MITK

Application Deployment for Windows (Installers)

Microsoft Common Runtime Obstacles

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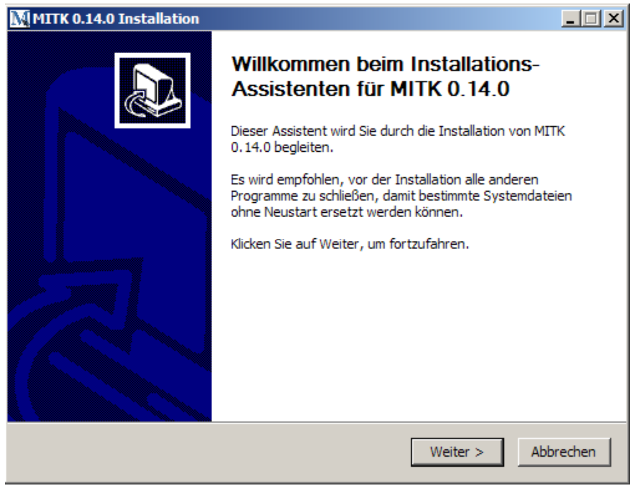
Why should I build an Installer?

dkfz.

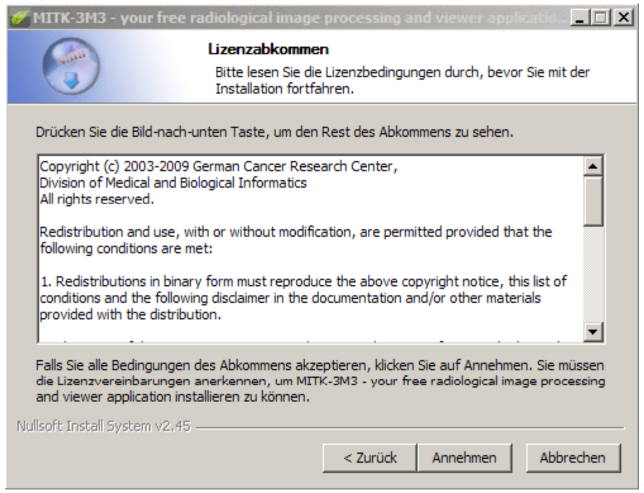


Willkommen beim Installations-Assistenten für MITK 0.14.0

Dieser Assistent wird Sie durch die Installation von MITK 0.14.0 begleiten.

Es wird empfohlen, vor der Installation alle anderen Programme zu schließen, damit bestimmte Systemdateien ohne Neustart ersetzt werden können.

Klicken Sie auf Weiter, um fortzufahren.


MITK-3M3 - your free radiological image processing and viewer applicatio...

Lizenzabkommen

Bitte lesen Sie die Lizenzbedingungen durch, bevor Sie mit der Installation fortfahren.

Drücken Sie die Bild-nach-unten Taste, um den Rest des Abkommens zu sehen.

