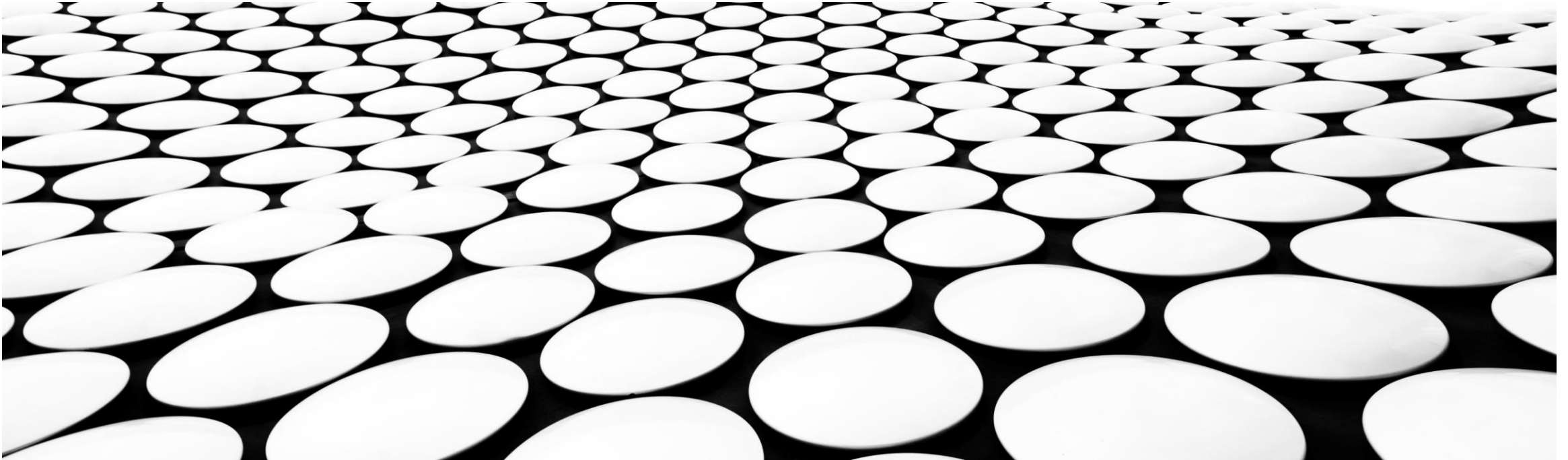


INFO-H-503 – GPGPU Programming – Project

Daniele Bonatto – Jan Lemeire

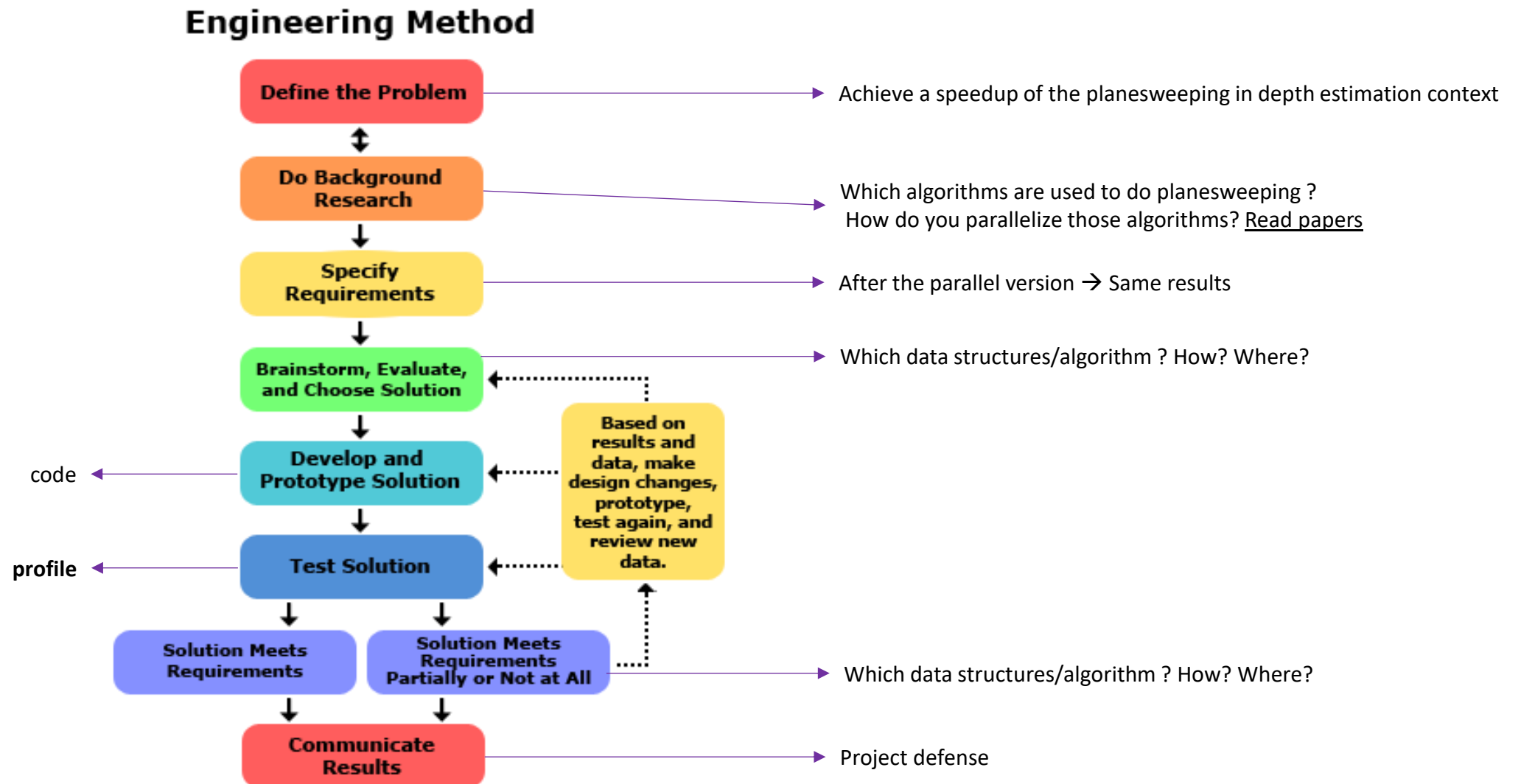
Eline Soetens



Scientific Method

<https://www.sciencebuddies.org/science-fair-projects/engineering-design-process/engineering-design-compare-scientific-method>

- Follow as much as possible the Engineering Design Process (highly correlated to the scientific method)
- You are not only evaluated on the speed-up but also on how you achieved it

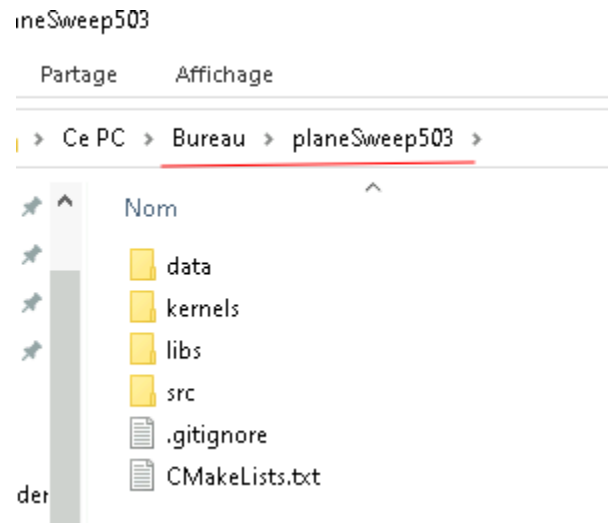


How to compile and START the software

- You need:
 - Visual Studio 2022 (<https://visualstudio.microsoft.com/fr/thank-you-downloading-visual-studio/?sku=Community&rel=16>)
 - Cmake (<https://cmake.org/>)
 - OpenCV (<https://opencv.org/>)
 - CUDA 12 installed (<https://developer.nvidia.com/cuda-toolkit-archive>)
 - Git (<https://git-scm.com/>)
- The software (PlaneSweep) (given)
- Images (given)
- Camera parameter (given)

