COLUMBIA UNIVERSITY LIBRARIES

Discipline-Based Digital Centers at Columbia:

Assessing Needs and Outcomes

Robert Cartolano, Director
Library Information Technology Office
April, 2011

Digital Centers – Goal

"Columbia University Libraries, in collaboration with CUIT, will create three Information Commons facilities, focusing on the Humanities, Social Sciences, and Sciences, and located in Butler, Lehman, and the new Sciences Library, respectively. These spaces, equipped with high-end equipment and specialized software, will support collaborative work."

- Columbia University Libraries Strategic Plan 2006-2009

Background

- Three Digital Centers
- Discipline–specific
  - Social Sciences in 2008
  - Science in 2010
  - Humanities in 2011
- Based within Library organization

Background

- Bring people, technology, information resources together
- When possible, build upon success
- Build assessment into planning process
- Foster culture of ongoing assessment and continuous improvement

Which One First?

- Science
  - 2010 completion date for new building
  - Multi-year planning process
- Humanities
  - Butler renovations completed in 2010
  - Early concerns about strategy, cost
- Social Sciences
  - Existing services in place
  - Staff and program readiness

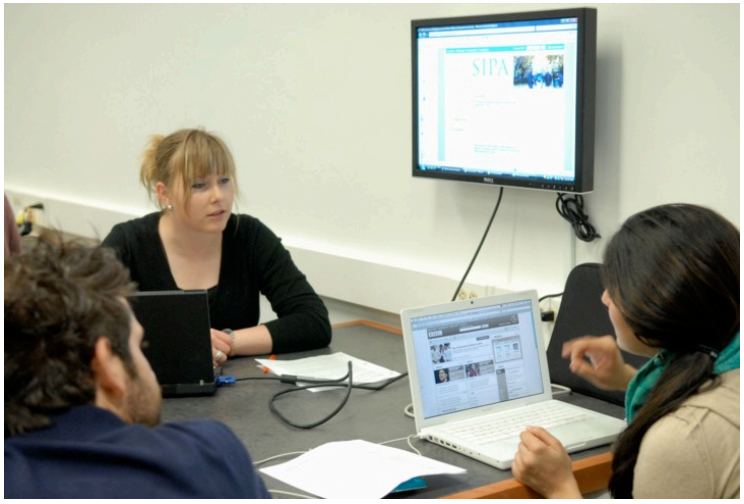
Lehman Social Sciences Library

- International Affairs Building built in 1971
- 330,000 volumes
- Ample space

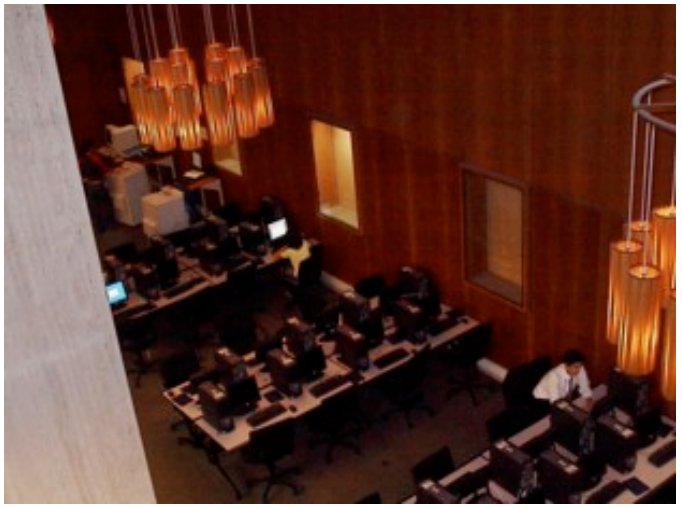
Social Science Division in 2007

Electronic Data Service

Laptop-friendly reading room



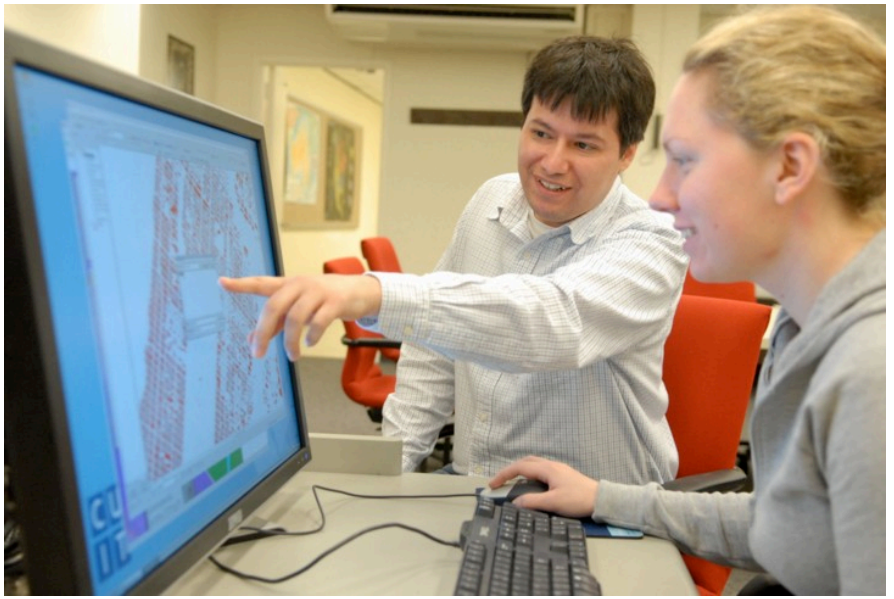
Group study room



Computer lab

Social Science Division Staff

- Reference librarians
- Data librarian
- 2 GIS/Map librarians
- IT analyst support
- Technology support



Build Upon Success of Electronic Data Service

Planning

- Planning team consisted of:
  - Library Staff
  - IT Staff
  - Assessment Coordinator
  - Leadership
  - Executive Stakeholders
- Agreement to use assessment, data gathering to drive decisions

