

# eLearning in the WGLN

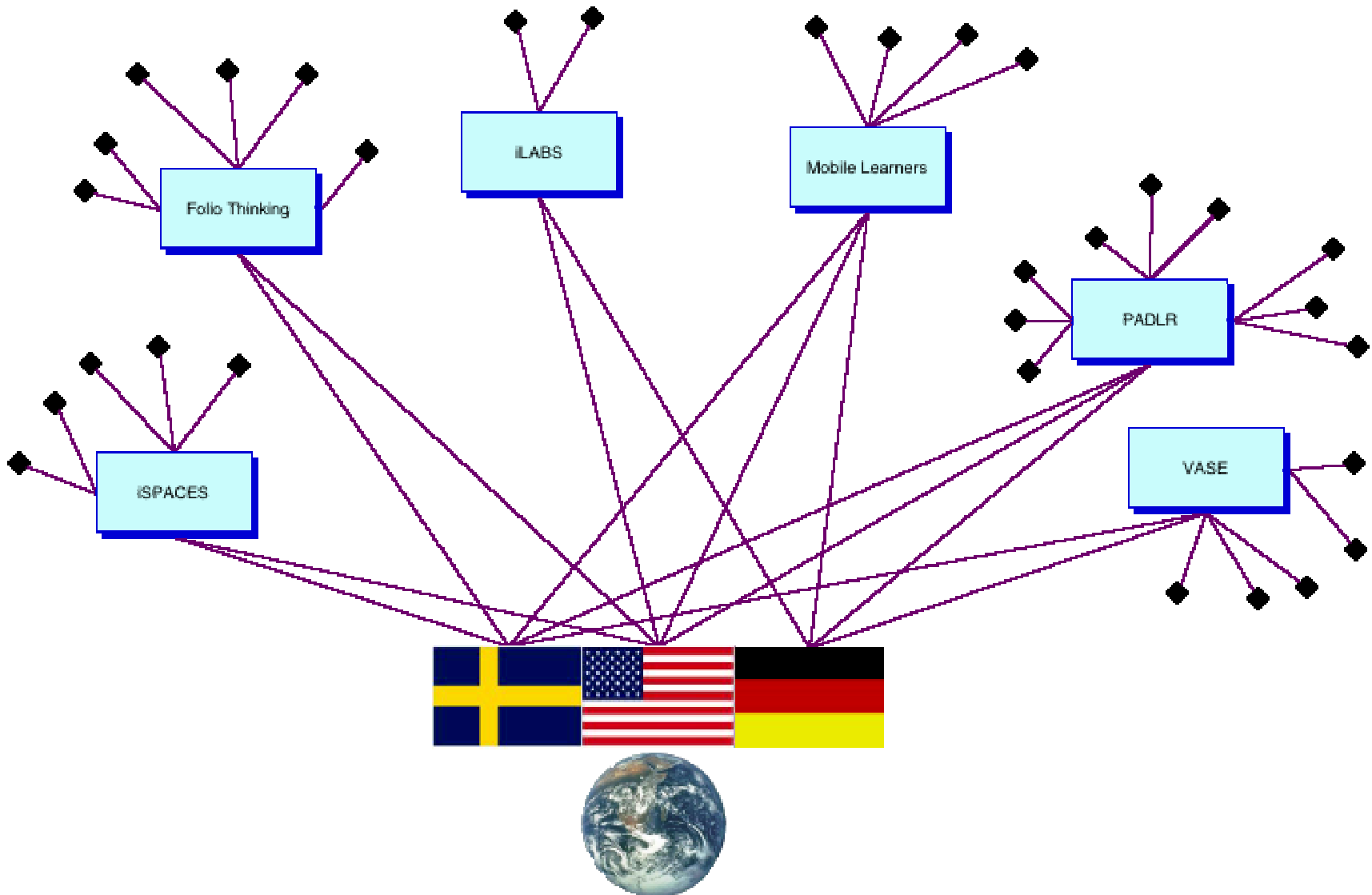
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Wallenberg Global Learning Network

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# WGLN

- The Wallenberg Global Learning Network (WGLN) is a
  - Consortium of 7 universities in the
    - US, Sweden and Germany
    - funded by
      - the Knut and Alice Wallenberg Foundation of Stockholm Sweden.
      - Ministry of Art and Culture, State of Lower Saxony, Germany
  - Six projects in FY 2001-2002,
    - Designed to improve the teaching and learning enterprise in higher education
    - Simultaneous testbeds

- 31 testbeds/submodules/sites
- 6 projects
- 7 universities
- 3 learning labs
- 1 Network



# WGLN International Office of Evaluation

- Internal consulting group
  - Stanford, Sweden, Germany
    - Advice to complex technology and learning initiatives with multiple stakeholders/opinions about goals, direction, deliverables
      - Align activities to goals
      - Make tacit beliefs explicit among stakeholders
      - Apply a measurement model for quality, improvement and success metrics
      - Build organizational capacity for inquiry and improvement

# Interactive Simulated Patient

- Completely web-based simulation of a patient encounter
  - Interviewing the patient
  - Physical examinations
    - inspection, palpation, neurological exams, ENT exams, dental exams.