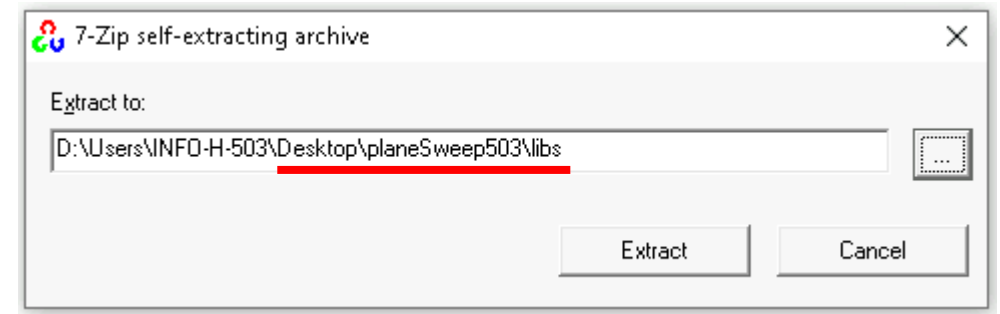
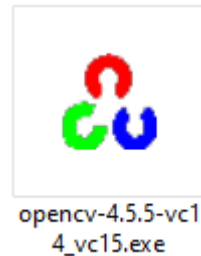
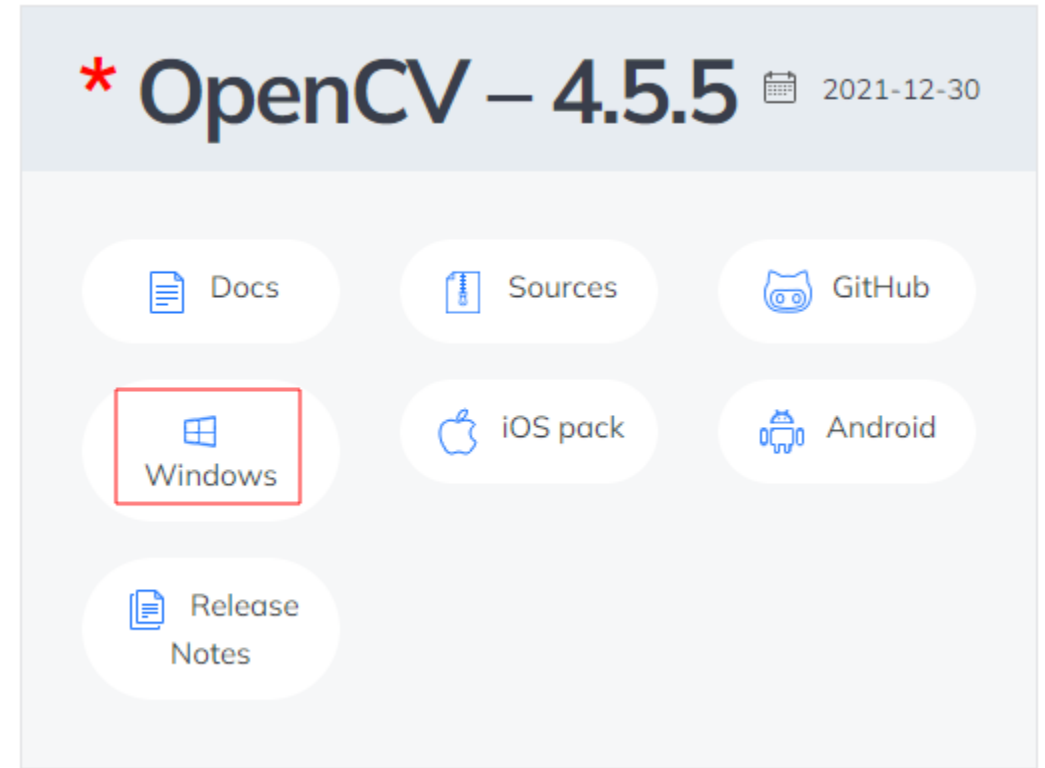
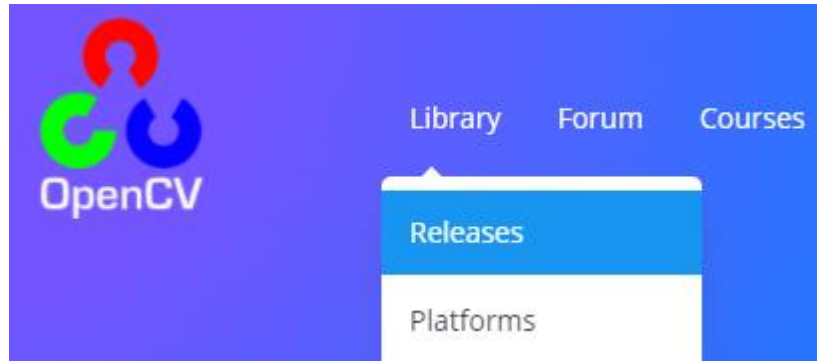
PlaneSweep

