

AdvPT Exercise 6



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The top of the slide features a dark blue header with a faint background image. On the left, it shows the ornate roofline of a classical building with several statues. On the right, there is a large, circular seal or crest. The word 'ACADEMIA' is visible in an arc within the seal, and a profile of a person's head is also depicted.

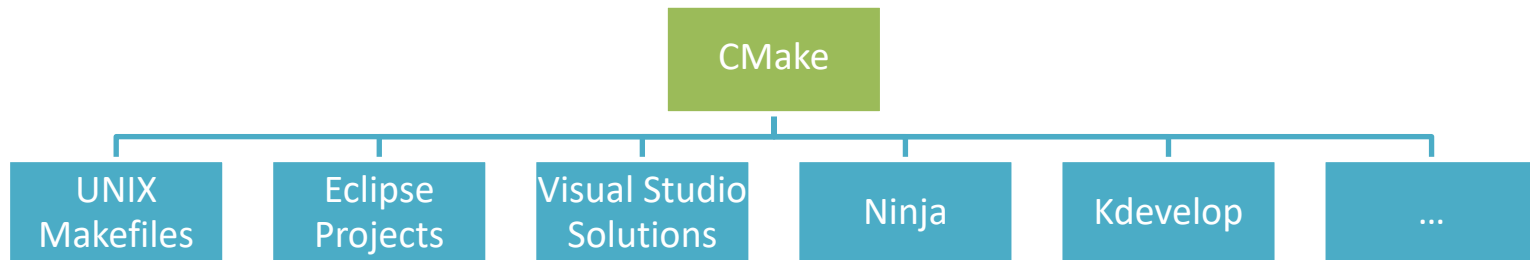
Content

- CMake

- Tasks of a build system
 - Search for available compiler
 - Handle dependencies - only rebuild parts that have changed
 - Assist with compile options (Debug/Release Mode)
 - Find libraries and generate according linking parameters
 - Handle installation/deployment
 - Integration of other tools (test drivers, documentation generators)
- Many build system available
 - autotools
 - Scons
 - Gradle
 - **CMake**
 - ...

CMake because:

- Industry standard
- Cross platform: generates build files for various infrastructures
- Well supported in modern IDEs
- Powerful (platform independent) scripting language



CMake is already installed on CIP-Pool Computers!

If you are using your home computer, you may have to install CMake: <https://cmake.org/download/>

CMake files:

- CMakeLists.txt
- CMakeCache.txt
- CMakeFiles (Folder)
- Cmake_install.cmake
- Makefile

Folder hierarchy:

- Working Directory
 - CMakeLists.txt
 - build (Folder)
 - header (Folder)
 - bar.h
 - foo.h
 - src (Folder)
 - bar.cpp
 - foo.cpp
 - Main.cpp

Version 1:

specify all files by hand

Pro:

- easy to understand
- easy to code

Con:

- manually write all paths
- big `add_executable` in `CMakeLists.txt`

Version 2:

let CMake find all file for you

Pro:

- only a bit more difficult than Version 1
- still easy to code

Con:

- not robust for larger projects
- [discouraged by CMake documentation](#)

Version 3:

link libraries to executable

Pro:

- robust
- most modular version

Con:

- most complex of the three Versions
- needs more than one CMakeLists.txt

- `cmake -DUSE_DEBUG=ON ..`
to use the debug mode
- delete `CMakeCache.txt` before rerunning `cmake ..`

The top of the slide features a dark blue background with a faint, light blue image of the FAU main building and its statues. On the right side, there is a large, semi-circular seal containing the word 'ACADEMIA' and a profile of a person.

Thank you for your attention!



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