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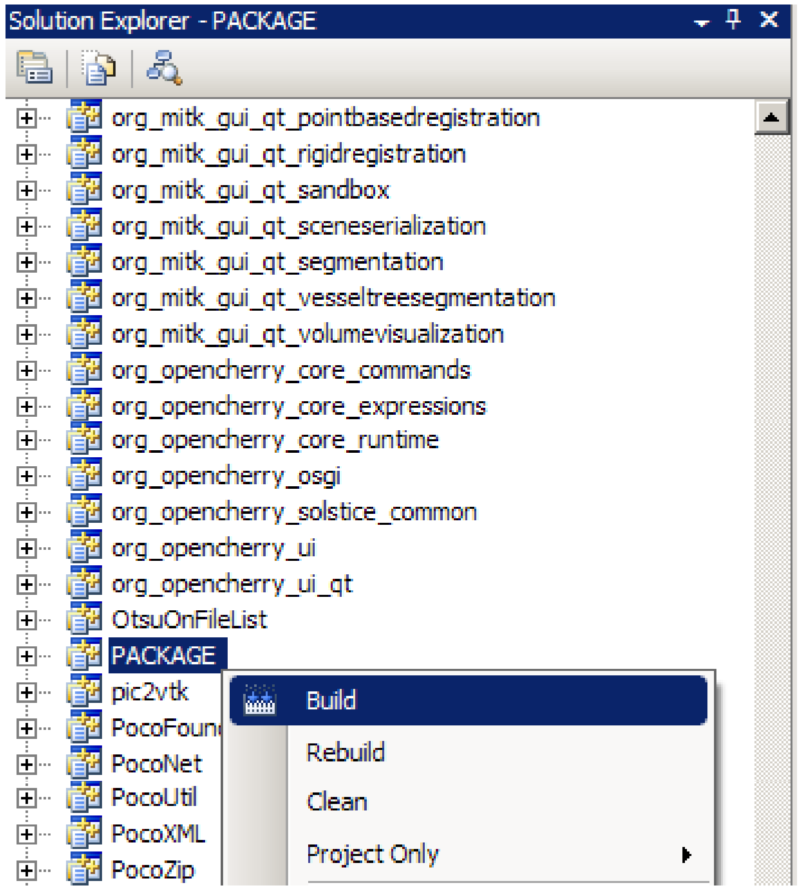
1. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Falls Sie alle Bedingungen des Abkommens akzeptieren, klicken Sie auf Annehmen. Sie müssen die Lizenzvereinbarungen anerkennen, um MITK-3M3 - your free radiological image processing and viewer application installieren zu können.

Nullsoft Install System v2.45

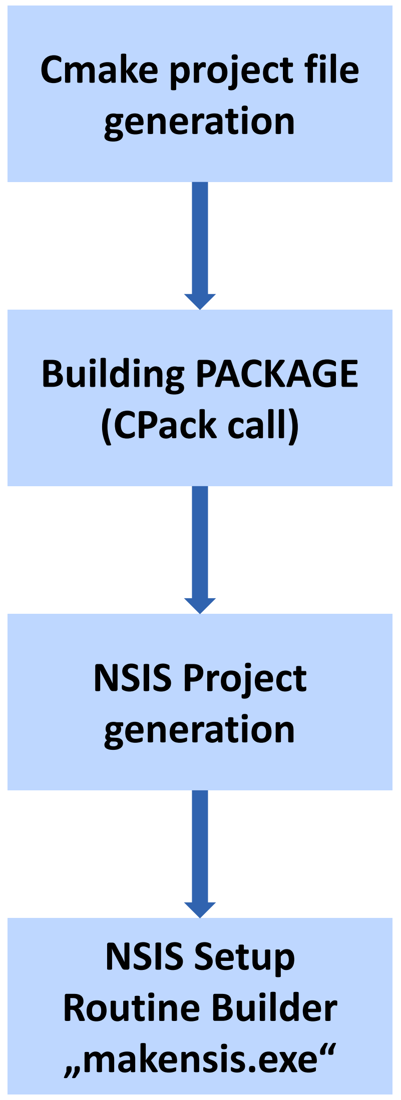
- Give your MITK-based application to cooperation partners, i.e. physicians
- Archive certain milestones of your Bundle in binary form
- Install a MITK application on your own computer for usage
- Test your application as binary on “clean” systems

Installer for Windows Machines


Solution Explorer - PACKAGE
org_mitk_gui_qt_pointbasedregistration
org_mitk_gui_qt_rigidregistration
org_mitk_gui_qt_sandbox
org_mitk_gui_qt_sceneserialization
org_mitk_gui_qt_segmentation
org_mitk_gui_qt_vesseltreesegmentation
org_mitk_gui_qt_volumevisualization
org_opencherry_core_commands
org_opencherry_core_expressions
org_opencherry_core_runtime
org_opencherry_osgi
org_opencherry_solstice_common
org_opencherry_ui
org_opencherry_ui_qt
OtsuOnFileList
PACKAGE
pic2vtk
PocoFoun
PocoNet
PocoUtil
PocoXML
PocoZip
Build
Rebuild
Clean
Project Only