Assessment Coordinator

- Jennifer Rutner
- Neutral researcher
- Designed and implemented surveys
- Organized and conducted focus groups
- Participated in interviews
- Reported results and recommendations
- Created executive summaries and presentation summaries

Social Science Audience

- **Current Audience**
  - Undergraduates
  - Graduate students
  - Faculty
- **Target Audience**
  - Graduate students in SIPA, Economics, Sociology, Political Science, Anthropology
  - Undergraduates in graduate-level courses

Social Sciences Assessment

- Online survey – 125 responses
- Two focus group sessions
- Multiple faculty interviews
- Staff discussions
- Observation data
- Technology use data

What Did We Learn?

- Focus group - where are librarians?
  - Build open glass consultation office
- Group study tables
  - LCD displays not needed at every table
- Podcast recording - insufficient interest
- Private rooms for presentation practice
- Numeric/GIS Apps – more stations
- More scanners, better printing

Digital Social Science Center

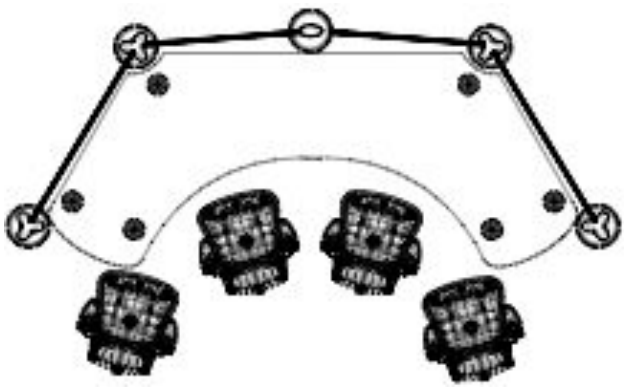
- Flexible workspaces, diverse software, high-end equipment to support collaborative study and research in the Social Sciences
- Visible and easy access to professional staff who can assist users with research and technical questions
- Presentation practice spaces
- Integrated with services and technology offered by the Electronic Data Service and computer lab.

DSSC Details

- **22 Collaborative Workspaces** - modular, open, accessible, attractive
  - Dell Precision stations with 30” LCD or dual 24” LCD
  - Numeric/GIS Software, scanners, printers, 3D Mouse
- **Presentation Practice Space** - 4-6 people with projection, e-podium
- **4 Group Study Tables** - large displays, laptop support for 4-6 people
- **Consultation Space** - 2 consulting spaces in enclosed office

DSSC Furniture

- Herman Miller
- Collaborative design
- Multiple chairs per desk
- Convenient electrical access
- Convenient network access