- Download the source code for the project:
- Unzip it in the desktop



OpenCV

- Go to OpenCV website and download the Windows version

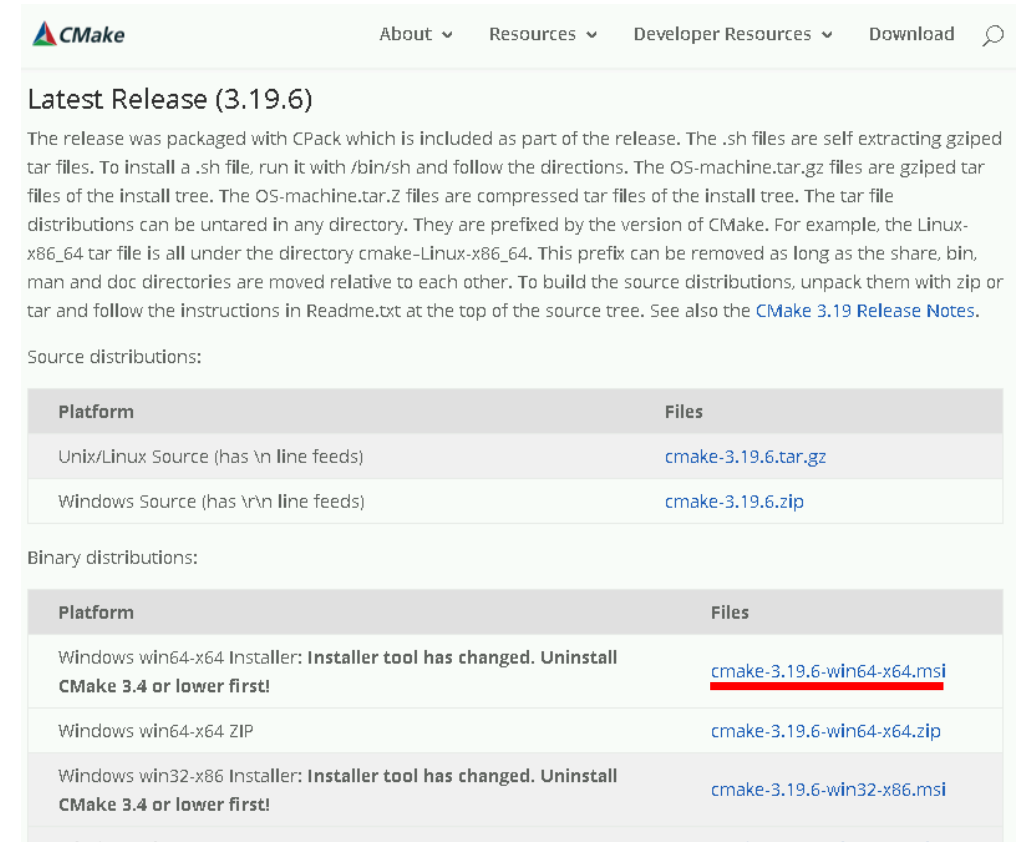
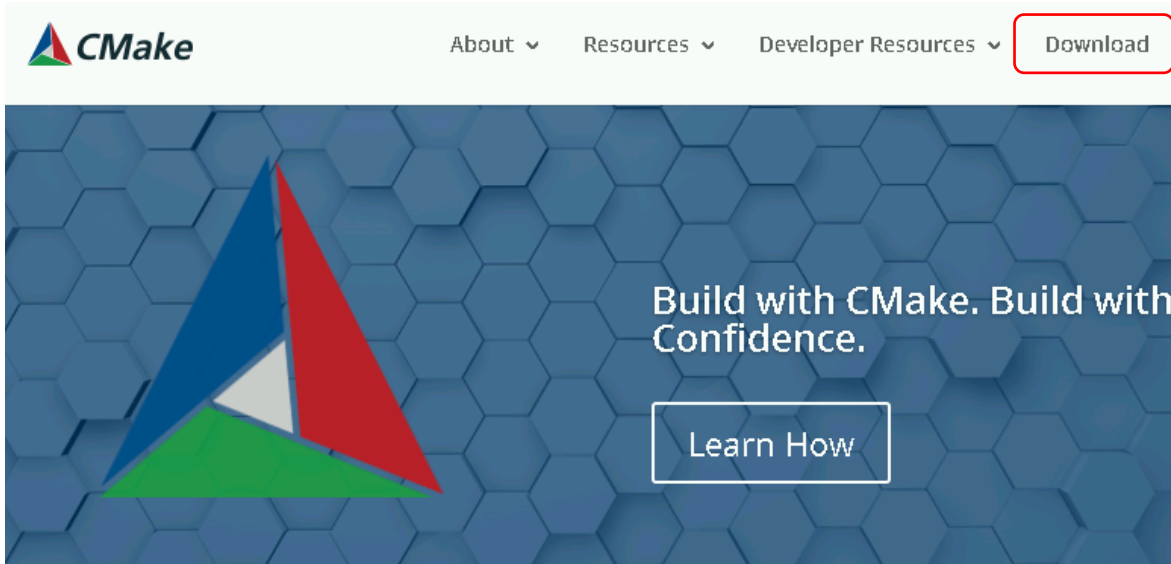