- PACKAGE Project builds windows setup routines.
  Currently available:
  - ZIP
  - Nullsoft Installer (NSIS) (http://nsis.sourceforge.net) Version 2.45 or newer
- Set Path to “makensis.exe” in CMake
- Build “Package” results in a
  - mitkBin/mitk-0.15.1-win32.exe
  - “mitkBin/_CPack_Packages” folder containing the ‘mitk folder’, and the NSIS project files

Understanding , how it works


Cmake project file generation
Building PACKAGE (CPack call)
NSIS Project generation
NSIS Setup Routine Builder „makensis.exe“

Installer-Code in the SVN-Repository:

- mitk/MITKCPackOptions.cmake.in

  (Installer properties, like name, icons, Web-links)
- trunk/CMakeLists.txt & mitk/CmakeLists.txt
  (what shall be installed, DLLs, license, Startmenu-links)

Installer-Code in the Binary directory after Cmake-Config:

- (mitkBIN/CPackConfig.cmake)
- mitkBIN/_CPack_Packages/win32/NSIS/project.nsi

Most Important CPack Commandos

- Install a file:

INSTALL(FILES ${PROJECT_SOURCE_DIR}/mitk.ico   DESTINATION   bin)

- Adding an EXE-file to windows startmenu:

SET(CPACK_PACKAGE_EXECUTABLES "Mitk3M3;MITK-3M 3rd Millenium Imaging")

- Set Installer name:

SET(CPACK_NSIS_DISPLAY_NAME "MITK-3M3 - your free radiological image processing and viewer application")

- Include Microsoft common runtime libraries:

INCLUDE(InstallRequiredSystemLibraries)

- Include CPack model once all variables are set:

INCLUDE(CPack)

The Visual C++ Runtime Components drama ...

The Microsoft Visual Studio Runtime Libraries comprise:

- Common Runtime Libraries – CRT (msvcrxx.dll)
  Use of standard C++ and windows API Libs
- Active Template Library – ATL (atlxx.dll)
  Use of COM and ActiveX components
- Microsoft Foundation Classes (mfcxx.dll)
  Use of MS object oriented GUI Libs (MFC)
- Microsoft OpenMP (vcompxx.dll)

  Use of OpenMP multi-processor Libs

Ways of Deployment

There are three ways to redistribute Visual C++ DLLs:

1. Using Visual C++ Redistributable Merge Modules (MSM)
   - Recommended, but works only with .msi Installers (Microsoft Installers)
   - Installer requires admin rights
   - Installs into the native assembly cache (WinSxS folder)

2. Using Visual C++ Redistributable Package (VCRedist_x86.exe, VCRedist_x64.exe, VCRedist_ia64.exe)
   - Installer requires admin rights
   - Installs into the native assembly cache (WinSxS folder)

3. Install a particular Visual C++ assembly as a private assembly
   - Installer requires NO admin rights
   - Installs into the program directory

Further Information

- http://blog.kalmbach-software.de/2009/05/27/deployment-of-vc2008-apps-without-installing-anything/

- http://blog.kalmbach-software.de/2008/05/03/howto-deploy-vc2008-apps-without-installing-vcredist_x86exe/

- http://www.codeguru.com/forum/showthread.php?t=408061
  (Visual C++ Application: How to use manifests and re-distributable assemblies?)

- http://stackoverflow.com/questions/59635/app-does-not-run-with-vs-2008-sp1-dlls-previous-version-works-with-rtm-versions
  (MSVCR version issues with VC2008 and VC2008 SP1)

- http://forums.winamp.com/showthread.php?threadid=267834

  (deploying vcredist with NSIS)

- Tipp: Diagnose issues during application start-up
  Dependency Walker → Menu “Profile” → Start Profiling