DSSC Software

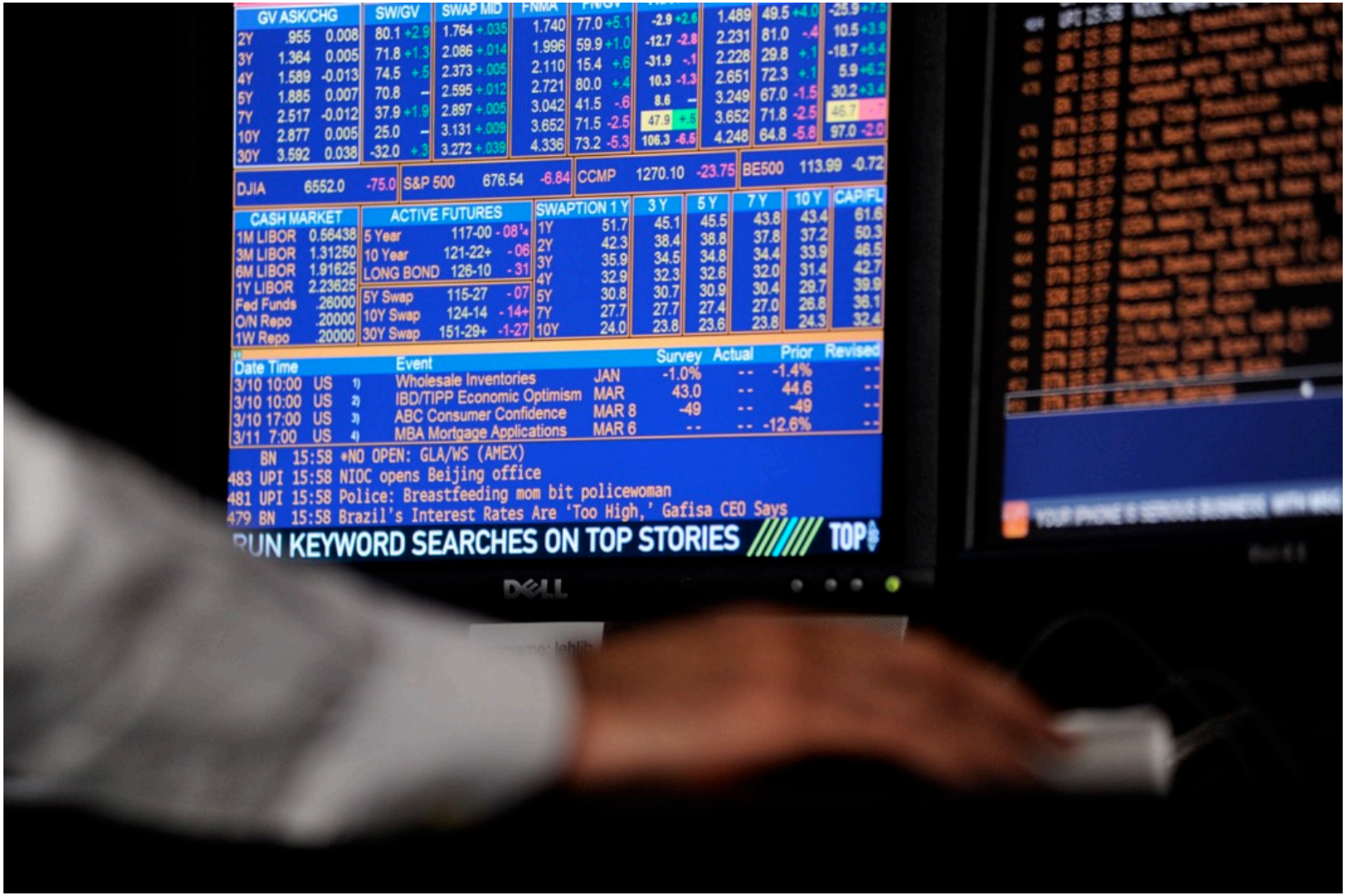
- Social Sciences focus
- Advanced Spatial Data GIS and mapping applications including ESRI ArcGIS, ArcView, Google Earth Pro and others
- Numerical Analysis applications including Stata, SPSS, SAS, Matlab, Mathematica
- Windows XP, file transfer, utilities
- Unified login - Kerberos/LDAP

