COLUMBIA UNIVERSITY LIBRARIES/
INFORMATION SERVICES

Strategic Plan
2010-2013

January 2010

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EXECUTIVE SUMMARY

The Columbia University Libraries/Information Services (CUL/IS) Strategic Plan for 2010-2013 continues themes addressed in the 2006-2009 Strategic Plan while embracing an expanding role within the larger academic community. Faced with fundamental changes occurring in higher education, information technology, and scholarly communication, CUL/IS has developed a wide-ranging and ambitious agenda to fulfill its mission of delivering high-quality content and responsive services in support of research, teaching, and learning at Columbia University and to the wider scholarly community.

This plan is the result of a series of focus groups and studies that took place in the fall of 2008 and the spring of 2009. A Strategic Planning Group, appointed by James Neal, Vice President for Information Services and University Librarian, guided the development of the plan. The plan will serve as guidance for CUL/IS staff and other internal and external stakeholders as they collaborate on the development and implementation of projects and programs.

The plan has been developed in a context of rapid and far-reaching economic, technological, legal, and social change. Economic conditions will have strong impacts on scholarly publishing, the availability of grant funding, the library technology marketplace, and University capital investments. Advances in technology bring new service expectations, changing the ways students learn, faculty teach, and researchers collaborate. Pending legislation may profoundly affect access to digital content and scholarly research.

In response to these changes CUL/IS, together with other research libraries, will place renewed emphasis on seeking systemic change through deep collaborations, eliminating redundant operations and achieving efficiencies of scale, and emphasizing collections and expertise of unique value to the larger scholarly community. CUL/IS will also work to influence change by exercising strong leadership in areas such as information policy, open access to scholarly research, intellectual property rights, innovation in using technology in teaching and learning, collecting and managing web content, and sustaining access to global resources.

The strategic plan focuses efforts and resources in five critical areas:

- **Global and Special Collections**: The plan strongly reaffirms Columbia's commitment to continue to develop and support global and special collections. This assumes the collection and preservation of print and other analog materials, as well as digital materials, together with a specialized staff of subject librarians, catalogers, and curators working with faculty and students to develop and interpret collections and services.
- **Digital Collections**: As faculty and students work increasingly in virtual environments, deep and effective digital collections and services are essential. CUL/IS will aggressively develop licensed, purchased, locally-created, and born-digital collections and related services to meet the research and teaching needs of the University.
- **Effective Interfaces and Improved Access:** This plan places a new emphasis on simplifying and improving access to digital and print resources and services. CUL/IS will substantially improve search, discovery and delivery, both in terms of improving

local interfaces and by exposing Columbia resources to other search engines and discovery tools.

- **Library Space**: The plan recognizes the continuing importance of library space on the Columbia campus – and the appropriate repurposing of these spaces in order to meet the changing behaviors and needs of new generations of library users.
- **A New Type of Research Library:** Lastly, this plan expands the definition of a research library to include the work of the three centers (the Center for New Media Teaching and Learning, the Center for Digital Research and Scholarship, and the Copyright Advisory Office) - focusing on the purposeful use of technology in learning and teaching – on partnering with researchers and scholars to share new knowledge – and on addressing the relationship between copyright law and the work of the University.

The Strategic Plan for 2010-2013 will guide the allocation of the CUL/IS budget over the next three years, and will shape future budget submissions. To maintain current acquisitions levels and collecting depth, it will be necessary for the University to continue a significant annual increase to the collections budget. Significant new investments in technology and infrastructure will be needed to realize aspects of the plan such as a new module at the ReCAP storage facility, digital storage and preservation, extension of library services to Manhattanville, creation and maintenance of digital centers in the humanities, sciences, and social sciences, and replacement of aging software for library management and discovery systems. We will continue to actively pursue opportunities to expand the reach of the operating budget through grant opportunities, the major gifts program, broadening outreach to alumni, collaborative fund raising with schools and other external partners, and expanded engagement with the University administration and academic leadership in resource development.

INTRODUCTION

The Columbia University Libraries/Information Services (CUL/IS) Strategic Plan for 2010-2013 describes a wide-ranging, extensive, and ambitious agenda, focusing and prioritizing effort and resources in five critical areas described below:

- **Global and Special Collections**: The plan strongly reaffirms Columbia's commitment to continue to develop and support global and special collections. This assumes the collection and preservation of print and other analog materials, as well as digital materials, together with a specialized staff of subject librarians, catalogers, and curators working with faculty and students to develop and interpret collections and services.
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Research Libraries Trends

Academic research libraries face an environment of increasing economic pressures, rapid shifts in the behaviors and expectations of their users, evolving patterns of scholarly publishing, and a steadily increasing pace of technological innovation. In response, research libraries are pursuing several strategies to direct resources towards those activities that provide the most value to the institutions in which they operate:

- Working to eliminate redundant and inefficient library operations designed to meet obsolete patterns of user behavior;
- Achieving efficiencies of scale and maximizing impact by aggregating services and exposing collections at the network level;
- Placing increased emphasis on those collections and supporting expertise that are distinctive or unique to the larger scholarly community;

- Seeking systemic change across the research library community through innovative programs and collaborations;
- Changing the definition of a research library to include integrated support for teaching and learning and for scholarly research and publication.