- When you execute the installer, select the subfolder “libs” inside your project

CMAKE

- Download Cmake

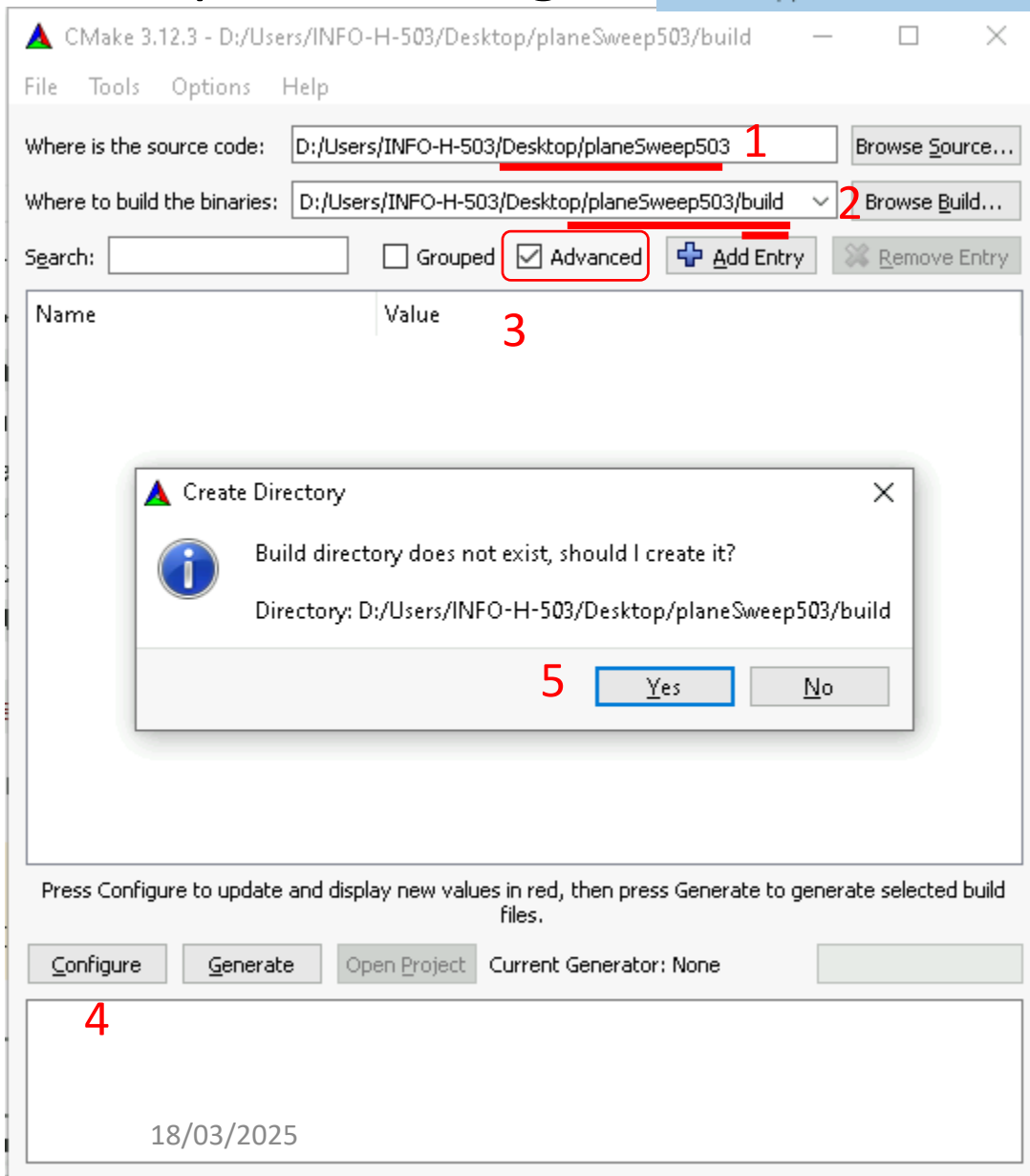
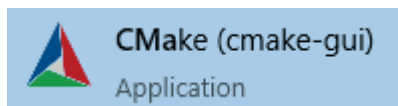
(already done on PC from computer room)