Collaborative Workstations

Presentation Practice Room

Consultation Office

Bloomberg Station

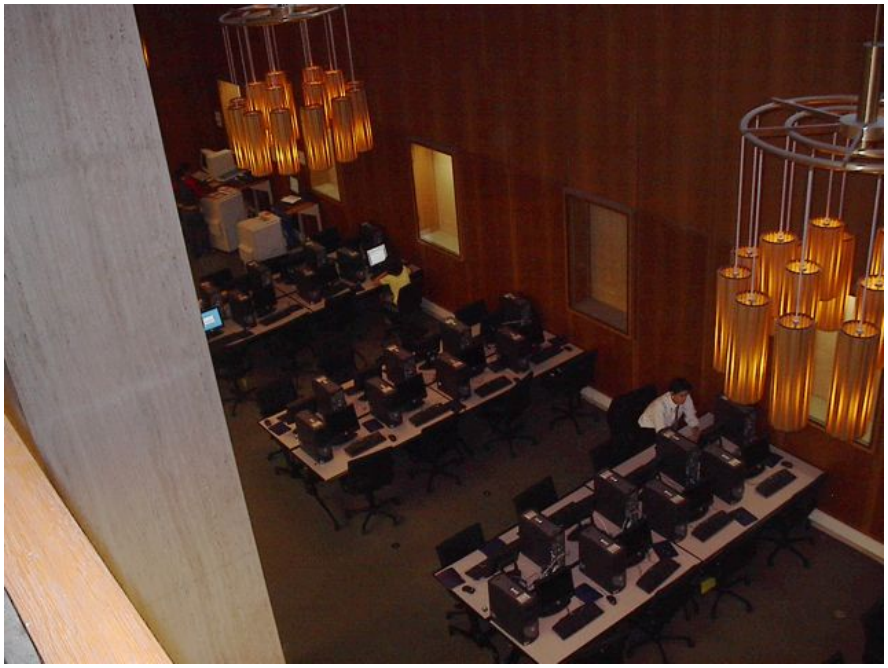


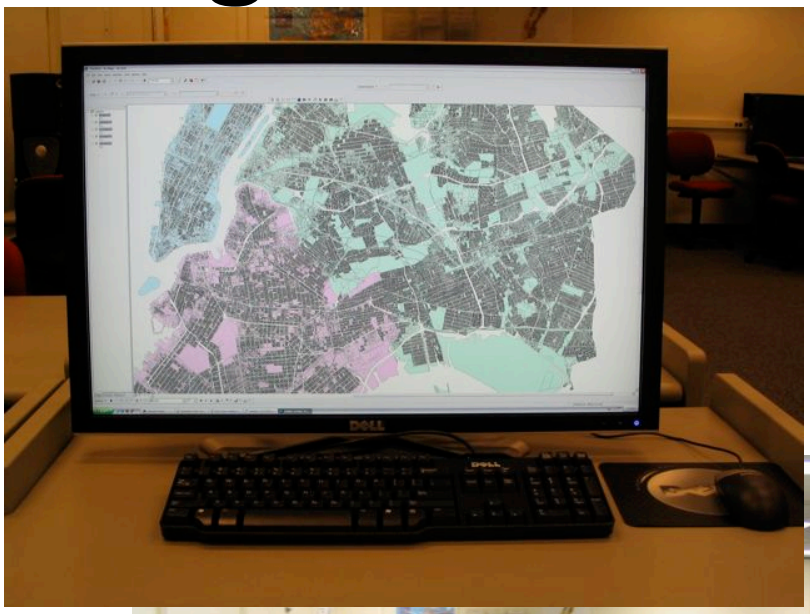
DSSC Networking

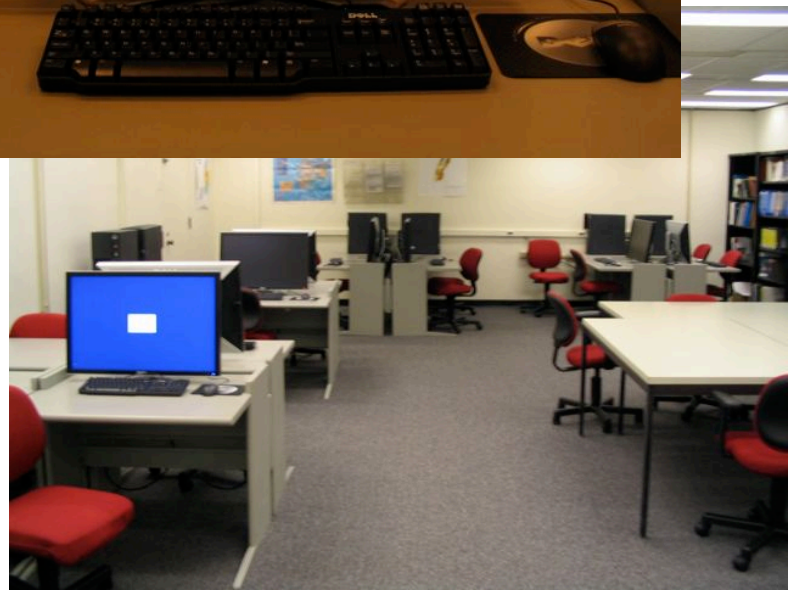
- Gigabit wired networking throughout
- Advanced Wireless throughout - 802.11b/g/n
- Each desk has wired laptop support
- USB, FireWire and BlueTooth support

EDS, Lab Integration

Unified Software
Unified Login/Authz
Unified Support







One Built… Two To Go

- Digital Social Science Center
  - Completed in January 2009
- Digital Science Center
  - Assessment – December 2009
  - Completed in January 2011
- Digital Humanities
  - Assessment – March 2009
  - Opens in 2011

Digital Center Project Approach

- **Assess** – survey, focus groups, interviews
- **Plan** – service, staffing, tech, financial
- **Design** – services, technology, outreach
- **Build** – equipment, software, resources
- **Open** – training, marketing, shakeout
- **Iterate** – assess, design, revise, etc.