CUL/IS participates in all of these initiatives, with a special focus on transformative change through strategic partnerships.

Economic Factors

The current economic downturn is a powerful consideration affecting future planning. The state of the economy directly affects the size of the CUL/IS budget and thereby the growth of library collections, the ability to sustain current programs, and the pace of investment in new programs and infrastructure. However, the overall economic environment can affect CUL/IS programs indirectly as well:

- University investments in the Manhattanville expansion and other capital projects will affect demands on current library space, the rate of ReCAP expansion, and expectations for service delivery to the academic and research units scheduled for relocation.
- Scholarly publishing, already undergoing major change, will face further economic pressures that could bring the demise of some long-established institutions and modes of publication and spur more experimentation with new business models.
- The library information technology marketplace, which has already seen significant consolidation and a growing dependence on private equity investment, may undergo further reductions and have difficulty replacing obsolete systems.
- Competition for grant funding is likely to increase, as libraries turn to external sources to supplement diminished budgets, while the amount of available funding decreases.

At a higher level, the global economic environment and attempts to stimulate recovery may have effects (positive and negative) on investments in research, student financial aid, currency exchange rates, the local and national labor markets, and many other areas of importance to CUL/IS.

Legal Environment

Two legislative and judicial measures currently in process herald major changes in the ways scholarly research and library collections are promulgated, which will in turn affect the services CUL/IS provides:

- Recent legislation mandating that research findings resulting from National Institutes of Health (NIH) funding be made openly accessible within a defined time period may well be extended to other federally funded research. Rapid adoption of such legislation would accelerate the demands for CUL/IS support for scholarly publishing and for the infrastructure needed to manage and preserve Columbia's research outputs.

- The proposed settlement between Google, publishers, and authors regarding Google's digitization of in-copyright works could make a large portion of Columbia's retrospective collections available online very quickly (though at an as-yet-unknown cost.) Such a development will affect many aspects of CUL/IS operations, from discovery and access to collection management and preservation.

The general trend of developments in these areas can be foreseen with some confidence, but their impact on CUL/IS plans in the next three years will depend on the speed of adoption and detailed terms.

Collaborations

As with the previous strategic plan, it is clear that realization of CUL/IS priorities in the years ahead will depend on effective collaboration with other research libraries. Some collaborations such as BorrowDirect, ReCAP, and the NorthEast Research Libraries Consortium (NERL) are already well established and will find new opportunities for improvement and growth. Others, however, are so new that their pace of development and impact are difficult to gauge:

- The collaboration with Cornell known as 2CUL aims to achieve significant cost savings for the two partner institutions by building on strengths and reducing redundant efforts. It is still too early, however, to estimate how soon and on what scale savings can be achieved, and whether the economic factors noted above will allow savings to be re-invested in new programs or used to offset budget reductions.
- The HathiTrust, recently formed by the Committee on Institutional Cooperation (CIC) libraries and the California Digital Library, could potentially be a major component in Columbia's strategies for preserving and providing access to digital assets, but is again too new for the full scale of its impact and pace of growth to be known.
- Collaborations around open-source initiatives are growing in number and scope, offering the promise of new and improved services with manageable local investment, but also requiring significant ongoing commitment and support to succeed.

While not yet fully understood, these collaborations and connections are anticipated and can be incorporated in planning. It is clear that the economic downturn is raising interest in many types of collaboration among groups of libraries. CUL/IS will need to be prudent in choosing which initiatives to pursue. We must also recognize that any collaboration may outlive its usefulness as needs and institutional priorities change; we will need to balance commitment and trust with the need for flexibility and adaptation.

Collaboration within the University continues to be crucial as well. CUL/IS services and initiatives are heavily dependent on the systems, infrastructure, and facilities provided by Columbia University Information Technology (CUIT); a close working relationship between the two organizations is essential in defining priorities, developing resources, and building services. While not a collaboration in the same sense, the administrative and budgetary integration of the Health Sciences Library with CUL/IS will be an important component in the coming planning period, affecting virtually all operational areas.

Leadership

In some areas we will need to go beyond peer collaborations to achieve our goals, and take a leadership position to influence policy and steer or build broad-based organizations that can act on a national or international scale. CUL/IS already exercises strong leadership in areas such as information policy, open access to scholarly research, intellectual property rights, innovation in using technology in teaching and learning, and building collections in several international and discipline-based areas. As the information landscape continues to evolve, we will need to look for – and create – opportunities to use our influence to best effect, taking leadership positions in such areas as collecting and managing web content and sustaining access to global resources.

CUL/IS leadership is exercised not only at an institutional level but through individual leadership supported by the organization. Members of CUL/IS serve on boards, advisory groups, and blue-ribbon panels sponsored by publishers, vendors, library organizations, and governmental bodies. CUL/IS staff influence thought and action in several professional domains by publishing and speaking at professional meetings. Sustaining a high level of professional engagement is an important component of the strategic plan.

