BVM-Tutorial 2010:
BlueBerry
A modular, cross-platform, C++ application framework

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Overview

- General introduction
- Workbench overview
- Plug-in system and extension points
- Advanced topics
- Summary

Introduction

Main use-cases:

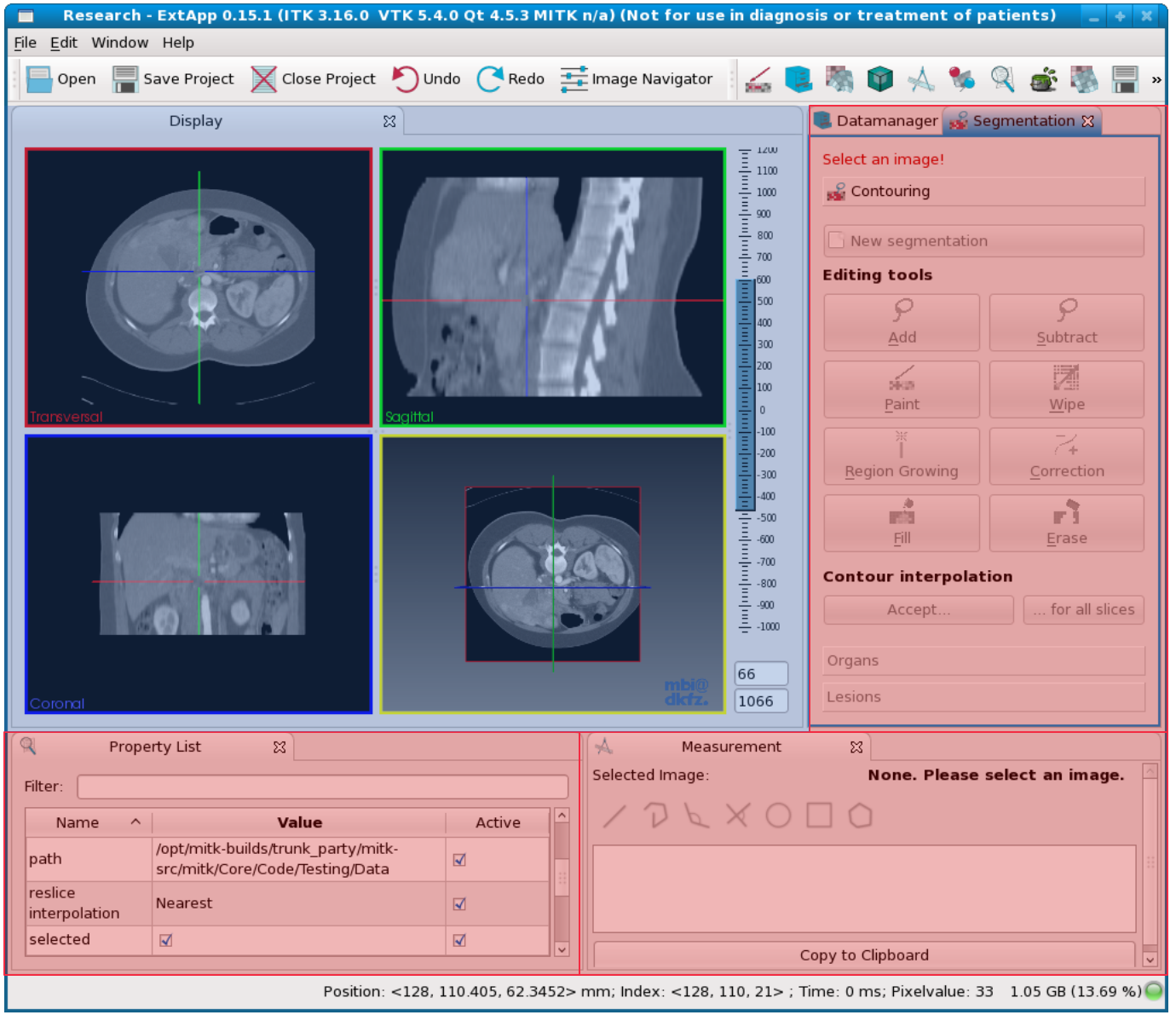
- Write your own plug-in for a MITK application
- Write your own application which can be extended by plug-ins

Features provided by BlueBerry:

- A plug-in system based on OSGi (as for example in Eclipse)
- Loose coupling of plug-ins via „Extension-Points“ (lazy-loading)
- A service registry together with some standard services (Preferences, Extension Registry, etc.)
- A highly customizable (GUI)-application framework

The Workbench - Overview

Menu contributions



Editors

Views

The Workbench

Workbench features:

- You can add arbitrary views and editors to your (or others) application
- Define *perspectives*, a layout of views and editors designed for specific tasks
- Add preferences with a GUI
- Use a generic selection service to communicate indirectly with other plug-ins
- Listen to workbench events (view activated, perspective changed, etc.)
- Customize the application layout by writing your own Workbench advisor classes

The Plug-In System

A plug-in must provide meta information about itself:

META-INF/MANIFEST.MF

```
Manifest-Version: 1.0
Bundle-Name: BlueBerry User Interface Plugin
Bundle-SymbolicName: org.blueberry.ui
Bundle-Version: 1.0.0
Bundle-Vendor: DKFZ, Medical and Biological
  Informatics
Require-Bundle: org.blueberry.osgi, …
Bundle-Activator: berry::WorkbenchPlugin
```

- See the public attributes in IBundleManifest for a list of available keys.