Science & Engineering Audience

- **Current Audience**
  - Undergraduates
  - Graduate students
  - Faculty
- **Target Audience**
  - Graduate students in Science and Engineering
  - Undergraduates in Science and Engineering

Science Assessment

- October 2009 survey – 611 responses
- Multiple focus group sessions
- Multiple faculty interviews
- Academic IT staff interviews
- Staff discussions
- Observation data
- Technology use data

DSC Assessment Outcomes

- Strong interest in Matlab, Mathematica, scanners, Photoshop, ChemDraw
- Interest in:
  - Numerical analysis
  - Spatial data
  - Imaging, visualization
- Less perceived need for group study
- Less need for presentation practice

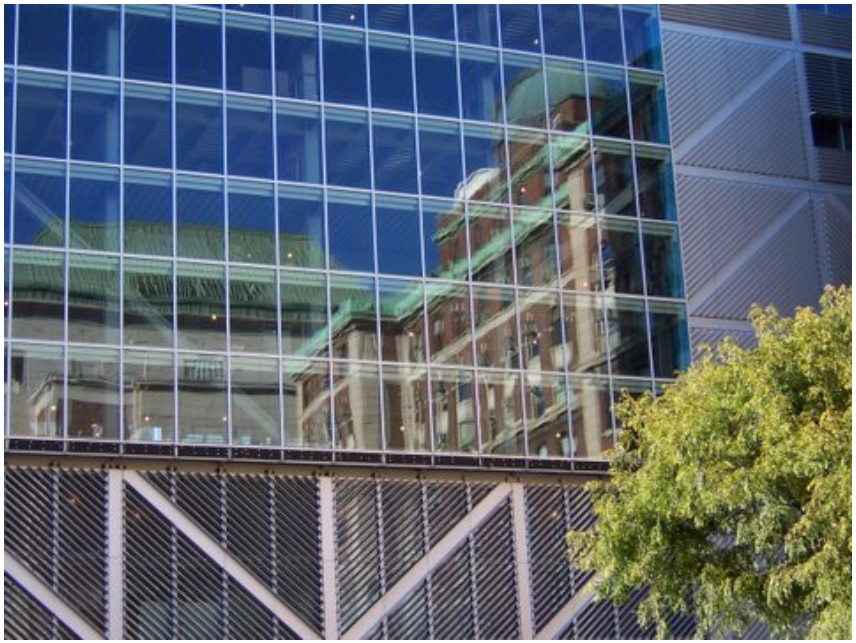
What hardware or software do you wish you had access to, to support your coursework and research?

SCIENCES

What hardware or software do you wish you had access to, to support your coursework and research?
ENGINEERING

