

User Interface for Realignment and Fusion of 3D Modalities

SEP Kickoff
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Content

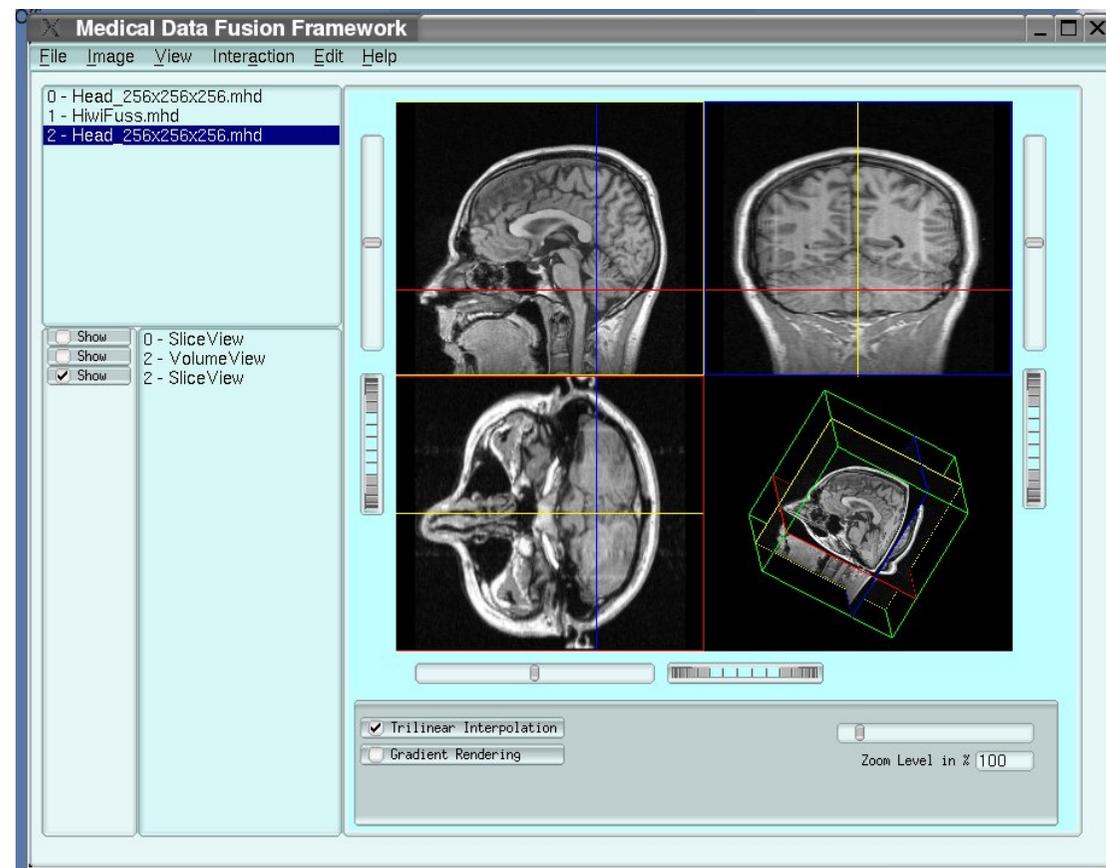
- Motivation
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Motivation

- Development of an interface for visualization and navigation in 3D
- Existing means proved to be insufficient in certain aspects
- Integration of all mandatory features into one interface (widget)
- Realignment of image data for further use (segmentation, diagnostics, ...)
- Examination of requirements

The given environment

- Medical Imaging & Visualization Environment developed as Lab Course SS2004
- Consists of GUI to show an arbitrary number of Slice and Volume Renderers
- Slice View: visualization of the three orthogonal slices in one view each and one view merged



Project definition

- Advanced visualization system based on common 3-Slice view
- Use of given interface developed in Lab Course SS2004
- Adapt Slice View to requirements
- Implementation of new features into the environment

Project specification

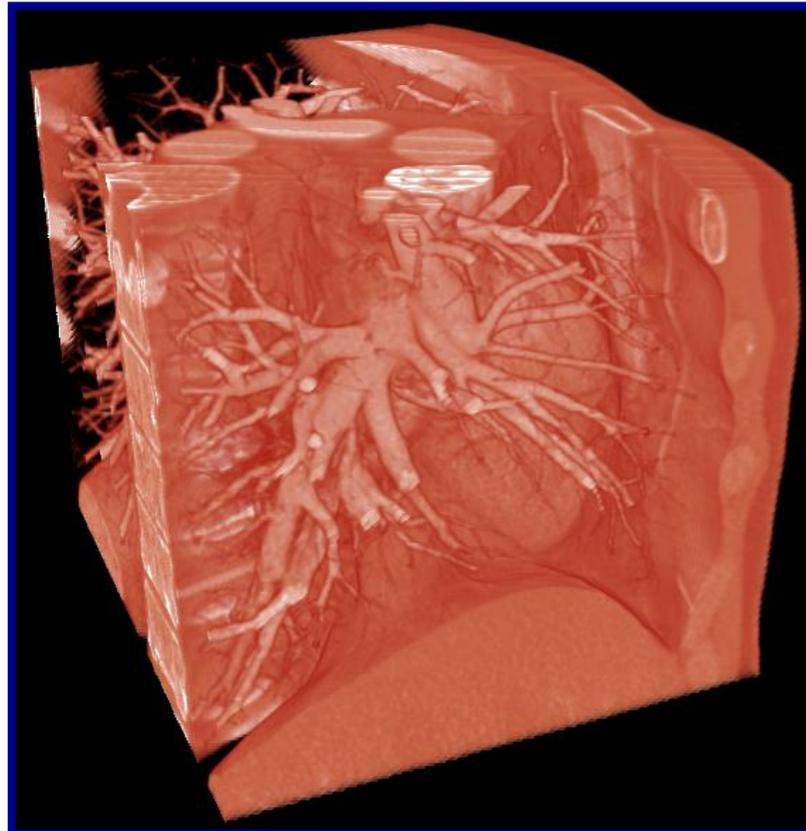
new features

- Rigid transformations in the view
- *Particular*: Alignment of human heart CT data along the heart's main axis

- Integration into FLTK Widgets
- Ability to display reference set of data, add fading slider
- Feature for MPR-Thickness-Value and MIP-Mode
- Transparency (Alpha-Blending, ...)
- Eventual volume rendering & 3D Texture Slice Rendering

Rigid transformation to set heart axis

- Task: Integrate feature to rotate slices to align CT-Slice renderers orthogonally to human heart axis
- Mandatory for cardinal diagnostics
- Rather user unfriendly implementations in given environments
- Based on discussion with S. Nekolla, Nuklearmedizin RDI
- Also needed for alignment of volume for registration!



Rigid transformation to set heart axis

