Medical Imaging
Interaction Toolkit (MITK)

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MITK 2005: In-house solution for sustainable development

The Medical Imaging Interaction Toolkit (Ivo Wolf et al, Med Image Anal 2005)

- Handling of spatial and temporal data objects
- Managing of multiple views on a rendering scene
- Interaction-Framework: state machines, undo/redo
Today: MITK Workbench
MITK: Modularity
MITK: Modularity

MITK Workbench

Custom Applications

MITK Plugins

MITK Modules

Qmitk
IGT
ToF

Qmitk

MITK Core

ITK
VTK

SOF
Python
OpenCV
Boost

BlueBerry (RCP)

CTK Plugin Framework (OSGi)

Qt
MITK: Modularity

MITK Workbench

Custom Applications

CTK CLI Plugin

MITK Plugins

BlueBerry (RCP)

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Qt

Module System

MITK Modules

MITK Core

Qmitk  IGT  ToF

SOFA  Python

OpenCV  Boost

ITK  VTK
- Dynamic Plugin Framework (based on OSGi)
- Enables service oriented architectures
- CTK provides basic plugins for distributed/large-scale applications
- Foundation for the BlueBerry application framework
Services in MITK: Examples

- Runtime device management for MITK-IGT, MITK-ToF and MITK-US:
  - Dynamic discovery of available devices
  - Connect/disconnect modelling
  - Dynamic selection of devices based on service metadata

- Extended file reader/writer configuration and selection
MITK/CTK vs Eclipse/OSGi

MITK Workbench

BlueBerry

CTK Plugin Framework

IDE

XMind

RCP
Example: *ProFuse* prostate biopsy planning

Eigen, Grass Valley, CA, USA
- Uses widgets and data management classes from CTK-DICOM
- Management of local DICOM data
- Query/Retrieve from PACS
CTK usage in MITK: Summary

- CTK Plugin Framework
- Command line modules
- Widgets
- Python console
- DICOM classes and widgets

Thank you!