Other Environmental Factors

This plan was developed in a context of rapid, far-reaching technological and social change. For the most part, these changes are extensions of trends observed over the last few years; their continuance confirms strategic initiatives already in place and informs future development. These drivers include:

- Social networking, web services, Web 2.0 adoption, mobile devices, and the associated effects on user expectations;
- Further expansion of digital content, and a nascent shift from e-only access to e-only publishing;
- A move towards cloud computing, and the outsourcing of commodity IT services;
- Redefinition in the library automation market, with companies from different sectors offering convergent suites of services;
- A move towards more open systems and integration with open-source solutions;
- Still more complexity in intellectual property issues with emergent publishing forms and business models;
- Blending of roles for consumers and creators of content (user-contributed content);
- Increasing tendency for user communities to create their own tools for discovering, disseminating, and managing information.

Assessment and Marketing

In the years ahead, the work of CUL/IS will be guided by the same principles articulated in the *2006-2009 Strategic Plan*: user-focused design, data-driven decision making, continuous assessment of results, and flexible and adaptive response to user needs.

In a rapidly changing, competitive information environment, user behaviors change quickly. We will need to stay closely attuned to our users by listening, observing, and collecting data – gathering data locally, but also drawing on a growing body of research performed by peer institutions and national organizations. We will continue to administer the LibQUAL+ service quality assessment every three years and to conduct local service quality and facilities usage assessments as needed. Recognizing the wide differences within our user population, we will need to be attentive to potential variations among disciplines and levels of study, to avoid misleading generalizations. Whenever possible, we will aim to base decisions on carefully designed studies and the analysis and application of data, while recognizing the value of experiential evidence in providing the human context for our actions. Sustaining and building on the successes of our maturing assessment program will be integral to successfully fulfilling the new strategic plan.

Results from our service quality and facilities planning assessments and feedback-gathering efforts tell us that many of our users do not have a fully informed, current picture of library services, available collections, or outreach activities. To better inform our user communities, we will need a multi-faceted approach to marketing our service offerings and events in engaging and effective ways in both the physical and virtual spaces they routinely inhabit (for example, blogs, Facebook, Twitter, digital displays in frequently trafficked areas, and the placement of event notices in cultural listings venues in print and online).

Development of the Plan

This plan is the result of a series of activities that took place over the first half of 2009. Small working groups of CUL/IS staff were charged with reviewing individual sections of the *2006-2009 Strategic Plan* and identifying initiatives that should be carried forward into the new plan, items that had been essentially completed, and any new initiatives or factors that should be considered in the 2010-2013 plan.

In developing their reports, the working groups conducted environmental scans and consulted with a wide range of stakeholders. After review by the Deputy University Librarian and Associate University Librarians, the working group reports were posted on a strategic planning blog to encourage input from all CUL/IS staff. The reports and staff comments were then used to shape the final plan.

Resourcing the Plan

The strategic plan will guide the allocation of the CUL/IS budget over the next three years and will shape future budget submissions. To maintain current acquisitions levels, it will be necessary for the University to continue the annual eight percent increase to the collections budget. Other aspects of the plan will not be realized without significant new investments in technology and infrastructure. A much-needed new module at the ReCAP storage facility will necessitate significant additional investment. The needs for digital storage and preservation in particular will require investments on a scale comparable to those undertaken over the last

decade to support storage and preservation of Columbia's physical collections – in effect, we must construct a "digital ReCAP."

During the next three years, we will continue to actively pursue opportunities to expand the reach of the operating budget through grant opportunities, building on our successful record with national funding agencies and private foundations. In addition, the major gifts program will be revitalized and extended with additional staff and programming support from both CUL/IS and the Office of Alumni and Development, the broadening of outreach to alumni through direct marketing and annual fund initiatives, the redesign and expansion of functionality of the *Alumni and Friends* library gateway to add value to the alumni-donor experience, collaborative fund raising with schools and other external partners, and expanded engagement with University administrators and academic leadership in resource development.

DISCOVERY, ACCESS, DELIVERY, AND SERVICE

Data collected locally through usage statistics, facilities usage surveys, focus groups, and the LibQUAL+ service quality assessment survey tells us that in aggregate our users clearly prioritize unmediated access to collections and services. Our assessments tell us that faculty, graduate students, and undergraduate students alike value unmediated access to electronic and print information above other service concerns, including face-to-face interactions with library staff. Our local results resonate with recent large-scale user assessment data gathered by OCLC, Ithaka, and others; however, the information needs of the Columbia research and teaching community are not uniform across the disciplines, or even within disciplines. While the research behaviors of researchers in the sciences and social sciences are trending strongly toward electronic, unmediated access, researchers in many arts and humanities disciplines rely heavily on print materials and mediated assistance from subject specialist librarians. Much of this need might be driven by the lack of availability of functional digital surrogates of the scholarly materials needed for research and teaching in these disciplines, especially in the visual arts and music. Even in the disciplines showing a clear preference for unmediated access and service, the unevenness of the scholarly information marketplace makes it necessary for scholars to work directly with skilled librarians to discuss the acquisition of hard-to-locate resources, to track down important but obscure citations, and to seek guidance and advice on research projects and dissertations. Given this highly variable operating environment, CUL/IS will align service models with user preferences for unmediated access and service while continuing to provide high-quality mediated services where documented user needs persist.

Discovery

- Simplify and improve search and discovery interfaces (website, catalog) through the implementation of user-centered design and assessment processes.
- Implement a new web content management system and redesign the CUL/IS website.
- Investigate and implement a next generation interface to the library catalog. Include appropriate enhancements such as recommender service and social tagging to improve discoverability of information.

