

AbstractID: 12065 Title: The Cancer Biomedical Informatics Grid - A Tremendous Resource for Research and Clinical Care

The cancer Biomedical Imaging Workspace is a part of the National Cancer Institute's caBIG initiative which is an effort to utilize grid computing and well defined standards to create a semantic web for exchange of research and clinical information including proteomic, genomic, laboratory, clinical, and imaging data. The Imaging Workspace consists of experts from the diagnostic imaging and radiology oncology communities across the United States with a wide variety of different areas of expertise. The purpose of the workspace is to identify and address challenges in the exchange and cross-correlation of images and related information including image visualization and processing and analysis algorithms for research and secondarily clinical applications. The current major projects of the workspace include an effort to create a standard for annotation and image markup (AIM), a set of tools to facilitate the creation of applications that utilize the DICOM working group 23 standard (application hosting), middleware to create software bridges between DICOM and grid computing protocols and an algorithm validation toolkit which represents a resource for validation of a wide variety of imaging algorithms. The NCI has also created a free and open source DICOM image archive designed as a research repository for clinical trials that can also be used for a variety of other purposes. The Vasari Project represents a project which integrates the imaging workspace tools and is designed to allow correlation of MRI studies in patients with brain tumors with genomic and clinical data in a demonstration project of the potential role of diagnostic imaging in personalized or stratified medicine.

Learning Objectives

1. Understand the goals and objectives of the NCI's caBIG imaging workspace
2. Be able to list the major projects of the imaging workspace
3. Describe how the Vasari project will integrate the workspace projects in an initiative to allow cross correlation of image data with associated genomic, laboratory, and clinical data