# Interactive Simulated Patient

- Every simulated case is made of a combination of sources, actors, including real patient images (used by permission), professional models and other sources
- The Medical history is using a keyword-based interface to manipulate a database of video sequences, approximately 200 per patient.
- More than 350 X-ray, CT and MR images are used and more than 1500 lab tests are included.
- The system is available in Swedish and in English. A possible translation into French is under discussion.



### Medical History



1. Name  
 2. Date of Birth  
 3. Address  
 4. Contact Information  
 5. Insurance Information



### Radiological examination:



#### Analysis skull

**Result:**  
 Normal skull top  
 fracture after head  
 trauma

**Cost:**  
 0,2 USD

**Total bill costs with:**  
 1,000 USD




1. Ophthalmological test
2. Prognosis and/or treatment proposal with  
 - response control for 6-8 weeks follow-up
3. Dependent test
4. Medication, if not possible the previous  
 answer will be given. It is possible to  
 see the doctor or other medical services or  
 attend a follow-up

# ISP Learning Issues

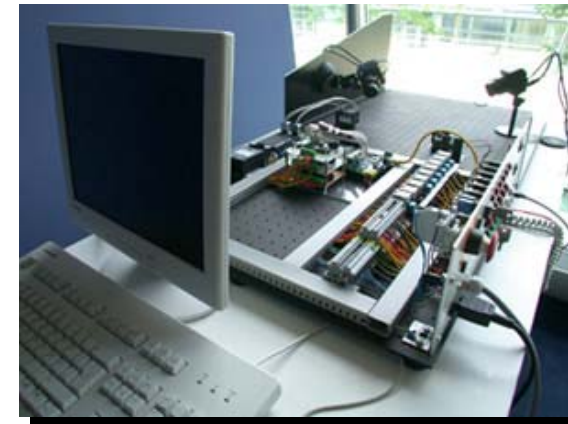
- The function of the simulation process and it's link to the understanding of clinical problems
- The virtual collaborative environment between students from three universities, two in Sweden and one in the USA will be tested and compared to the outcome from interactions within traditional group settings.
- To support and strengthen the students beliefs in their abilities in clinical problem solving.
- Explore the similarities and the differences between Sweden and the USA what regards educational procedures, routes in clinical problem solving, and criteria in classifications and differences in illness panorama.