- Expose bibliographic records, archival finding aids, images, and other appropriate data to search engines and discovery tools (Google, Yahoo, Wikipedia) and social networking environments (Flickr, iTunes U, YouTube).
- Move services into user work environments such as web browsers (LibX, search plug-ins, Zotero), course management systems, and social networking environments (Facebook, Twitter). Enable sharing of information from website and catalog to social networking environments (RSS, Add This, APIs).

Access

- Streamline the borrower request interface to allow the placing of requests from the catalog using self-populating forms that connect to various request systems (Borrow Direct, Illiad). Integrate requests into My Library Account functionality.
- Expand the number of on-campus pick-up locations for requested materials.
- Integrate appropriate digital content into the library catalog utilizing available APIs.

Delivery

- Implement desktop delivery for articles and book chapters in Butler Library and assess feasibility of expansion to other campus libraries.
- Assess the desirability and feasibility of providing a user request system for books and other appropriate materials.
- Evaluate the feasibility of providing print-on-demand service for electronically available books and other content as alternative to purchasing print copies.
- Plan for service and content provision in the mobile technology environment (smart phones, netbooks).

Service

- Initiate a comprehensive assessment of research support/reference services to evaluate staffing and service models across the organization.
- Identify and implement a support management solution to track and manage help requests from physical and virtual service points (service desks, consultations, telephone, chat/IM, email, mobile devices).
- Integrate multiple chat/IM services into a single point of service. Create an organization-wide staffing model potentially utilizing interns to extend hours of service.
- Redesign the Library FAQ system as intuitive, point-of-need, unmediated help system driven by documented user needs and information-seeking behaviors.

SUPPORTING TEACHING AND LEARNING

A unique strength of the organization is the combination of skills and experience of librarians and educational technologists. Teaching and learning are supported through the service programs of the Libraries and the innovative work of the Columbia Center for New Media Teaching and Learning (CCNMTL). For the Libraries this means continuing to develop collections in support of teaching, maintaining active reserves collections, and managing electronic course reserves services. Subject specialist librarians throughout the libraries will continue to provide research consultations as well as other electronic and face-to-face modes of formal and informal instruction in the use of information resources, ranging from orientations to the literature of specific subjects, to training in the use of GIS, text analysis, and bibliographic management software. The design, maintenance, and usage of library space will change in accordance with the evolution of curricula across the disciplines (the need for data and statistical support in the social sciences and the growing usage of non-print media in the humanities, for example). CCNMTL's mission is to enhance teaching and learning through the purposeful use of new media. In partnership with faculty, CCNMTL will continue to support efforts ranging from course website management – to collaboration spaces such as blogs and wikis, media creation and development – to advanced project development. Projects range from simulations, to case studies, to custom collaborative learning sites. A critical need going forward will be for the University to implement a robust course management infrastructure.

- Partnering with CUIT, gain funding support to fully implement the Sakai course management system, replacing the aging Prometheus system currently used to manage courses across the University. Ensure that the Sakai installation meets faculty and library needs and provides a smooth transition from the old to the new system.
- Continue integration of best-of-breed tools, such as Wikispaces and iTunes, to supplement the functionality of the core course management system. Further integrate library collections and services into teaching and learning environments. Better expose collections, tools, and services at the course level in the course management system.
- Advocate with publishers for the development of information resources more hospitable to teaching-related needs.
- Building on the success of the Digital Social Science Center, plan and implement the Digital Science Center in the Integrated Science Library and the Digital Humanities Center in the Butler Library. Strengthen strategic relationships with key stakeholders during the planning and design of facilities and service programs (School of Engineering and Applied Science, School of Arts, Arts and Sciences, and Columbia College).
- Continue to grow CCNMTL's Triangle Initiative, creating digital tools and capacities that advance the intersecting interests of education, research, and the larger community.
- Maintain and develop CCNMTL's strategic focus on Global Learning, using the power of network technology to create new opportunities for collaborations that enrich the University's educational programs.
- Further develop the Digital Bridges initiative to bring students into active engagement with digital collections. Librarians, CCNMTL staff, and faculty will work in partnership to identify collections and create learning environments and promote hands-on use of primary research materials.

Build knowledge sharing and partnerships between Libraries and CCNMTL staff to enhance services to faculty and students. Promote collaboration, both formal (project development, committee work, co-development of workshops) and informal (co-presence in the digital centers, consultation). Coordinate faculty outreach activities. Develop the role of subject specialist as outreach for the services of both CCNMTL and Center for Digital Research and Scholarship (CDRS).

