

An Introduction and Demonstration of a New Computer Assisted Visualization and Analysis Software System (CAVASS)

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Purpose/Aim:

We demonstrate and describe CAVASS, a new, freely available, complete software system for the visualization and analysis of 3D (and higher) medical imagery. CAVASS is the next generation of our popular 3DVIEWNIX software. It integrates with DICOM and provides an interface to ITK. CAVASS is open source and supports Windows, Linux, Unix, and Mac.

Content Organization:

The following subsystems will be demonstrated: Image processing for enhancing information about and defining an object system; Visualization for viewing and comprehending an object system; Manipulation for altering an object system (virtual surgery); Analysis for quantifying information about an object system; Data I/O suite especially designed for large, multidimensional (at least 3D), possibly multimodality, data sets including DICOM and other popular non-medical formats.

Summary:

CAVASS is the only freely available, open source image processing, analysis, and visualization software system for multidimensional medical imagery that incorporates other open source toolkits and provides for the efficient and parallel implementations of important algorithms. We will provide a wide variety of clinical data sets and will demonstrate the extremely efficient sequential and parallel implementations on a low cost cluster of ordinary PCs.