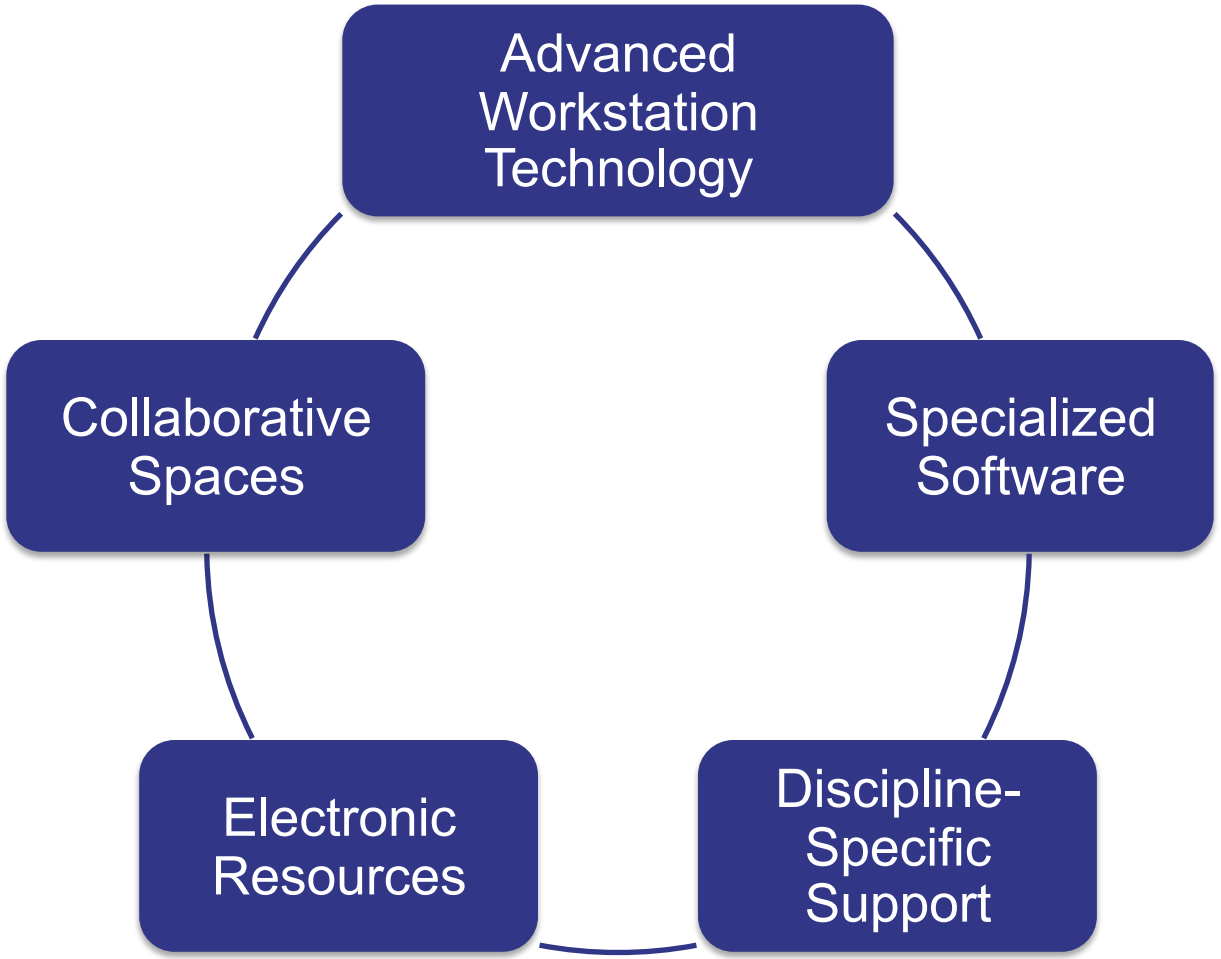
Digital Science Center

- Opened January 2011
- 53 Digital Center workstations
- Specialized software, peripherals
- Collaborative spaces
- Consultation offices
- Service desk
- Staff area



Credit: Aline Locascio

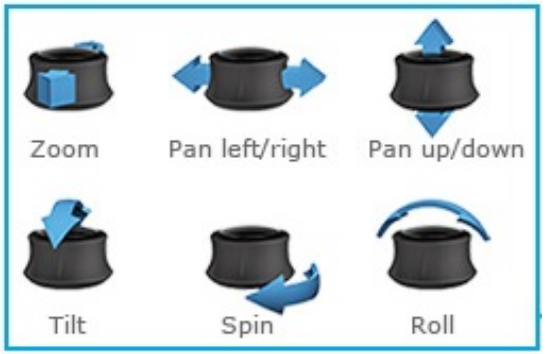
Digital Center Approach



DSC Technology

Advanced Dell Windows, Apple Mac Workstations,
24” and 30” Displays

52” LCD Displays,
Large 70” Digital Sign



3-D Apps = 3-D Mouse

Scanners

Printers

DSC Workspaces

- 43 Dell Precision workstations
- 10 Mac Pros

Scanners & Peripherals

- 8 Fujitsu duplex, doc feeder scanners
- 28 3D Connexion Explorer Mice
- 4 HP Printers

DSC Networking & Power

- Gigabit Wired Network
  - GigE to all DSC workstations
  - Wired GigE network to every seat
- Wireless Networking
  - 802.11n – fastest available
  - High density installation to support peak use
- Electrical Power
  - Power available on all individual carrels
  - Tables configured with power on all floors

DSC Presentation

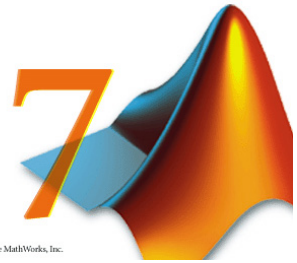
- 2 “Multi–function” rooms
  - 52” LCD Display
  - Moveable furniture with laptop support
- 70” Digital Sign
  - Main level, visible from lobby and campus
  - Designed for lobby and outdoor spaces

DSC Software Selection

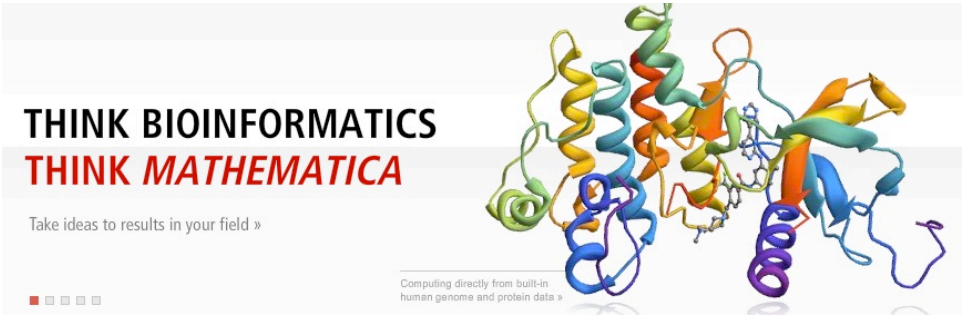
- DSSC feedback
- DSC Survey responses
- Library and IT staff input
- Departmental meetings with IT staff
- Faculty meetings
- Priority list updated on wiki
- Course and research use given priority

50+ DSC Applications

MATLAB®
The Language of Technical Computing



Copyright 1984–2004, The MathWorks, Inc.