SUPPORTING RESEARCH

Support for research has historically focused on building deep print and digital collections, maintaining robust interlibrary lending services, and ensuring that faculty and students have access to expert librarians who select material for the collections and provide reference and instructional assistance. While CUL/IS will continue its commitments to building deep research collections, enhancing access services, and providing specialists with deep subject expertise, rapid changes in the economy, technology, publishing, and the use of scholarly content provide opportunities to take on new roles in support of research. Major changes in scholarly workflows, due primarily to advances in network communications technologies, require a reevaluation and revision of the relationship of the organization to scholarly activities, most deeply felt in the science and engineering disciplines. Librarians and other staff will increasingly help scholars, not only by locating information resources for their research, but by helping them use, manipulate, and share information and the products of their research. Furthermore, as the use of technology expands throughout research processes, faculty will need new tools to support their research. The 2006-09 Strategic Plan identified the need to focus on these changes in research and publishing, and as a result the Center for Digital Research and Scholarship (CDRS) and the Copyright Advisory Office were established. CDRS's mission is to support scholarly communication in all its forms and to develop a range of scalable and sustainable services in support of research and publishing. The new group works in close collaboration with subject specialist librarians from across the disciplines, leveraging their knowledge of faculty research interests and needs. The Copyright Advisory Office's mission is to address the relationship between copyright law and the research, teaching, and service activities of the University.

- Provide research support services tailored to the disciplines supported in the three digital centers (humanities, sciences, and social sciences), potentially including but not limited to: workshops and individual research consultations, citation management tools, media access and manipulation support, research notes management, and discipline-specific data capture, access, and management.
- Make Academic Commons, Columbia's institutional repository, a robust publishing and archiving platform for the research output of the University, including user-created and user-deposited output along the entire scholarly workflow. Evaluate and integrate interoperable repository tools. Market Academic Commons using the collaborative

efforts of the repository coordinator and subject librarians throughout the organization. Create easy-to-use interfaces for self-curation, self-deposit, and collaboration.

- Develop a secure collaboration platform to support research workflows within Columbia and across institutions.
- Develop a plan to assist faculty in complying with projected legislation extending the NIH Public Access Policy to require deposit of all major federally funded research in open access repositories.
- Assess faculty needs for data curation support across the disciplines. Prepare for new federal data management requirements by assessing campus data management and archiving needs. Scope, plan, and resource a data curation service focused on data without a natural regional, national, or international home.
- Create an intensive internal professional development program to provide opportunities for subject librarians to become more involved with emerging scholarly communications issues by immersing them in CDRS workflows and projects.
- Develop the Scholarly Communications Program to promote and record new approaches to publication and the dissemination of research. With the Copyright Advisory Office, develop increased awareness on campus of issues relating to intellectual property, the retention of author rights, and open access publishing.
- Create and implement a sustainable business, staffing, and product development plan to support the continued publication of the Avery Index to Architectural Periodicals. Identify and apply potential improvements such as expanded content and enhanced administrative, editorial, and end-user feature sets with the goal of providing increased research value, community engagement, and significant growth in earned revenues.
- Develop and market the full suite of CDRS research support services, including journal hosting and conference management services.

BUILDING AND DESCRIBING COLLECTIONS

Over the next few years, research libraries will continue to build collections in an environment of fiscal constraint and rapidly evolving patterns of scholarly publication. In some sectors, such as science, technology, and medicine, print publication will be further marginalized and may disappear completely. E-books will gain greater acceptance as an alternative to print acquisition, media such as print news sources and music CDs may be replaced by online formats following new business models, and non-commercial scholarly content may be disseminated only on the web. Large parts of the collections that libraries have built over the past century or more will become available in digital form and will need to be reacquired and preserved. Yet, over this same period, print is likely to remain the predominant mode of publication in many global regions.

CUL/IS is one of a handful of North American research libraries continuing to build collections in depth from most world regions, aligning with the University's strong global emphasis

represented in the academic programs of the area institutes, the Global Research Centers, the Earth Institute, and similar ventures. Sustaining this commitment is a matter of growing importance as the number of libraries engaged in this arena continues to shrink. This global focus is supported through the various area studies programs, as well as through interdisciplinary collection emphases in such areas as human rights, environmental studies, and the global economy.

As with modes of scholarly publication, research and learning processes and their outputs are rapidly evolving and research libraries' roles in managing and preserving such resources are expanding. New primary source materials exist largely in electronic formats requiring new means of access and preservation.

In this environment, CUL/IS will build collections in ways that are traditional, transitional, and transformative – by continuing to acquire print materials to support University research interests that are global in scope, by accelerating the transition to electronic formats as content becomes available, and by extending collection-building processes to incorporate new forms of material offered under evolving business models.

Financial resources supporting collections will be used to best effect through a greater attention to quantitative and qualitative measures of use and value and through collaboration with multiple institutional partners. CUL/IS will extend the growth of archival and special collections through the deliberate, targeted acquisition of primary materials in electronic form. The collection of the University's research and learning outputs will become an integral part of collecting and research support programming.

No matter how valuable in themselves, the resources acquired by CUL/IS can only truly be said to be part of our collections when they are described, organized, processed, and made available for use. The unique and scarce materials in our collections will continue to require strong investment in these activities, together with creative approaches using technology to broaden participation and make use of expertise throughout the organization. At the same time, we must continue to seek efficiencies in processing commonly held materials through system improvements, collaborations within the research library community, and with publishers and suppliers.

Commercial Publishing

- Give greater priority to utilizing usage and cost data to inform collecting decisions and negotiations with publishers and vendors.
- Extend the reach of the collections budget by reducing duplication of content, including the purchase of multiple copies, duplication of print and electronic content, and overlap among electronic collections.
- Reduce the need for duplicate acquisition of print and electronic formats for preservation purposes by working with publishers and aggregators of digital content to ensure long-term availability through Portico or similar organizations.

