the game
* Eye, at, and up location of the camera at start
* Orientation of the camera at start

lights.json contains information for each light such as position, colour, type, cone angles, on/off, etc

sounds.json contains information for any background music being played

entities.json contains all the information about the objects in the game (planes and spheres)

* Each entity object has a unique ID and a type that is used by the builder to create the right object
* It also contains an array of components with a type defining its use/behaviour

bulletContraints.json: Contains all the settings for the constraints in the scene

**Controls**

|  |  |
| --- | --- |
| Key | Action |
| UP / DOWN arrow | Change selected character |
| W | Walk Forward |
| S | Walk Backwards |
| A | Turn Left |
| D | Turn Right |
| 1 key (non keypad) | Perform character action |
| Space | Jump |
| SHIFT + W | Run Forward |
| SHIFT + S | Run Backwards |
| ALT + A | Strafe Left |
| ALT + S | Strafe Right |
| Jumping while walking or running will cause a distance jump | |
| CTRL + F | Toggle follow selected entity |
| I | Move camera forward |
| K | Move camera backward |
| J | Move camera left |
| L | Move camera right |
| Q | Move camera up |
| E | Move camera down |
| CTRL + Q | Roll camera to the left |
| CTRL + E | Roll camera to the right |
| Clicking the left mouse will increase camera move speed | |