

PA199 - Advanced Game Development

Project Q&A

Q: Is the time in a seminar sufficient for completion of the work for the current week?

A: No. You are supposed to finish the implementation as homework. Use the time in the seminars for questions so that you are heading the right direction for the work at home.

Q: I've created a static library for graphics functions of my project. But, when I try to include OpenGL by the directive:

```
#include "glad/glad.h"
```

the header file is not found and I get errors. How to fix that?

A: Open the `CMakeLists.txt` file of your graphics library and append there the following code:

```
find_package(glad CONFIG REQUIRED)
target_link_libraries(<name-of-your-graphics-library> PUBLIC
glad::glad)
```

where `<name-of-your-graphics-library>` must be replaced by the name of your library (i.e. the name you write to "add_library" command).

Q: I have a static library, where I use the type `"std::filesystem::path"`. Despite the fact that I include the header `<filesystem>` I get this compile error:

```
error C2039: 'filesystem': is not a member of 'std'
```

How can I fix this issue?

A: The problem is that your library is compiled with the default C++ standard of the compiler, which is lower than C++17. The main executable of your game actually uses C++20 standard.

In case you want to fix the issue just in that particular library, then do this: Open the `"CMakeLists.txt"` file of your library insert the following code anywhere below the `"add_library"` command:

```
if(MSVC)
    target_compile_options(<my-lib-name> PUBLIC /std:c++20)
endif()
```

where `<my-lib-name>` must be replaced by the name of the library you defined inside the `"add_library"` command.

In case you want to use the C++ standard 20 everywhere (i.e., in all your libraries), then do this: Open the `"CMakeLists.txt"` file in the root directory of the entire repository and insert the following code anywhere between commands `"cmake_minimum_required"` and `"project"`:

```
set(CMAKE_CXX_STANDARD 20)
set(CMAKE_CXX_STANDARD_REQUIRED ON)
```

Q: I want to load shaders and/or textures from the disk. What directory should I put them into and how do I get that path in runtime?

A: The shaders and textures must be stored under the corresponding directory under
`<project-root-dir>/courses/PA199/project/data`
where `<project-root-dir>` is the project's root directory, i.e., where you cloned the repository. You can obtain a path to the data (shaders/textures) using the the field

`lecture_folder_path`

of the class "Application" (in fact that field is in the base class). So, the full path to the directory of shaders you can use this C++ code:

```
lecture_folder_path / "data" / "shaders"
```

and the full path to the directory with textures:

```
lecture_folder_path / "data" / "textures"
```

NOTE: Example loading of shaders and textures is already available in the file "application.cpp".