Project Deep Dive Open.

Installation manual.

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This document will serve as a guide on installing the project that contains the engine's code and all of its resources in order to either modify it directly or add new content such as custom defined AI games.

First of all, the following requirements should be downloaded and installed in their proper places:

- Visual studio (2019 version is recommended). For opening the project that contains the engine's code.
  https://visualstudio.microsoft.com/es/vs/older-downloads/
- GLEW. Must be installed in the "Dependencies" folder located in the root of the project's directory structure.
  https://glew.sourceforge.net/
- GLEW. Must be installed in the "Dependencies" folder located in the root of the project's directory structure.
  https://www.glfw.org/
- GLM. Must be installed in the "Dependencies" folder located in the root of the project's directory structure.
  https://github.com/g-truc/glm
- OpenGL (not the SDK).
  https://www.khronos.org/opengl/wiki/Getting_Started#Downloading_OpenGL
- ArrayFire. It is important to write down its installation directory as it will be used later in this document.
  https://arrayfire.com/
- Library stb_image.h. Must be installed in "\Deep dive open\code\External code", being the root directory of this address the root directory of the project. **DO NOT** remove the stb_image.cpp file found already in said directory.
  https://github.com/nothings/stb/blob/master/stb_image.h

The "Dependencies" folder should look like this

Name	Date modified	Type
GLEW	30/08/2020 14:15	File folder
GLFW	24/10/2022 10:40	File folder
glm	31/08/2020 15:59	File folder

and, respectively, the GLEW, GLFW and glm folders should look like this

bin	30/08/2020 14:15	File folder	
doc	30/08/2020 14:15	File folder	
include	30/08/2020 14:15	File folder	
lib	30/08/2020 14:15	File folder	
LICENSE.txt	31/07/2017 13:46	Archivo de origen ...	4 KB

include	24/10/2022 10:39	File folder
lib-vc2019	24/10/2022 10:40	File folder

Once all of this is properly done, open the .sln file found at the project's directory.

In case the project options were not configured properly, the user needs to do the following.

First, once the project is opened in visual studio, go to Project→Deep dive open properties→C/C++→General→Additional include directories. Then, add the following paths:

- Arrayfire's installation path\v3\include(for example, in the writer's computer this path is C:\Program Files\ArrayFire\v3\include).
- $(SolutionDir)Dependencies\GLFW\include
- $(SolutionDir)Dependencies\glm\gtc
- $(SolutionDir)Dependencies\glm
- $(SolutionDir)Dependencies\GLEW\include
- $(SolutionDir)Dependencies\glm\gtx

After this, while still being in C/C++, go to Preprocessor and add the following: NOMINMAX;GLEW_STATIC

The next thing to do is go to C/C++→Code Generation and set the Runtime Library option to Multi-threaded (/MT) and go to C/C++→Language and set the C++ Language Standard option to ISO C++20 Standard (/std::c++20).

Once done, go to Linker instead of C/C++ and in General→Additional Library Directories add the following:
- -$(SolutionDir)Dependencies\GLEW\lib\Release\x64
- -$(SolutionDir)Dependencies\GLFW\lib-vc2019
- -$(AF_PATH)\v3\lib (for example, in the writer's computer this path is C:\Program Files\ArrayFire\v3\lib).

Additionally, in General, set the Use library dependency inputs to No.

Finally, in Linker→Input, add the following to Additional Dependencies:
- glew32s.lib
- glfw3_mt.lib
- opengl32.lib
- User32.lib
- Gdi32.lib
- Shell32.lib
- afcuda.lib