- Develop collection-building collaborations among BorrowDirect, ReCAP, and other partners on both a programmatic level (through policy development) and in individual selection decisions (through shared access to information).
- Explore models for shared ownership of collections with Cornell (through the 2CUL initiative) and with ReCAP partners.
- Encourage and provide support for alternative models of access, such as print-on-demand, article-level purchase, short-term leasing, etc.
- Continue to support Columbia's global research interests by collecting broadly from other world regions, working collaboratively with other major research libraries and with the Center for Research Libraries (CRL) to ensure broad coverage.

Primary Materials and Non-Commercial Digital Content

- Maintain a strong program for acquiring primary resources in all formats. Define and prioritize areas of collecting strength.
- Develop and implement a comprehensive collection development and management program for born-digital and hybrid (i.e., combined paper and electronic) archival collections including: hiring an electronic archivist; implementing standards, procedures, and specialized software tools for appraising, organizing, preserving, and providing access to born-digital and hybrid collections.
- Develop processes to incorporate web content into collection-building programs. Partner with peer institutions to integrate processes on a national and international level to support a distributed model of web content collection and preservation.
- Develop a process to add selected teaching and learning materials created by Columbia faculty and students to permanent collections.
- Identify funding/development opportunities that allow CUL/IS to create competitive travel awards for scholars needing to visit Columbia for their primary research.

Digitization and Dissemination of Rare and Specialized Collections

- Continue to invest aggressively in digitization, description, and dissemination of Columbia's unique, rare, and specialized collections, in all formats, streamlining and mainstreaming these efforts when feasible.
- Refine and strengthen the digitization selection process to ensure that the decision to digitize is based on the needs of Columbia faculty and students as well as a collection's importance to scholarship and research.
- Make use of new and innovative publishing approaches for the dissemination of information about Columbia's digital collections (including Aquifer-like projects, Flickr, Facebook, YouTube) and via search engine optimization; continue to apply principles of user-centered design, usability, and assessment for locally developed interfaces and systems.
- Continue to develop and refine procedures and platforms to allow for the timely creation of online exhibitions and galleries by curatorial staff in support of the programmatic objectives of Columbia's distinctive and specialized collections.

- Invest in developing and implementing new "semantic web" and other related technologies to allow Columbia's digitized collections to be referenced, linked, and used in innovative ways.
- Continue to build and maintain a high-quality technical infrastructure and relevant staff expertise to allow us to quickly, effectively, and iteratively expand and migrate our digital collections and services into the future, to enable and support grant-funded opportunities, and to participate in national and international digital library initiatives and collaborations of value to our users.

Collection Processing

- Work with publishers, aggregators, and vendors to improve the full range of data supporting access to electronic resources, and to encourage broader adoption of standards to improve interoperability of access data.
- Aggressively pursue further efficiencies in managing electronic resources through better integration of systems and data supporting acquisition, discovery, linking, and use. Invest staff resources needed to monitor changes in content, suppliers, license and purchase terms, and functionality.
- Aggressively pursue further efficiencies in managing print resources through further integration of acquisition and cataloging activities, use of "shelf-ready" and other vendor services, and collaborations among library partners.
- Continue targeting "hidden collections" for processing priority, including the full spectrum of printed and audio-visual materials (e.g., printed ephemera, drawings and photographs, codices).
- Continue efforts to complete retrospective conversion of manual records for all library collections by defining manageable projects, prioritizing needs, and identifying and acting on funding opportunities both within the CUL/IS budget and from external sources.
- Continue to expand the use of metadata from external sources, working with suppliers to extend the availability and quality of such data and to promote sustainable business models.
- Promote collaborative metadata design and creation across units of CUL/IS to ensure development and adoption of best practices suited to different resource types and environments for access and use.

Collection Maintenance

- Implement process for effective access to all partners' ReCAP collections and for a targeted reduction of duplicate materials held by ReCAP partners.
- Utilize the existence of digital copies (through HathiTrust, Portico, and other sources) in making decisions on replacement, reformatting, conservation, and retention.
- Develop plans for future ReCAP modules in light of new projections of collection growth, revisions of campus space planning, and potential for de-duplication of retrospective collections.

- Assess options for replacing and re-integrating systems that support the management (acquisition, cataloging, patron use, licensing, inventory control, etc.) of library collections. Identify costs and develop funding model for necessary technology and staff resources.

PRESERVING COLLECTIONS

Research libraries play a unique role in preserving both the scholarly record and the cultural heritage of society. This role is becoming both more concentrated and more complex. Print publications from many world regions are collected in depth by an ever-shrinking handful of North American research libraries. In practical terms many books published in these regions instantly become "rare books." Meanwhile, a growing body of scholarly and cultural content exists only in digital form, much of it not currently collected by any research institutions. Primary sources – the working drafts of creative activity, the ephemeral traces of discourse and debate, and the records of institutional business – are now produced digitally and never committed to paper.

These new formats and patterns of collecting pose challenges of growing urgency for resource preservation. At the same time, approaches to preserving the retrospective collections of libraries must adapt to changing circumstances. A decline in capital investments at universities makes new construction to house print collections unattractive. Large-scale digitization of historical collections may – or may not – reduce the use of print copies and allow libraries to pool resources in regional, low-use repositories, but adds greatly to the body of digital content that must itself be preserved. Audiovisual materials in many media, both commercial and archival, are approaching the end of their useful life spans and will need to be reformatted.