The Plug-In System

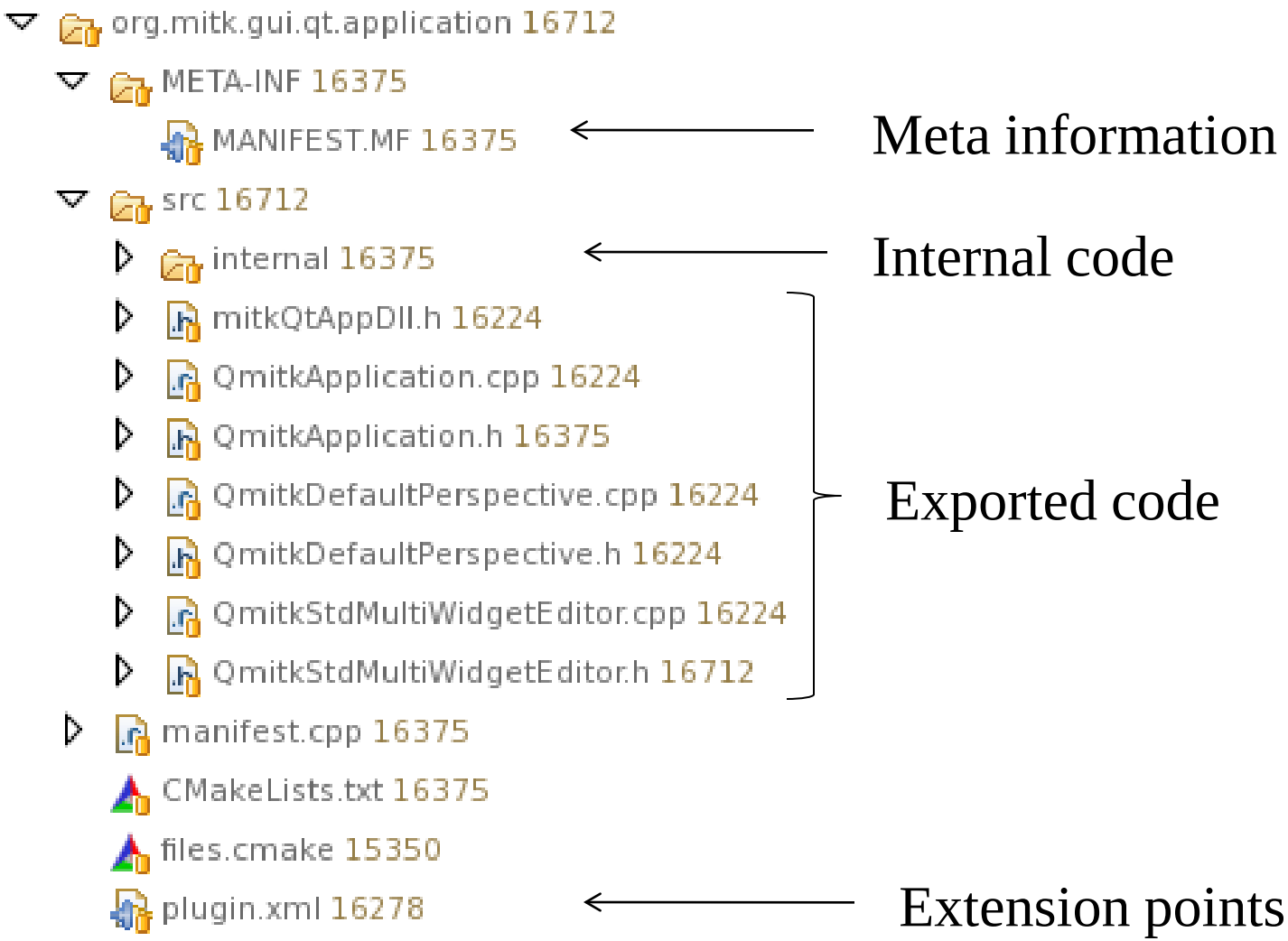
Extension points can be used to lazily provide or collect information:

plugin.xml

```
<extension point="org.blueberry.ui.views">
  <category
    id="org.mitk.views.general"
    name="MITK General"/>
  <view
    id="org.mitk.views.datamanager"
    name="Datamanager"
    category="org.mitk.views.general"
    icon="resources/datamanager.xpm"
    class="QmitkDataManagerView" />
</extension>
```