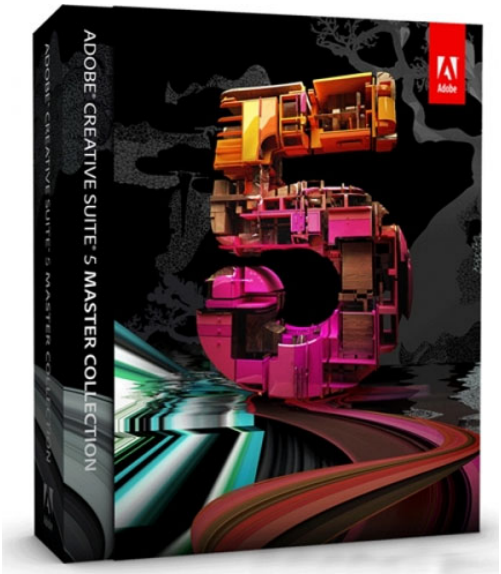


NVIVO

EndNote

STATA

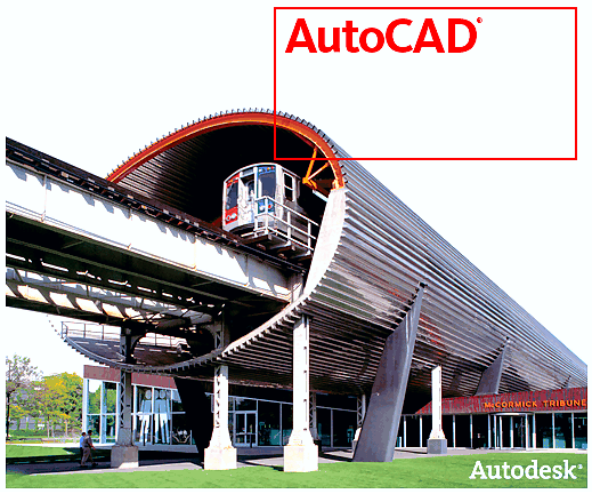
Microsoft® Office Project Professional 2007