CUL/IS will continue to maintain Columbia's collections through appropriate storage, physical treatment, and replacement of lost or damaged items where appropriate, but will do so with a more active awareness of an increasingly collaborative environment and of the growing availability of retrospective collections in digital form. Preservation of digital assets will become a primary focus of activity, requiring major investments in digital storage and in the staff resources needed to create a robust infrastructure. New, centralized infrastructures needed to store and manage institutional assets in digital formats will require investments on the same scale as those that built the physical libraries housing books and journals.

Preserving Analog (Print, Archival, and Audiovisual) Collections

- Continue investment in ReCAP growth, to sustain Columbia's commitment to ongoing growth in unique global and archival collections and the relocation of lesser-used collections from campus facilities.
- Optimize value of ReCAP by extending services to other libraries as a shared, regional repository for print books and serials available in digital form.
- Use digitization as a preservation strategy, by reducing handling of fragile archival collections and print materials.

- Allocate funds on an annual basis and seek additional grant funding to support ongoing preservation of audio and moving image materials of high content value.
- Aggressively seek increased resources from endowments, major gifts, and collection donors to support conservation of scarce and unique materials.

Preservation of and Access to Digital Content

- Work actively with publishers and Portico to expand coverage of electronic journals and to ensure long-term access to commercial digital collections of electronic books (both current and retrospective).
- Work through HathiTrust to provide trusted digital repository services for digitally reformatted books and serials.
- Building on the work of the e-Science Task Force, continue to define the resources needed for long-term data preservation and access, and work with a selected number of research groups to develop demonstration models and benchmarks.
- Develop a phased implementation plan and funding model to preserve and provide access for both digitized and born-digital primary content.

Long-Term Digital Archive

- Move all locally managed digital collections into the Fedora asset management system and long-term archive/preservation storage system.
- Build applications and workflows to support prospective, ongoing ingest of all locally digitized and selected born-digital collections.
- Implement phased technical and metadata support for all standard material types such as digital books, images, audio, video, papers and archives, and numerical data sets.
- Develop infrastructure, tools, and support needed to provide ongoing access to collections stored in the asset management system/long-term archive.
- Use the CRL Trusted Repositories Audit and Certification (TRAC) criteria and checklist as tools to plan for needed functionality and sustainability in the long-term archive. Set directions and priorities for future development and a timetable for formal certification.
- Partner with Center for International Earth Science Information Network (CIESIN), the NASA Socioeconomic Data and Applications Center (SEDAC), CUIT, and the Cornell University Library on testing and strategic planning for the long-term archive.
- Address staffing and budget requirements for managing, sustaining, and further developing the long-term archive.

DEVELOPING LIBRARY SPACE

Access to functional, attractive library space continues to be of critical importance to the academic community, especially for students living and working in space-starved New York. Usage of CUL/IS facilities is strong, and even stronger for refreshed facilities such as Butler Library and the renovated areas of the Lehman Library – examples of spaces transformed by well- designed and executed renovations driving substantial increases in usage. Students want to work in library spaces on comfortable furniture, supported by a reliable, up-to-date technology infrastructure, and with knowledgeable staff nearby for consultation and assistance. At the same time, space at Columbia continues to be at a premium, and we can expect to need to justify the retention of on-campus space for the storage of print collections – an important driver for the need to build an additional storage module for print materials at ReCAP. All phases of the decade-long Butler Library renovation are complete. The development of the Manhattanville campus over the next decade or more will provide both challenges and opportunities for providing library services to a more distributed clientele. CUL/IS is challenged to meet the ever evolving space and high-end computing needs of today's and tomorrow's students, faculty, and staff within very real resource constraints. Meeting many of our goals in this area will require new investments by the University and additional funding generated by an expanded resource development program.

New Spaces

- Plan and open the Integrated Science Library (ISL) in the Northwest Corner Building, incorporating research support for Biological Sciences, Chemistry, Physics and Astronomy, and Psychology faculty and students. The facility will include a small print collection, a browsing collection of core journals, group study rooms, individual and collaborative study areas, and technology support for scientific research in the aforementioned disciplines.
- In collaboration with CUIT, plan and implement the Digital Science Center in the Integrated Science Library and the Digital Humanities Center in Butler Library. These facilities will provide support for research and learning in the sciences and humanities in high-end, collaborative, technology-rich environments.
- With ReCAP partners, Princeton University and New York Public Library, plan and build the sixth ReCAP module to expand off-campus storage to accommodate growing print collections and reallocate space in Morningside facilities for user and staff work space. Work with University administration to develop funding model to build the new ReCAP module.
- Plan library service facilities to support the Business School and the School of International and Public Affairs faculty and students at the Manhattanville campus. Plan library service program for Mind, Brain and Behavior Institute and School of Arts faculty and students relocating to Manhattanville.

