Grand Challenge Framework

Powered By Kitware's Midas Platform

http://www.midasplatform.org

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What is the Midas Platform?

- System for heterogeneous data hosting
 - Images, videos, presentations, DICOM, ...
- Server-side processing
 - ParaViewWeb, Condor Grid, ...
- Report generation
 - Grand challenge scoring, image-based measures, ...
- Integration into existing workflows
 - Web interface
 - RESTful interface
 - API for access from C++ and Python
- Multiple levels of data and user security
- Highly customizable
- Proven installations throughout the world

Midas Platform Installations

- http://midasplatform.org/MIDAS/project/midasuse.html
- Brigham and Women's Hospital
 & the National Alliance for Medical
 Image Computing
 - Thousands of papers and datasets and users

- Surgical Planning Laboratory

 The Publication Database hosted by SPL

 Province

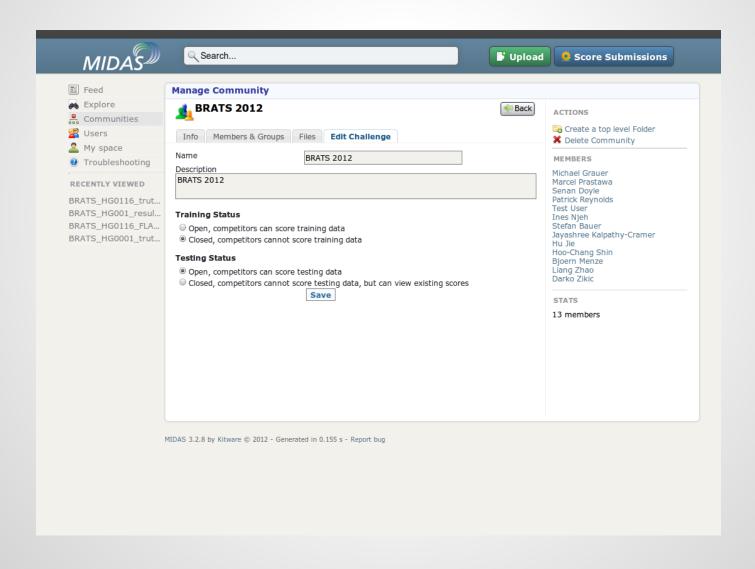
 Provin
- http://www.spl.harvard.edu/publications
- Optical Society of America, National Library of Medicine, NCI intramural research, Insight Journal, Department of Psychiatry at UNC, ...
- Retrospective Image Registration Evaluation
 - Grandfather of all Grand Challenges
 - Michael Fitzpatrick from Vanderbuildt

Midas for Grand Challenges

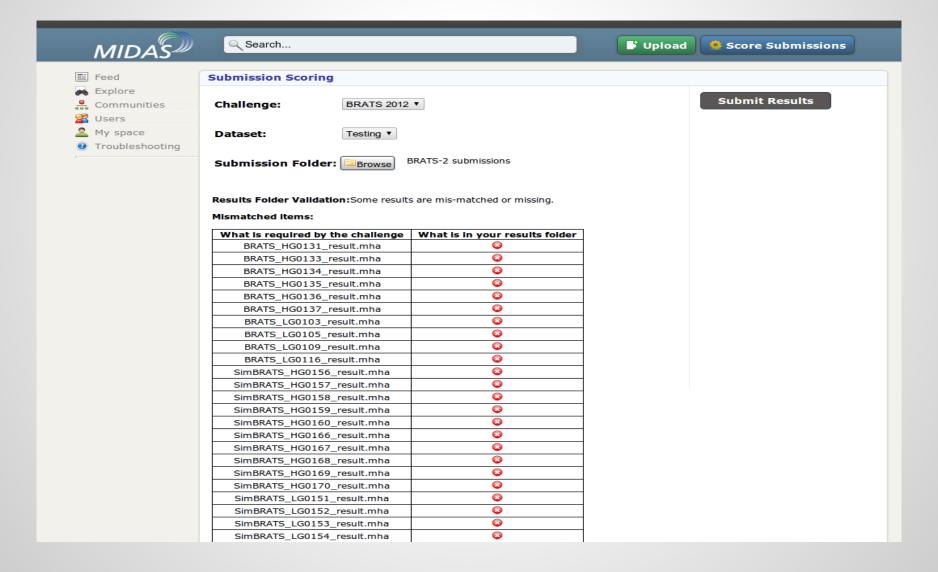
Key features of a system to support grand challenges:

- Broad distribution of training data
- Control user access to testing data
- Easy-to-use for challenge organizers and participants
- Automated scoring of results uploaded by participants
- Report performance of participants

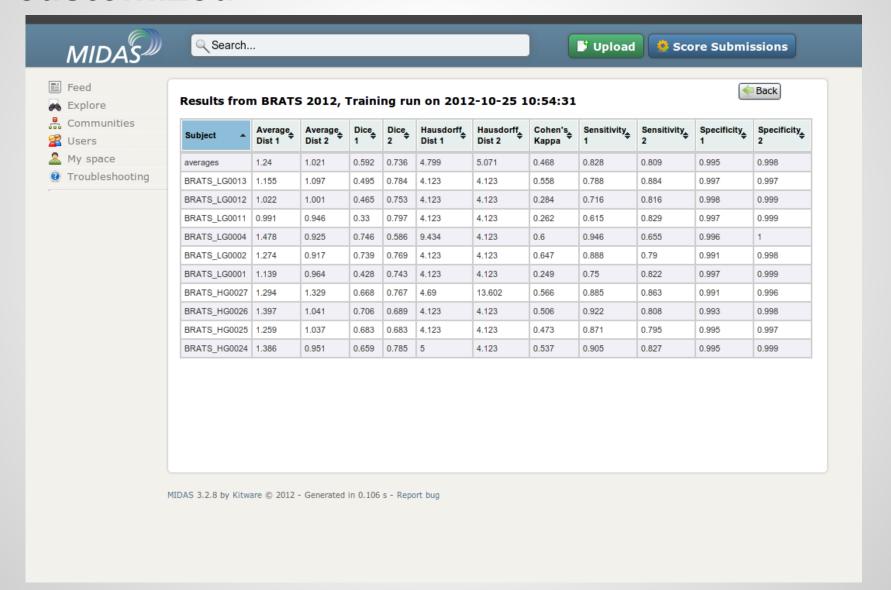
Simple creation & management of Grand Challenges



Intuitive framework for result submission for participants



Results are automatically scored. Scoring metrics and rank aggregation can be customized.



Kitware can host your data and/or automated your scoring process for your grand challenge.

Requirements to create a grand challenge at Kitware

- 1. Scoring metrics
 - either selected from existing or provide executables
- 2. Training and testing datasets
 - images and ground truth for each
- 3. Sample participant results to use in testing the system

We provide the following

- 1. Data hosting
- 2. Server-side processing for scoring
- 3. Ranking & aggregation algorithms for participant scoring

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