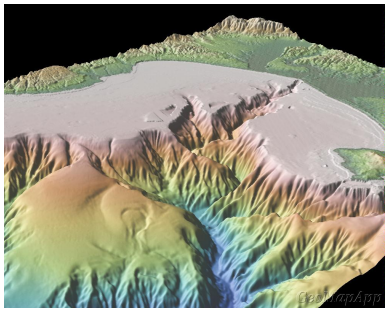
Windows® 7

Microsoft® Office

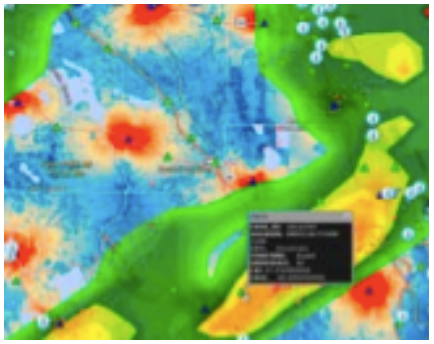
3-D Visualization, Mapping, Design



Explore our planet with
GeoMapApp



ArcGIS



Google Earth

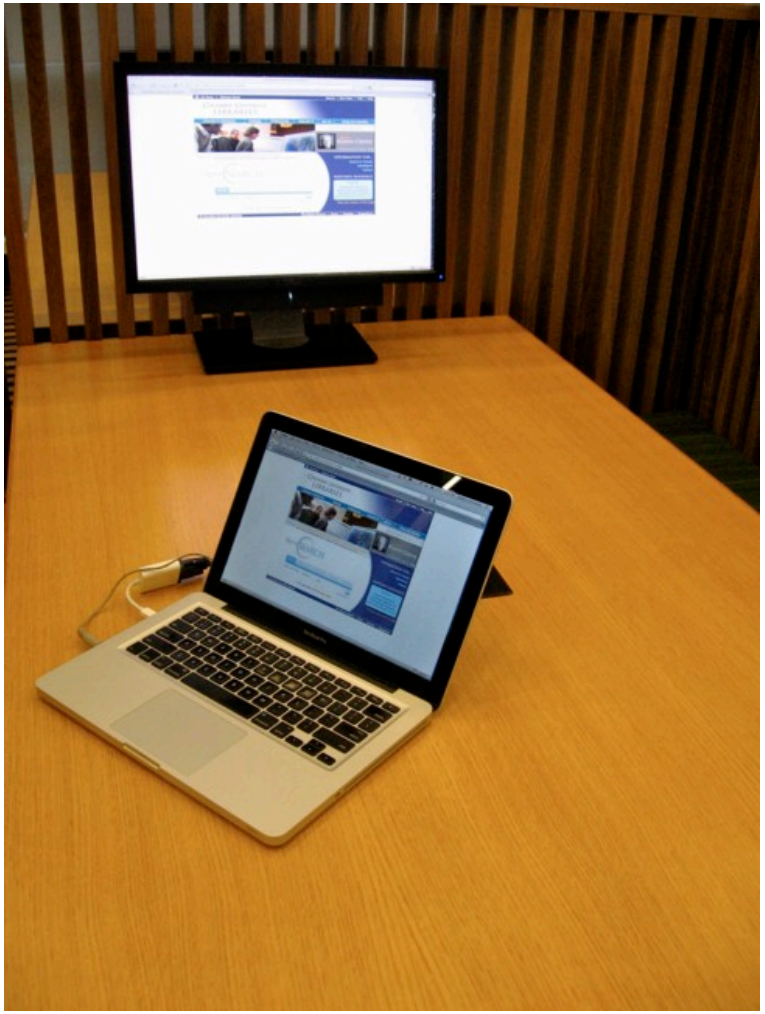
Other Applications

- Document Prep, Bibliographic
  - LaTex with MathTex, RevTex (Physics)
  - Microsoft Office
  - EndNote
  - Papers (Mac only)
- Mac-based Media Apps
  - Logic Studio
  - Final Cut Pro Studio
  - iLife, iWork

Systems Administration

- Microsoft Windows 7 64-bit Enterprise
  - Unified login (UNI)
  - Universal base image using Symantec Altiris
  - Tiered application packaging
  - Automated system deployment
  - Symantec Altiris central management console
- Macintosh Snow Leopard
  - UNI Login
  - Automated deployment and management

12 Group Study Tables



Support

- Service Desk
- Librarian Office
- Emerging Technologist Office

DSC Entrance

Assessment Infrastructure

- Sassafras KeyServer
  - Application launches
  - Concurrent use – licensing support
  - Usage totals by area
- Gate count – Lenel card swipe
- Printing system statistics

DSC Usage – March 2011

- 2,494 distinct users
- 89 applications used
- Over 1,000 scanner uses
- Top Five Licensed Apps
  - Microsoft Office
  - Adobe CS5
  - MATLAB
  - ArcGIS
  - ChemBioDraw Ultra

Two Built… Next is DHC

- Planning Team
  - History and Humanities (H&H) Librarians
  - IT staff
  - Assessment Coordinator
  - Executive, management stakeholders
- Assessment completed in March 2009
- DHC Completion Date: Summer 2011

H&H Division in 2009

Electronic Text Service

Computer lab

Laptop-friendly reading rooms

Humanities Target Audience

- Undergraduate History and Humanities Majors
- Graduate Students H&H
- Butler Library Users
- Electronic Text Service Users

H & H Assessment

- Survey – 940 responses
  - 185 undergrad, 403 grad, 263 PhD
- Focus group sessions
- Faculty interviews
- Academic IT staff interviews
- Staff discussions
- Observation data
- Technology use data

What Did We Learn?

- High priority given to Library as a place of study
- No clear trend regarding collaborative space with technology
- Increase hours for specialty services
- No demand for group viewing rooms

What Did We Learn?

- Top technologies to support coursework and research
  - Scanning text and images
  - Research notes management
  - Bibliographic software
  - Design – web, desktop publishing
  - Image editing

Digital Humanities Center

- Electronic Text Service is now part of DHC
- First phase to be completed by Fall 2011
- Software selection underway
- Finalizing equipment configuration
- New H&H Director starts in summer 2011

Digital Center Planning

- Digital Center Steering Group
  - Library Directors, IT Director
- Digital Science Center Working Group
  - Librarians, IT staff
  - Unified approach for Digital Centers to leverage common needs
  - Enlist assessment coordinator as needed

2009 LibQual+ Survey

- Campus-wide survey on service quality
- Individual library received separate packet and guidelines for action
- Library as Place very important
- Need for more group study space

Follow-up Survey, Observations

- DSSC survey completed in Fall 2010
  - High satisfaction for workstations
  - Improved awareness of consultation services
  - Printer concerns
  - Lighting, room “brightness”
- Observation Study in Fall 2010
  - Large reading tables 2-3 people average
  - We have enough LCD displays

Assessment Summary

- 2,674 students and faculty took surveys over the past four years
- Assessment completed for three digital centers
- User survey for DSSC completed
- Proven value in planning, development and ongoing improvements.

Resources

- http://www.columbia.edu/cu/lweb/indiv/dssc
- http://www.columbia.edu/cu/lweb/indiv/dsc
- https://www1.columbia.edu/sec/cu/libraries/bts/assessment/
- http://library.columbia.edu

DIGITAL SCIENCE CENTER
COLUMBIA UNIVERSITY LIBRARIES

CUL Assessment Program