Space Improvements

- In partnership with the School of Engineering and Applied Sciences, renovate the Engineering Library including the reduction of the print collection to increase and upgrade user space, create group study areas, and improve technology support.
- Re-evaluate existing renovation plan, complete a new master space planning document, and begin phased renovation of the Avery Architectural and Fine Arts Library (Phase II) to redesign and improve service points, user spaces, stack and special collections areas, and to improve access, security, and environmental controls for special collections.
- Continue phased renovation of Lehman Library, including additional group study areas and consultation and small-group instruction spaces, the improvement of work areas for Area Studies and Social Science Libraries staff, and the planning and implementation of the Center for Human Rights Documentation and Research space.
- In partnership with the Business School, increase user space and upgrade furniture in the Business Library.
- Develop solutions for severe storage issues for Rare Books and Manuscript Library collections.
- Re-conceive and renovate the Butler Library Catalog Room and reference area to increase and improve user space.
- Expand deployment of Lenel user access system across all CUL/IS library facilities to enable better collection of usage data.
- Develop solutions for environmental issues in archival and special collections storage areas at Burke Theological Library.

LIBRARIES AND INFORMATION SERVICES AS WORKPLACE

The CUL/IS workforce comprises a large, diverse group of staff members with varied technical and language skills, subject expertise, and work experiences. These staff members carry out the work of the organization: providing user services in various contexts, both mediated and unmediated; installing and maintaining equipment; transporting and delivering materials and supplies; writing and managing grants; acquiring and processing print and electronic scholarly resources; managing budgets, payroll, and providing other administrative support; creating and maintaining virtual environments in support of research, teaching, and learning; and maintaining study spaces and physical collections for a diverse clientele of faculty, students, and staff. During the implementation of the previous strategic plan, a new organizational structure was implemented, incorporating two new divisions, the Copyright Advisory Office and the Center for Digital Research and Scholarship, into the Digital Programs and Technology Services (DPTS) group that includes more traditional library units, as well as the Columbia Center for New Media Teaching and Learning. DPTS sits alongside the Bibliographic Services and Collection Development, Collections and Services, and Finance and Administration groups to compose a vital and increasingly integrated, hybrid organization with almost half of its professional staff in non-librarian positions.

The many changes affecting research libraries and their role in providing information services are also altering the roles played by individual staff. This is not simply a matter of staff needing new skills, but of transforming the way positions are defined and perceived. Examples include broadening the conception of the subject specialist from selection, reference, and outreach to include aspects of educational technology, scholarly research assistance, and data curation activities; the digitization of primary sources blurring boundaries between archivists (local curation) and reference (assistance with use); and new roles such as web content collecting with no clear placement in organization or career path. Some changes in staff roles may be transitional, leading to a new, well-understood, and commonly accepted set of responsibilities. More often, though, roles will be defined informally, shaped by varying organizational circumstances and by individual interests and abilities. This poses the risk that staff may lose some sense of group identity and of a coherent group of colleagues, but also opens new opportunities for creative ferment.

The culture of the organization must catch up with this rapidly evolving operating environment by cultivating sensitivity to the changing nature of staff and flexible ways of working. Staff members from across the organization must remain well informed about the University's teaching and research needs, the most current trends and effective practices in information services and technology, and the organization's planning activities and ongoing projects. To contribute to the achievement of organizational goals, staff members will be supported and encouraged to continually refresh their skills. Workspaces must be structurally, technologically, and ergonomically designed to support the effective provision of service and work in all areas.

Effective Communication

- Create communication guidelines establishing best practices for information sharing throughout all layers of the organization.
- Improve the sharing of information by assessing the usability and design of SWIFT and expanding staff use of new collaborative communication technologies such as wikis and blogs.
- Create additional opportunities for contact, connection, and information sharing across organizational divisions.

Training and Staff Development

- Increase funding for staff training and development as economic climate permits. Focus funding on training activities strategic to future organizational success.
- Encourage staff members to take advantage of training opportunities appropriate to their job duties and career development.
- Increase ability for staff to experience "internal internships" and other cross-training opportunities appropriate to their job duties.
- Better organize and communicate internal and external training and development opportunities, including investigating the creation of an online environment where training information and resources can be shared.

- Respond to service quality assessment results by targeting customer service training in needed areas.
- Take full advantage of existing local, regional, and national management and leadership training opportunities, targeting support for staff exhibiting strong potential and interest.

Technology in the Workplace

- Strengthen information technology infrastructure to support more secure and reliable staff desktop computing and continue the successful hardware and software lifecycle replacement program.
- Continue to improve computing security with technology where applicable and by promoting user awareness.
- Provide support for staff to increase their familiarity with software and encourage innovation by enabling staff to experiment with emerging technologies. Leverage online training resources such as Lynda.com.
- Provide staffing resources and support for integrating social computing and other emerging technologies into service provision.
- Create and incorporate disaster recovery planning and business continuity into all essential CUL/IS services, utilizing CUIT's machine room and offsite locations/vendors.
- Investigate options for improved network storage and desktop backup to improve remote access and preserve files and data.

Work Environment

- Upgrade calendaring and task management software and extend access to all staff.
- Create transparent processes for addressing ergonomic and environmental concerns in the workplace.
- Promote a more flexible work environment by enabling flex time, telecommuting, and other strategies as appropriate to individual positions.
- Investigate feasibility of implementing "green" initiatives in the workplace.
- Target and renovate work areas in particular need of refreshment.
- Continue to evaluate both custodial needs and how well these needs are addressed across the organization.

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