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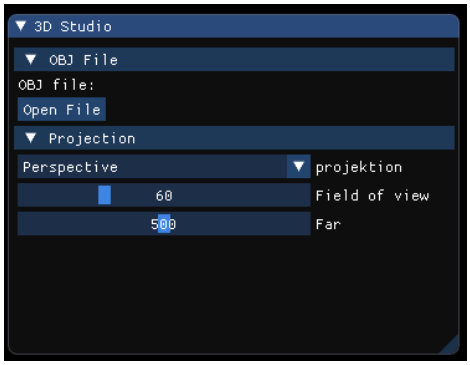
Dear ImGui Integration

To implement a GUI together with GLFW you will use the free to use Dear ImGui (https://github.com/ocornut/imgui) and for the file dialog the code uses ImGuiFileDialog (https://github.com/aiekick/ImGuiFileDialog) which uses Dirent v1.23. Dirent should already exist under Linux and can be downloaded for MS Windows here https://github.com/tronkko/dirent. All needed files are included in the folder *ImGui/* in the zip-file. If you are interested to use other features of ImGui, feel free to download the full ImGui package from the link above.

NOTE: If you are compiling on Linux, you should delete dirent.h in the folder *ImGui/ImGuiFileDialog*.

The GUI that is provided is shown on the right. The example code is based on the code from Workshop 1. To integrate it into your own code, do the following changes.



1. Copy the ImGui/ folder and the `imgui.ini` file to the project source code folder.
2. Edit the `Makefile`: See changes in file.
3. In `openglwindow.h` add:

```
#include "imgui.h"
#include "imgui_impl_glfw.h"
#include "imgui_impl_opengl3.h"
```

4. In `openglwindow.cpp`:
   - Add in the constructor `OpenGLWindow::OpenGLWindow()` after glew has been initialized

```
// Setup Dear ImGui context
IMGUI_CHECKVERSION();
ImGui::CreateContext();
ImGuiIO& io = ImGui::GetIO(); (void)io;
// Enable Keyboard Controls
io.ConfigFlags |= ImGuiConfigFlags_NavEnableKeyboard;
// Enable Gamepad Controls
//io.ConfigFlags |= ImGuiConfigFlags_NavEnableGamepad;

// Setup Dear ImGui style
ImGui::StyleColorsDark();
//ImGui::StyleColorsClassic();

// Setup Platform/Renderer backends
ImGui_ImplGlfw_InitForOpenGL(glfwWindow, true);
ImGui_ImplOpenGL3_Init(NULL);
```

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- Add in the beginning of the destructor `OpenGLWindow::~OpenGLWindow()`:

```
ImGui_ImplOpenGL3_Shutdown();
ImGui_ImplGlfw_Shutdown();
ImGui::DestroyContext();
```

- Add the new function `DrawGui()`:
  Copy the code from the example and do the changes written in the function.
- Modify `start()`: See changes in function.

Remark

If you get strange errors or" segmentations fault", do a clean rebuild, i.e., 'make clean' then make (or similar).