The image is a screenshot of the CMake website, specifically the 'Latest Release' section. The top navigation bar is identical to the one in the previous image. Below the navigation bar, the section is titled 'Latest Release (3.19.6)'. The text below the title describes the release, mentioning that it was packaged with CPack and that the .sh files are self-extracting gzipped tar files. It also mentions that the OS-machine.tar.gz files are gzipped tar files of the install tree. The text continues to explain that the OS-machine.tar.Z files are compressed tar files of the install tree. It provides an example of the Linux-x86_64 tar file and explains that the prefix can be removed as long as the share, bin, man, and doc directories are moved relative to each other. It also mentions that the source distributions can be untared in any directory and that they are prefixed by the version of CMake. The text concludes by stating that to build the source distributions, one should unpack them with zip or tar and follow the instructions in Readme.txt at the top of the source tree. It also refers to the 'CMake 3.19 Release Notes'. Below the text, there is a section titled 'Source distributions:'. This section contains a table with two columns: 'Platform' and 'Files'. The table has two rows: one for 'Unix/Linux Source (has \n line feeds)' with the file 'cmake-3.19.6.tar.gz', and one for 'Windows Source (has \r\n line feeds)' with the file 'cmake-3.19.6.zip'. Below the 'Source distributions' section is a section titled 'Binary distributions:'. This section also contains a table with two columns: 'Platform' and 'Files'. The table has three rows: one for 'Windows win64-x64 Installer: Installer tool has changed. Uninstall CMake 3.4 or lower first!' with the file 'cmake-3.19.6-win64-x64.msi', one for 'Windows win64-x64 ZIP' with the file 'cmake-3.19.6-win64-x64.zip', and one for 'Windows win32-x86 Installer: Installer tool has changed. Uninstall CMake 3.4 or lower first!' with the file 'cmake-3.19.6-win32-x86.msi'.

- Install Cmake by “next→accept→next-→...→next”

CMAKE

- Open cmake-gui



Desktop\project

Desktop\project\build



Specify the generator for this project

Visual Studio 17 2022 (6)

Optional platform for generator(if empty, generator uses: x64)

Optional toolset to use (argument to -T)

