

CSCE 693 Software Evolution

Homework 3 – Improving Existing C++ Code (100 pts)

Directions:

- No written report is required, but it is expected that software code should be liberally commented to clearly indicate the program logic that was implemented.
- Use Linux, GCC, and the provided zip file (i.e., csce693-hw-03.zip).
- Complete two tasks: 1) Using C++ standard library time capabilities to execute the main game loop at 60Hz and 2) implement exceptions in the Game class constructor so that it throws an exception if SDL does not get initialized correctly and/or any aspect of creating a window and renderer fails. Make sure to catch the exception in the main() function where the class is instantiated.

Tasks:

1. (50) Complete the skeleton “game_loop” project so that it executes at a frame rate of 60Hz using the functions and features available in the C++ standard library <chrono> and <thread>. (Do not use SDL2 functions to measure time or delay processing.)
2. (50) Complete the skeleton “game_loop” project so that the Game class constructor throws an exception if something during the SDL2 initialization goes wrong. Make sure to clean up any previous successful initialization before the exception is thrown. Catch for a possible thrown exception in the main() function where the Game class is being instantiated. (You might consider testing your exception handling by purposely throwing an exception even if everything is ok.)

Submit homework files (in a zip archive named “team0<x>.zip”) to my personal email at: doug@sidechannel.net Submit to me ONLY the one project which contains both modifications.

I know the composition of the teams for grading purposes, but cc'ing your team mates on submission is always a nice thing in the case there is some confusion. ONLY submit original source files - do NOT include miscellaneous compiler-generated files (e.g., .o, final executables, etc.).