Slicer4 Extensions

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The landscape

- Command line modules
  - Executables
  - Shared libraries
  - Python, Java, …

- Loadable modules
  - Qt plugins (c++)
  - Scripted (python)
What is an extension?

- Command Line or Loadable or Module
- Optional
- Code not in Slicer repository
- Easy to install
Life cycle

1. Find_Package(Slicer …)
2. Upload
3. Download

Extension

3DSlicer
Where to start?

- Slicer source
  
  ```
  ./Extensions/Testing/LoadableModuleTemplate
  ./Extensions/Testing/ScriptedLoadableModuleTemplate
  ```

- Generate your extension
  
  ```
  python ./Scripts/ModuleWizard.py
  --template ./Extensions/Testing/LoadableExtensionTemplate
  --templateKey LoadableExtensionTemplate
  --target ../MyExtensionSource
  MyExtension
  ```

- Extension description
What is an Extensions Description?

- Repository / revision (git, svn, local, cvs)
- Dependencies
  - Other extensions
  - External project
- Homepage
- Category
- Description
- Status
How do you publish an extension?

- Your extension → CDash
  
  $ make ExperimentalUpload

- Grouped under “Extension-Experimental” track
Trusted extension: “Nightlies”

- Daily dashboard submission
- Extensions are automatically ..
  - Configured, built and tested
  - Packaged and uploaded
  - Coverage and dynamic analysis computed

- Dashboard easy to setup
  - Option WITH_EXTENSION = ON
  - SlicerDashboardScript.TEMPLATE.cmake
Your extension → “Nightlies”

- Talk to the gatekeeper
- Check-in your extension description
  - Slicer/Extensions/YourExtension.s4ext
How do you install an extension? (1/2)

- **Extension Manager**
  - Download and Install

- **Settings**
  - Add “Additional module paths”
How do you install an extension? (2/2)

• Command line option:
  --add-module-paths
  --remove-module-paths

• Manually edit Slicer.ini

• Copy/paste extension into:
  – Slicer/plugins
  – Slicer/qt-scripted-modules
  – Slicer/qt-loadable-modules
Coming soon …

- Bundle extensions with Slicer package
- CDash → Package repository