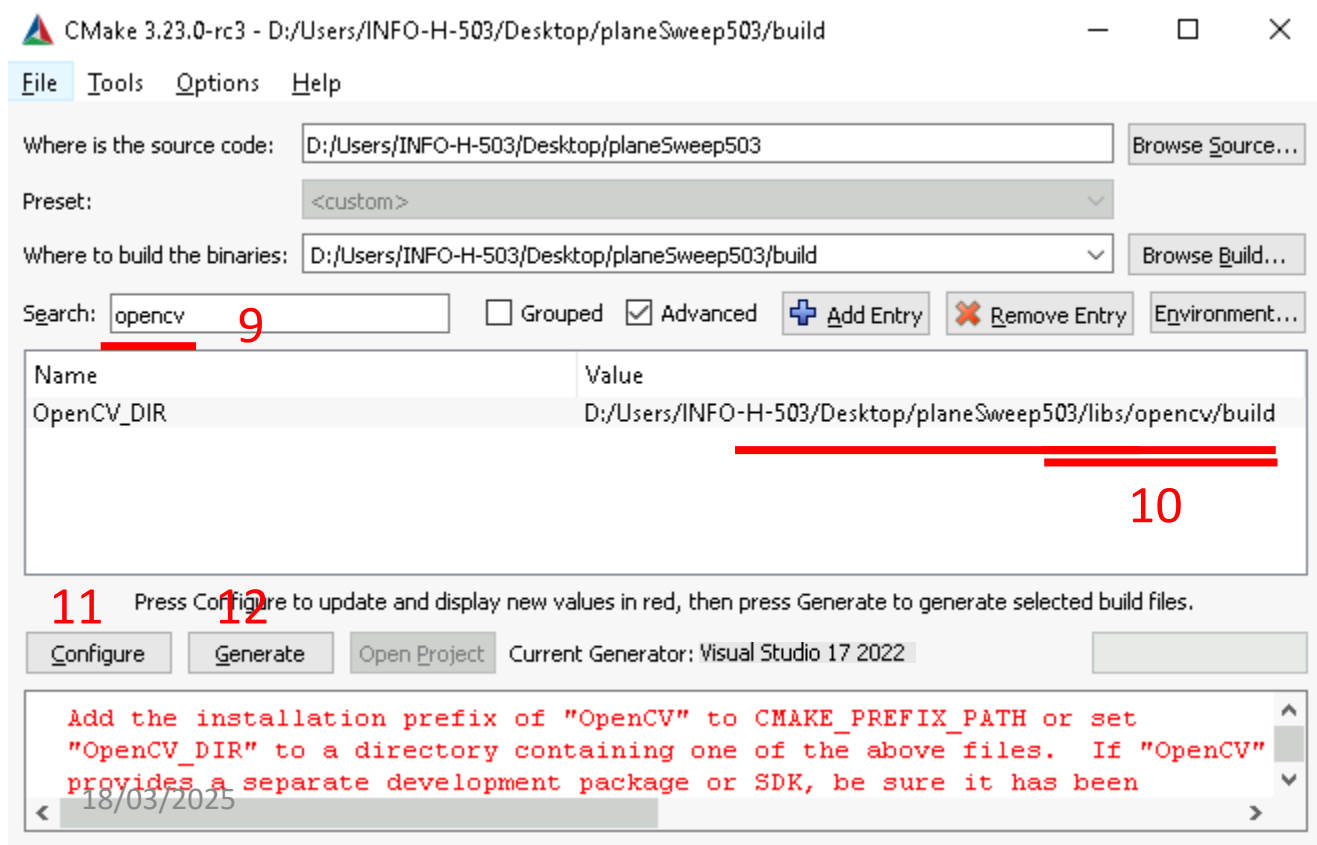
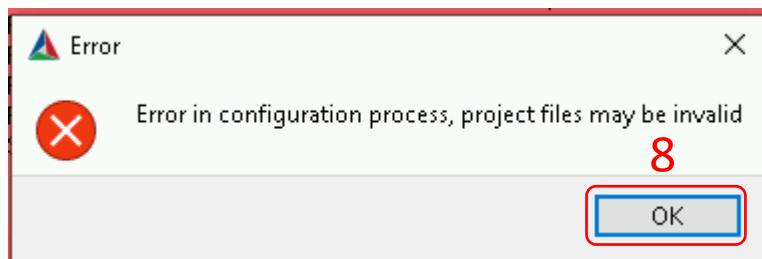
- ☒ Use default native compilers
- ☐ Specify native compilers
- ☐ Specify toolchain file for cross-compiling
- ☐ Specify options for cross-compiling

7

Finish

Cancel

CMAKE



project\libs\opencv\build

OpenCV

» Ce PC » Bureau » planeSweep503 » libs » opencv » build » x64 » vc15 » bin

| Nom | Modifié le | Type |
|------------------------------------|----------------|-----------------------|
| opencv_annotation.exe | 25-12-21 06:01 | Application |
| opencv_interactive-calibration.exe | 25-12-21 06:01 | Application |
| opencv_model_diagnostics.exe | 25-12-21 06:01 | Application |
| opencv_version.exe | 25-12-21 06:01 | Application |
| opencv_version_win32.exe | 25-12-21 06:01 | Application |
| opencv_videoio_ffmpeg455_64.dll | 25-12-21 05:33 | Extension de l'app... |
| opencv_videoio_msmf455_64.dll | 25-12-21 06:01 | Extension de l'app... |
| opencv_videoio_msmf455_64d.dll | 25-12-21 05:44 | Extension de l'app... |
| opencv_visualisation.exe | 25-12-21 06:01 | Application |
| opencv_world455.dll | 25-12-21 06:01 | Extension de l'app... |
| opencv_world455.pdb | 25-12-21 06:01 | Program Debug D... |
| opencv_world455d.dll | 25-12-21 05:44 | Extension de l'app... |
| opencv_world455d.pdb | 25-12-21 05:44 | Program Debug D... |

