This Isn’t Your Father’s Computer Lab: Computer Labs Redefined

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Coming Up:

• What a computer lab is
• What a computer lab does
• Practical matters
• Challenges!
• Where To?
CSU: 24,000    CoE: 2,348 students, 109 faculty

Labs: 20ish    Seats: ~400

But first...

A WORD FROM OUR SPONSOR!
A “simple” definition

A room which contains many networked computers for public use.

Thanks, Wikipedia
A “simple” definition

A room which contains many networked computers for public use.

Thanks, Wikipedia
A better definition

“At least two similar computers located in an area primarily used by many students to complete course work.”

Thanks, Missouri University of Science and Technology
Computer labs have:

- **Computers**: redundancy, redundancy
- **Software**
- **Shared by many users**
- **Philosophy of a general computing resource**
“Labs” now include:

- Classrooms
- Meeting Rooms
- Video Conference Rooms
- Instructional Labs
- Virtual Computing
- Sports Tournaments
Expanded Definition:

A computer lab is a space whose primary purpose is to support the instructional use of programs taught within the department or college, and is equipped with appropriate computing technology.

Thanks, self
You’re welcome, self
Roles and Types

- Guided by the users
- Purpose-driven
- Delivers services
- May evolve
- Multiple roles
Roles and **Types**

- Guided by the users
- Purpose-driven
- Delivers services
- May evolve
- Multiple roles

- Determined by sponsors
- Physical space & Layout
- Specific technology
- There can be only one
Roles

• Individual Work
• Group Work
• Direct Instruction
• Limited-use Resource Use
ArcheTypes

• General Purpose Lab
• Technology Suite
• Computer Classroom
Our Types

• General Purpose Computer Lab
• Technology Suite
• Computer Classroom
• Design Studio
• Studio Classroom
• Meeting Room
• Virtual Computer Lab
General Purpose Computer Lab

- Most common
- Optimized for max # of seats
- Widest possible use
- Not reserved
- IT staffed or nearby
General Purpose Computer Lab

**Good:**
- Least complex
- Maximizes seats

**Bad:**
- Lack of flexibility
- Limited group work
Technology Suite

a.k.a. Media Studio

- High-end workstations
- Specialized equipment & software
- Advanced work
- Audio & video, graphics, color printing & plotting
Computer Classroom
a.k.a. Electronic Classroom, Smart Classroom

- Instructor-led presentation
- Computer at each desk
- Includes instructional lab type
- Real-time interaction & learning
- Pedagogical need
Design Studio

- 6 computers
- Conference table
- Projector
- Smart Board
Design Studio

- Modular & Versatile
- Dual concurrent use
- Space use
- Reservations
Design Studio
Studio Classroom

- Specialized hybrid
- 6-20 computers
- Large conference table
- Projection + Audio
- Tele/video conference
Meeting Rooms and Lounge

- Served by same staff
- Same computers
- Projection
- No printers, etc
Meeting Room and Lounge

- Quiet!
- Extension of labs
- Modular
- Transitional environment
- Reduced need
Virtual Computer Lab

• Virtually the same as RL lab
• Where, when and how
• Does it take up space?
• Mobile devices
• Replacement or supplement
Support Philosophy

• Level of service
  – Consistency
  – Documentation
  – Personnel
  – Faculty Involvement

• Purposes
  – Driven by role & curriculum

• Funding
  – Sources define role?
Technology

• Computers
  – Half and half
  – Workstations
  – Projection PCs
  – Mobile friendly

• Software

• Printers
  – Love ‘em, hate ‘em, gotta have ‘em
Technology
Technology

• Projection Systems
  – It’s all about choices
  – Interactivity

• Smarter Lecterns
  – Lock it up!

• Video Conferencing
  – Access Grid
Challenges!

Funding

• Funded:
  – Computers
  – Monitors
  – Printers, Scanners
  – Software

• Not Funded:
  – Desks, Tables, Chairs
  – Fabric Partitions
  – Carpet & cleaning
  – Lighting
  – Heating & Cooling
Challenges!

Security, Vandalism and Misuse

• Layers of physical security
• Vandalism and breakage
• Reconfiguring
Challenges!

Visiting Faculty

• Providing support
• Not staffed appropriately
Challenges!

Food & Drink

NOTICE

NO FOOD OR DRINKS IN THE LABS!

SERIOUSLY.

Water in closed containers is okay
Food and Drink Allowed Here

Please be respectful of your lab environment and clean up after yourself.

Use the cleaning supplies provided in each lab if necessary.

Thank you from the Engineering Student Technology Committee (ESTC) & Engineering Network Services (ENS)
Where To?

• Pervasive Computing
  – A.k.a. Ubiquitous Computing
  – Are we there yet? Are we there yet? Are we there yet? Are we there yet? Are we there yet? Are...
  – Next Gen
Where To?

- Mobile Devices
Where To?

• New facility
  – Progress marches on
  – Lines already blurring
  – Roles spreading
Where To?

• Still a need for computer labs?
  – Redefine & Reinvent
  – Reduce Redundant Redundancy
  – Mobile Devices, Thin Clients, Virtualization
  – Service model versus Device model
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Questions?

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