

## CPSC 427 - Video Game Programming

### Individual Progress Report Milestone 2 – Oct. 29, 2021

- Summarize your own contribution to the milestone.
  - I implemented the menu system for this milestone. It includes a main menu at the start of the game, a pause menu when the player presses ESC during the game, and a game over menu when the player has died. I used a finite state machine to control the program flow, such as stopping the logic of the game when the pause menu is open and using it to transition between menus.
- Did you go beyond a basic implementation?
  - I chose to use Nuklear, a GUI library written in C, instead of ImGui, a GUI library written in C++, because I thought Nuklear looked a lot nicer and was more suitable for making menus. This was a big mistake on my part because it involved a lot of unexpected work.
- Does a feature need an explanation to appreciate its complexity?
  - I was surprised at how many issues can arise in a project that integrates both C and C++. I had originally thought that C++ was basically C with more features, but apparently, a lot of C syntax is not supported by C++. The library requires a pure C environment and would take a considerable amount of effort to port to C++. I resolved it by isolating the menu code into a .c file and not including any .hpp headers so that it will use a C compiler to compile, and then calling its functions externally resolved the incompatibilities. I also had issues with the library overwriting global OpenGL states like the buffers and bindings, so I have to save the state then restore it while transitioning between the game and the menus.
- Did something take more time than expected something that did not work?
  - It took a surprisingly long time to integrate the Nuklear library. I tried to make it work with the gl3w library that was included, but there were incompatibilities, so I had to switch to glew. There were also a lot of issues with building it until I replaced the glfw binaries. Adding/modifying libraries also created issues with building it on MacOS, which took a lot of time to work through.
- Anything else to report? Did you do more than the others in your team? (It can totally happen that everybody contributes a good part to the project but one person goes beyond our expectation. In such cases, we will not deduce points from the others but increase the multiplicative factor of the person doing extra work)
  - Not really.

- Is there an issue with teamwork? (Please try to articulate and resolve issues early! First internally and if that does not help reach out to a TA or Instructor or mention here)
  - Nope.

**Submission:** Please format your reports as PDF documents and submit with 'handin cs-427 progress#', with # the milestone number, e.g 'handin cs-427 progress1'. It is an individual submission.