1. Copy those files

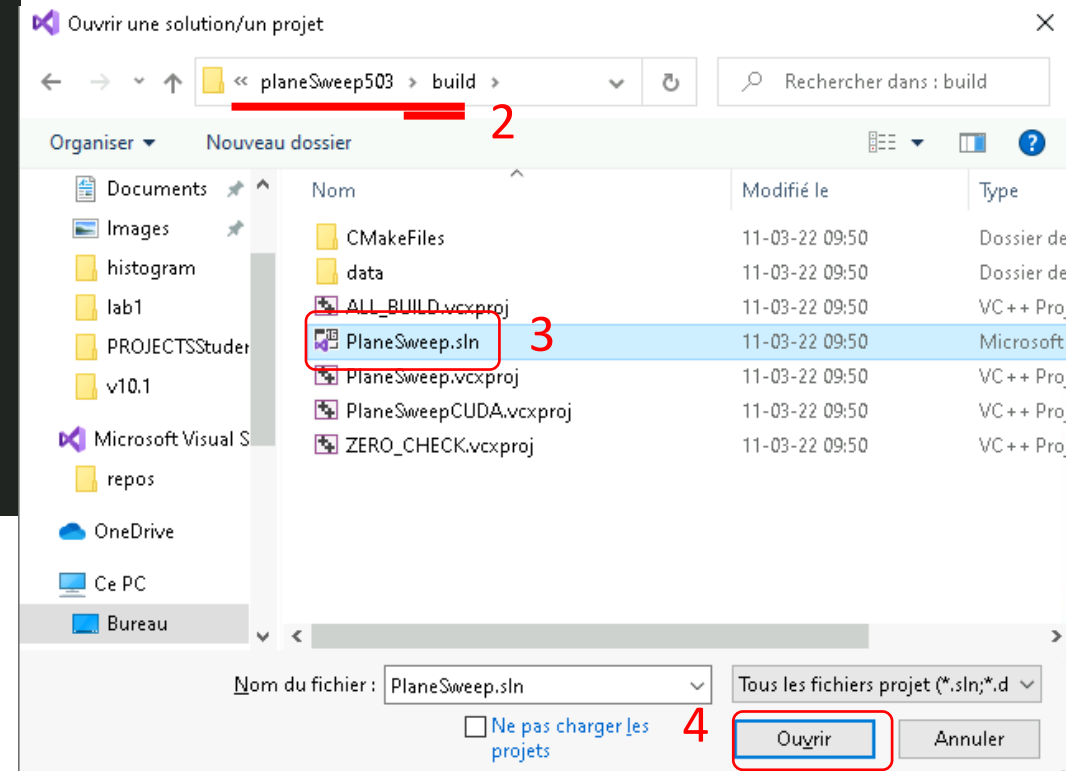
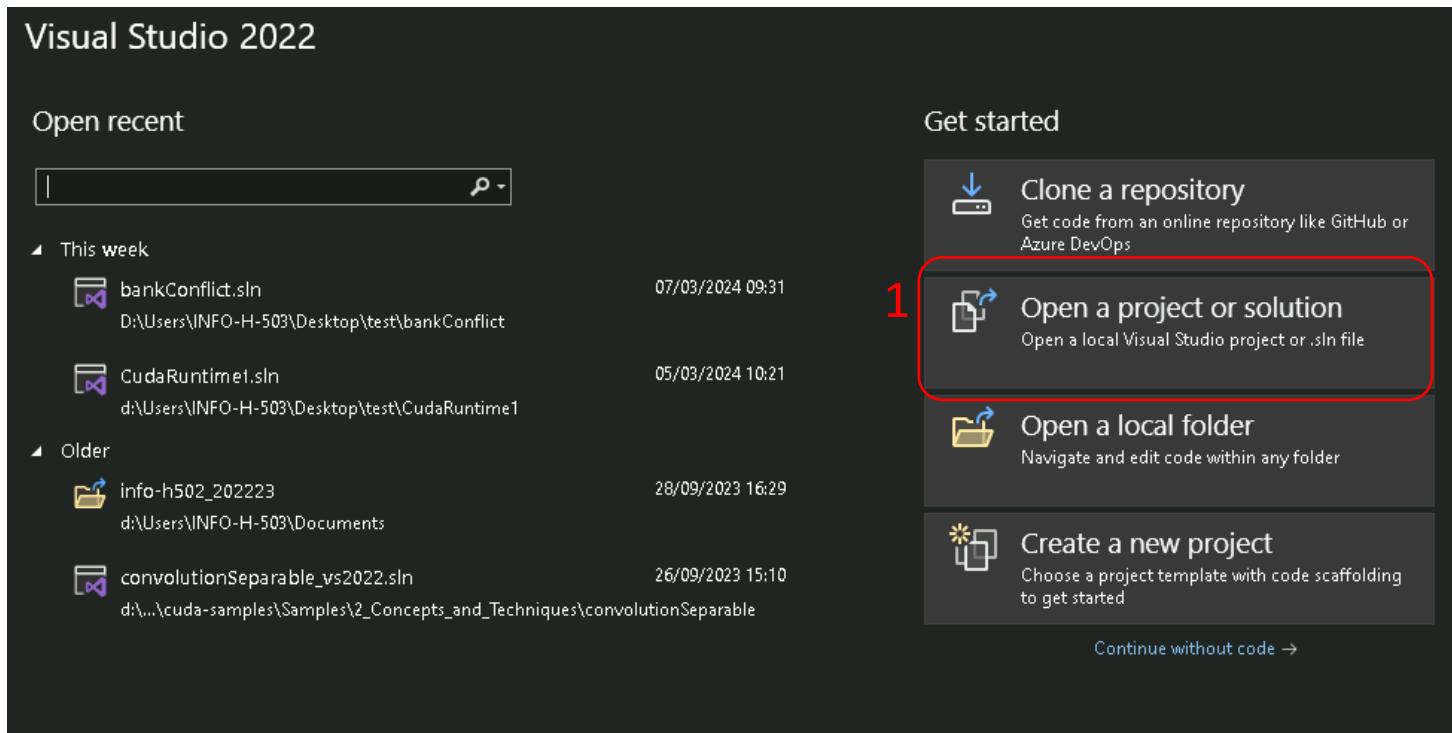
» Ce PC » Bureau » planeSweep503 » build »