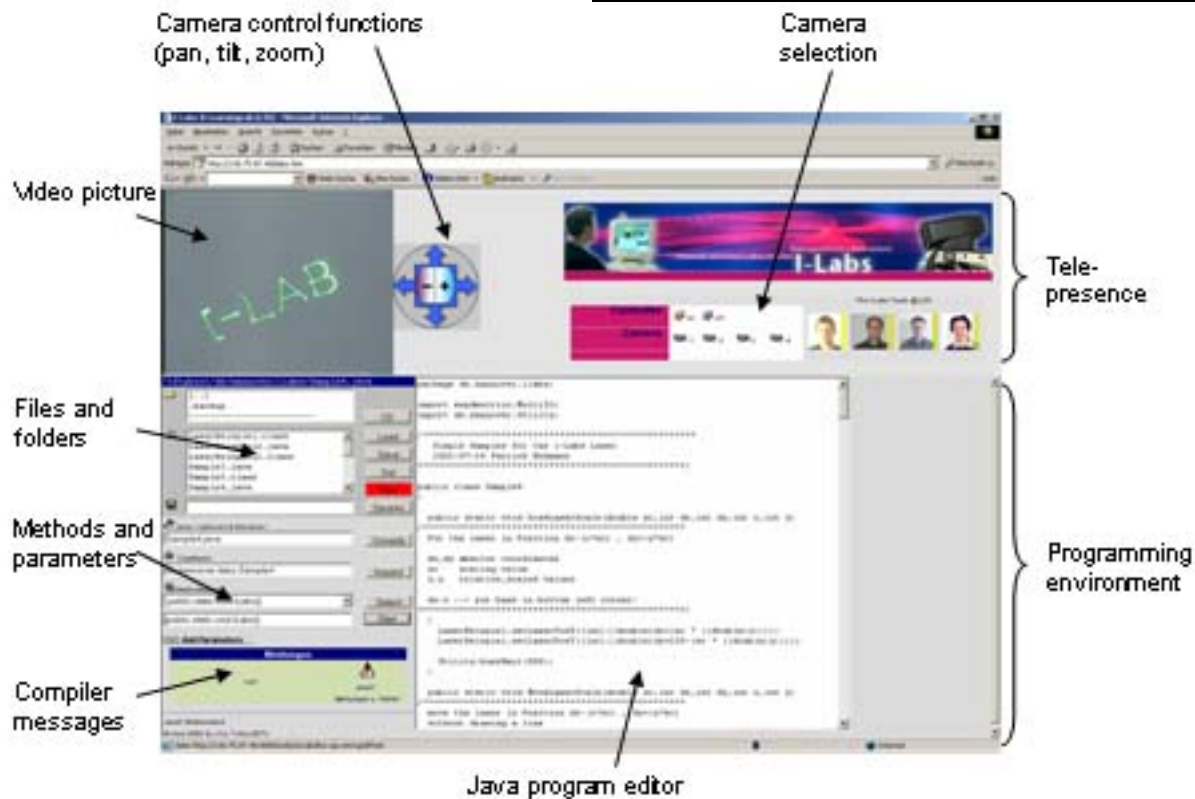
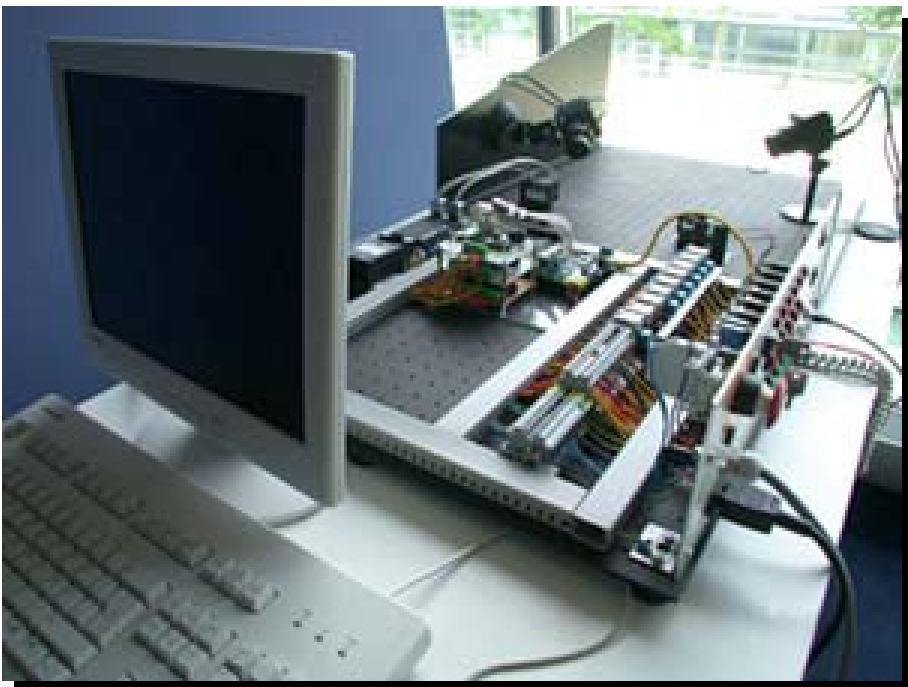
# I-Labs

- Internet assisted laboratories
- By working with an online lab, students shall learn to program, maintain and supervise remote devices.
  - Fluids
  - Heat and power technology
  - Optics

# ILabs

- An online lab consists of:
  - lab devices
  - equipment for telepresence showing remote users the lab
  - teleconferencing equipment for collaboration among students and tutor
  - control software allowing users to perform experiments or program lab devices
  - lab scheduling component assigning users time to use the lab
  - work assignments for students (each with an example solution for the tutor)
  - tutorial background information on the





# I-Labs Hypothesized Effects

- Removing the geographic proximity restriction has far reaching consequences for education.
- Automated facilities can be shared by students working from distant locations, 24 hours per day.
  - This increases efficiency of laboratory operation
  - Reduces the cost per student teaching hour
  - Makes the laboratory equipment available to a larger pool of students
  - Allows teachers in the classroom to illustrate theoretical concepts with real, remotely controlled laboratory experiments

# I-Labs Learning Issues

- What is the educational value of remotely controlled laboratories versus traditional ones?
- Can remotely controlled laboratories be miniaturized to dramatically reduce costs and increase availability?
- Can the Internet facilitate remote collaboration in experimentation?
- Can the Internet facilitate access to large and expensive facilities for students worldwide?

# For More Information

- ISP
  - <http://isp.lime.ki.se/>
- I-Labs
  - [http://www.learninglab.de/i\\_labs/](http://www.learninglab.de/i_labs/)
- Network and Lab Information
  - <http://www.wgln.org>
  - <http://scil.stanford.edu>
  - <http://www.swedishlearninglab.org>
  - <http://www.learninglab.de>