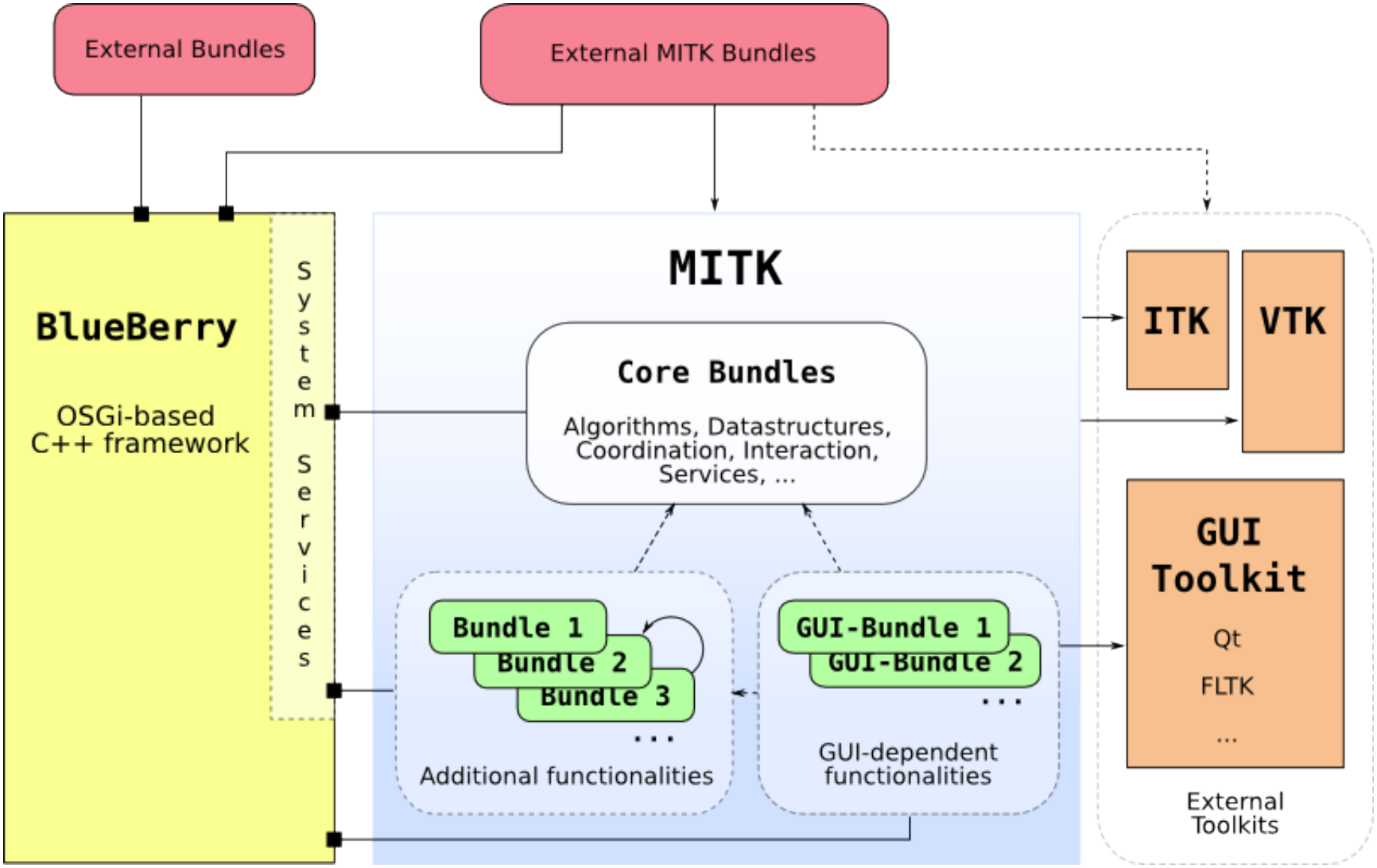
- See the Extension-Point Reference for a list of available extensions

The Plug-In System



- See the PluginStyleGuide for a more in-depth explanation

Plug-in Architecture



Advanced Topics

Perspectives:

- Define an optimal layout for logically connected views
- Read more at Using Perspectives

Preferences:

- Persist user and internal preferences
- Read more at The Preferences Service

Selection Service:

- Publish or subscribe to generic selection events
- Read more at Using the Selection Service

Custom Applications:

- Provide custom welcome screens, an initial perspective, etc.
- Read more at WorkbenchAdvisor

Summary

Plugins

- Can be lazily loaded through extension points
- Can extend the Platform‘s capabilities
- Can extend the capabilities of other plug-ins

The Workbench

- Can be customized by changing the set of plug-ins and defining perspectives
- Provides useful standard services (Preferences, Selections, ...)

Further information

- http://www.mitk.org/wiki/Documentation
- http://www.mitk.org/wiki/BlueBerry

Thank you!

Any questions?