| Nom | Modifié le | Type |
|-------------------------------------|----------------|-----------------------|
| CMakeFiles | 11-03-22 09:50 | Dossier de fichiers |
| data | 11-03-22 09:50 | Dossier de fichiers |
| ALL_BUILD.vcxproj | 11-03-22 09:50 | VC++ Project |
| ALL_BUILD.vcxproj.filters | 11-03-22 09:50 | VC++ Project Filte... |
| cmake_install.cmake | 11-03-22 09:50 | Fichier CMAKE |
| CMakeCache.txt | 11-03-22 09:50 | Document texte |
| detect_cuda_compute_capabilities.cu | 11-03-22 09:50 | Fichier CU |
| PlaneSweep.sln | 11-03-22 09:50 | Microsoft Visual S... |

2. to here

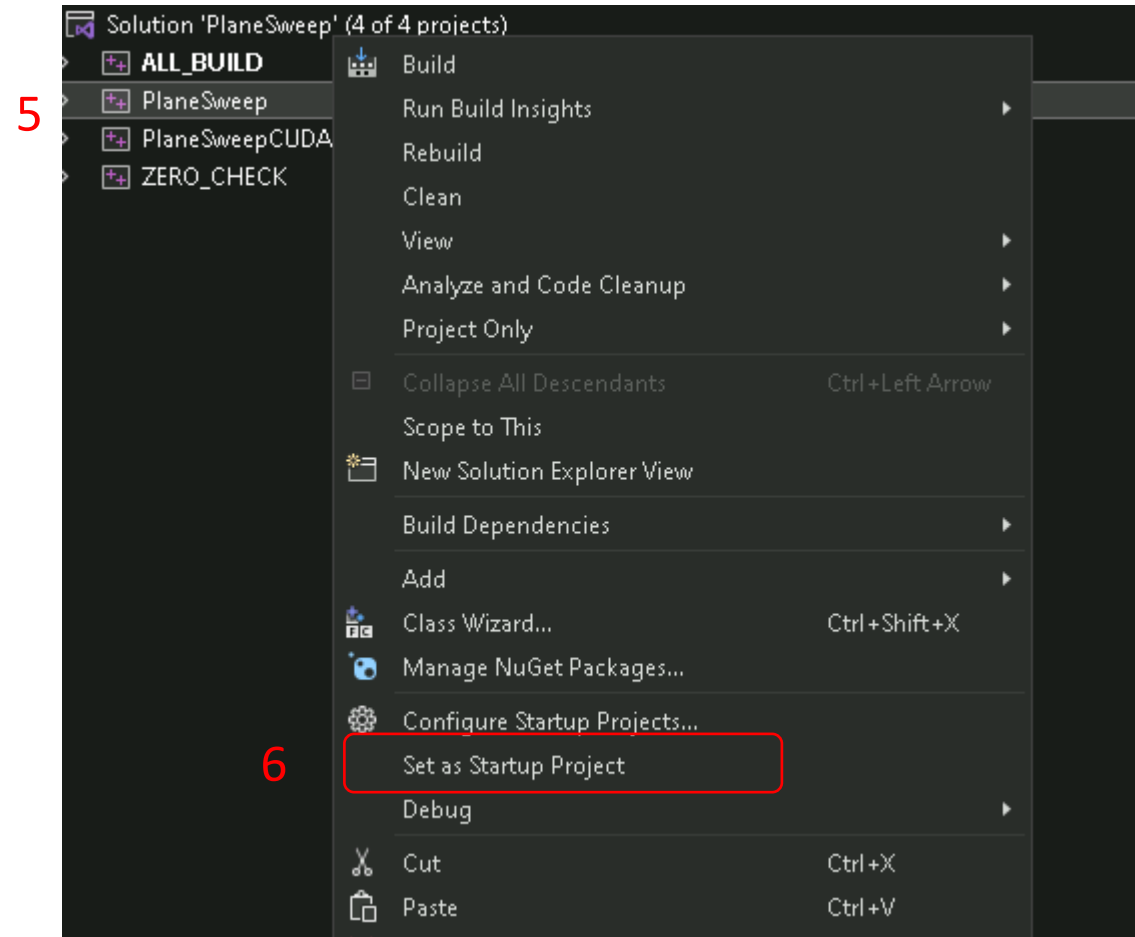
Visual Studio

- Open Visual Studio 2022



Visual Studio

- Open Visual Studio 2022



Visual Studio

- Open Visual Studio 2022

