Game Jam

Daniel Maclam && Kristian Kerrigan

**To Build (Visual Studio):**

* Unzip contents into a folder
* Open the SmartyGL Solultion
* Build the projects in x64 (debug/release)
  + If build fails manually build in the following order:
    - Bullet\_physics
    - SmartyGLEngine
    - SmartyGLGame
* Run the game.

**How to do things**:

|  |  |
| --- | --- |
| Controls | |
| Move the camera | Arrow Keys (Toggle follow cam with “C”) |
| Pan camera | Left mouse button + drag |
| Exit | Escape |
| Change Selected Mesh | Key pad subtract |
| Walk | WASD |
| Run | Shift + WASD |
| Jump | Space |
| Special Action | Key pad plus |

**Technical Things**:

* Day/Night Cycle (cScene)
  + 5 different times of day
  + Blended cube maps
* Dynamic Water (Vertex Animation in shader) (cScene offset updates)
  + Using caustic texture
* Terrain (main)
  + Height/Normal map
  + Multi-texture (Splat Map)
  + Started as a plane (Vertices modified C++ side and sent to GPU)
* Instance Drawing (cMeshRenderSystem::draw\_instanced\_objects())
  + 1500 trees
* Procedural Tree Generation (main.cpp -> add\_trees\_to\_scene())
  + Positions, rotations and types
    - 4 tops
    - 2 bottoms
* Other effects
  + Fire & smoke particles (cParticleSystem)
  + Off-screen rendering (tvs) cMeshRenderSystem -> update())
    - 1s/update (instead of every frame)
    - Not updated if camera is > 10 units away (previous rendered color buffer is presented instead of redrawing)