Reflecting on the ISSGC07: Gripsholmsviken, Mariefred, Sweden, July 8th-20th 2007

Andrew Jamieson
University of Chicago – Medical Physics
OSG All Hands Consortium Meeting
3/05/2008

My Background: *Medical Physics*

- Radiation Therapy Physics
  - Radiation Oncology
  - Treating Cancer with High Energy Ionizing Radiation

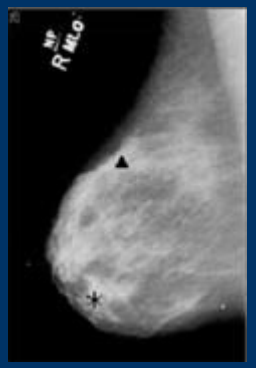
Diagnostic Imaging

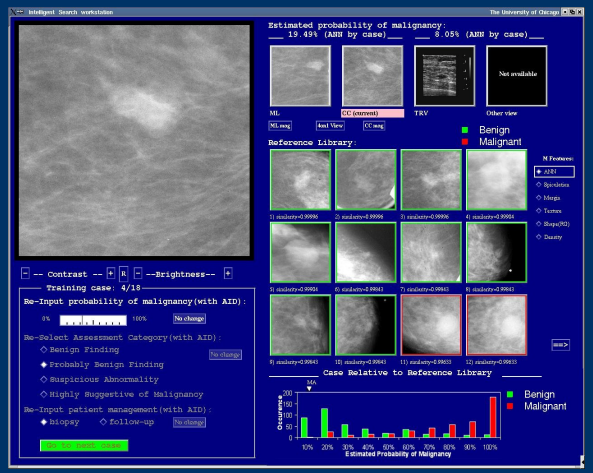
- Anatomical & Physiological Information
- CT,PET,MRI,X-ray, SPECT
- Image reconstruction, analysis,CAD

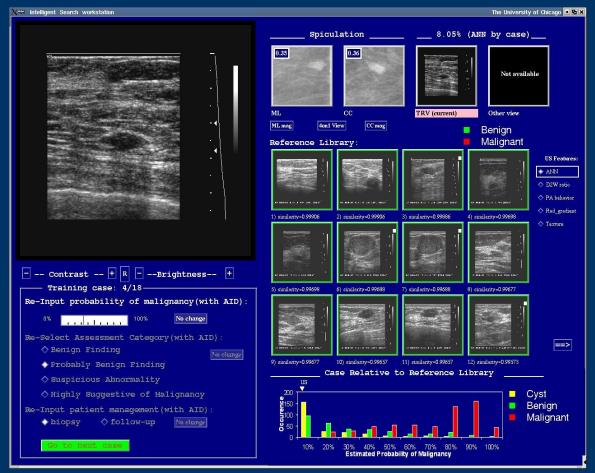
Dr. Maryellen Giger's Lab Group

Primary Objectives:

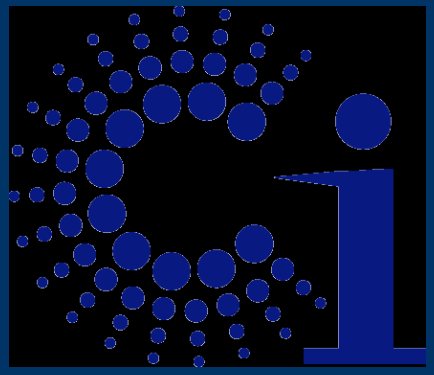
- Develop accurate CAD algorithms for breast mass lesions in X-ray mammography, ultra sound sonograms, and MRI images



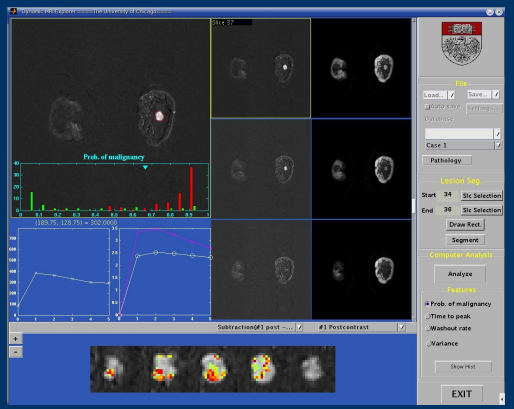




My Initial Grid Experience:
CI & Med. Phys. Collaboration



THE UNIVERSITY OF CHICAGO
DEPARTMENT OF RADIOLOGY



Moving CAD Research on to the Grid

- Initial goals
  - Port previously developed software on to Grid environment, generate and execute workflow
  - Use limited test database of images
  - Minimize workflow execution time on Grid
  - Scale to larger computations
  - Give feedback to Grid software developers to maximize ease of use
  - Assess potential of Grid for future CAD research

ISSGC07 Objectives

http://www.iceage-eu.org/issgc07/index.cfm

“The School will boost students’ capabilities for research and innovation thanks to lectures, discussions, laboratory sessions, tutorials and group work. These activities will be delivered by leading authorities in the fields of advanced grid technology, applications of e-Science and distributed systems research.”

ISSGC07 Objectives

“Hands-on laboratory exercises will give participants experience with widely used Grid middleware.

Graduates of the School will:

*** be familiar with the fundamental components of Grid environments, such as authentication, authorization, resource discovery, and resource access**

*** be able to use Grid environments for basic and advanced job submission and distributed data management**

*** be conversant with Grid achievements worldwide**

*** be alert to emerging Grid applications**

*** appreciate the potential of e-Infrastructure and be aware of new research opportunities”**

http://www.iceage-eu.org/issgc07/index.cfm

:

ISSGC07 Program Lay-out

Typical Day :

-Morning Lectures concerning Grid core tools/software/architecture

-Coffee Brakes (converse and discuss Grid related things)

-Lunch (Kubb & Soccer)

-Afternoon Exercises and Practical examples

-Lecture on use of Grid technology in research/industry/government

-Dinner (after a few drinks some more Kubb)

-Team building group activity

-Socializing and exploring Mariefred

-Sleep?

***The two weeks culminated in an intense group challenge and presentation of results. The challenge forced students to utilize most of the core Grid tools introduced, organize efforts and delegate specific tasks. Meant to mimic real-life collaborative situations requiring close teamwork and efficient use of individual expertise.**

The ISSGC07 Experience: Lecture

The ISSGC07 Experience: Team Challenges

Malcolm emphasizing the importance of good teamwork!

Intense team brainstorming -->

The ISSGC07 Experience: Team Challenges

Malcolm and fellow Grid Masters carefully judge each team's performance while the students eagerly await the results

The Winning Team! --->

The ISSGC07 Experience: Memories

Key Experiences / Wisdom Gained

- Wonderful exposure to people from diverse backgrounds (culturally and academically) with various levels of Grid expertise
- Perspective on the scale of scientific and technological efforts in the global community
- Helped to give scope of the large challenges remaining in the continuing effort to expand the efficient and reliable use of “Grid” infrastructures

Thanks very much!

Acknowledgments:

- OSG
- Everyone at ISSGC07
- KTH, Stockholm
- Computation Institute
- Maryellen Giger & lab group

Open Science Grid