The University of California, Davis, University Library has embarked on a comprehensive reimagining of their facilities. This three-phase project begins with a Visioning Phase to articulate the Library’s ideal future state with key space improvements.

The **Facility Vision and Space Playbook** provides an ambitious direction for the renovation of Shields Library and a series of space strategies for achieving that vision. The report communicates the role the Library can play for the campus community—the experiences and activities it will support for the academic success of both students and faculty—and provides a foundation for the design of the future facilities.

While this vision for the Library will be shared broadly with the campus community, the primary audience of this report is the architects and designers charged with planning and designing future Library facilities.

This report is a product of the research and engagement activities conducted by brightspot strategy with the input of the campus community. It is divided into four parts. First is the **Research Findings**, including a description of the Visioning Phase approach, the reasons for this renovation initiative, and a summary of the user groups and experiences that must be supported in the future Library facilities. The second section articulates the **Facility Vision** and design principles to guide further space planning. The third section includes the space strategies organized into a **Space Playbook** by six key personas with accompanying user experience scenarios. And finally, the fourth section provides a summary of **Next Steps** for the project including a Shields facility concept diagram, potential pilots, and partnership opportunities.
CONTENTS

5  Research Findings
15  Library Facility Vision
21  Space Playbook
57  Next Steps
67  Appendix: Mid-Point Report
RESEARCH FINDINGS

The recommendations for the UC Davis Library Vision and Space Playbook is based on research conducted by brightspot strategy during the Spring and Fall Quarters of 2016. The research highlighted the challenges and opportunities of the Library’s campus context, the pressures the Library faces, the profiles of typical Library users, and the key experiences the Library must support.

For additional information and documentation of the research, see the appended Mid-Point Report.
The University of California, Davis, University Library has embarked on a reimagining of Shields Library. This three-phase project begins with a Visioning Phase to articulate the Library’s ideal future state.

This report, the product of the first phase, includes a facility vision and a series of key space improvements. The recommendations in this report will be further investigated and refined through the second phase of the project, which includes developing a space program for the building—a list of function, size, location, and design features of every space. The final design-and-construction phase includes architectural design of specific renovations, reconfigurations, and repurposing of existing facilities.

The project involved exploring all Library spaces and locations on the Davis campus—Peter J. Shields Library, Physical Sciences and Engineering Library (PSEL), and Carlson Health Sciences Library (CHSL). The Blaisdell Medical Library at the UC Davis Health System Campus in Sacramento was recently renovated and not included in this study. Both PSEL and CHSL were included in the research process and separate task forces have been developed to explore how to better meet the needs of the engineering and health-sciences communities they serve (see page 60 for additional information). This leaves Shields as the primary focus of the recommendations.

The visioning and user-research study was split between the Spring and Fall Quarters of 2016 in order to reveal preliminary findings early and optimize time with students and faculty given the interruption of summer break. The first half of the research was broad and exploratory to understand the experience of teaching, research, learning, and working at UC Davis. The second half focused on validating and translating the research work into actionable ideas for the Library. The results of the first half of the project were documented and shared in the Mid-Point Report.

The participatory process engaged students, faculty, staff, and Library personnel. This provided the team with data-driven, user-generated insights and ideas to inspire new thinking about the future of the Library.
Over the course of the study, brightspot strategy engaged more than 500 people from across the campus. The team used a variety of research methods to explore topics broadly and deeply and collect quantitative and qualitative data. Throughout the participatory process we engaged students, faculty, staff, and Library personnel to understand their needs in researching, teaching and scholarship, and expectations for the Library. The brightspot team also benefited from past university studies conducted on campus and at the Library involving more than 7,000 members of the UC Davis community.

A campus leadership steering committee and a working group of Library personnel and campus leadership guided and reviewed brightspot’s approach to ensure a balanced and accurate facilitation and interpretation of the research activities and analysis. The recommendations of this report were also reviewed and refined during three open sessions on December 1, 2016, with faculty, students, and Library personnel.

<table>
<thead>
<tr>
<th>Date</th>
<th>Method</th>
<th>Sessions</th>
<th>Participants</th>
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<td>Tours and Observations</td>
<td>12 sessions</td>
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<td>May 3-4</td>
<td>In-Context Interviews</td>
<td>3 sessions</td>
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<td>Faculty Focus Groups</td>
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<td>online survey</td>
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<td>Envision UC Davis Game</td>
<td>online game</td>
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¹. dscout is a mobile application survey platform
LIBRARY FACILITIES

PRESSURE ON SPACE

Peter J. Shields Library is the central library of the Davis library network. It is complemented by three other libraries: Physical Sciences and Engineering Library (PSEL), Carlson Health Sciences Library (CHSL), and Blaisdell Medical Library (in Sacramento). Each of these locations is embedded among the users they serve. But Shields, by far the largest of the Library’s facilities, functions as the University’s general library and as such supports all disciplines and user groups, as well as housing most of the Library’s personnel. UC Davis is somewhat distinctive among Research I universities in having few specialized libraries (“branches”). UC Davis also lacks a separate undergraduate library.

The Shields facility is the product of four building and renovation projects spanning from 1940 to 1990. Even as the most recent renovation was completed—more than twenty-five years ago—the campus was a much different place. Americans were using desktop computers (when they were using computers at all), and the precursors to the internet were just being established; physical books and journals were the dominant information resources. Today, the environments in which students and faculty study and work are highly computerized and networked, and digital information resources are the norm, rather than the exception. People use a diverse mix of smartphones and desktop, laptop, and tablet computers over wired, wireless, and cellular networks to access an immense range of digital information resources for teaching, research, and scholarship. (Indeed, the first thing students remark on is Shields’ lack of power outlets and comparatively limited wifi.)

The campus population has also changed dramatically since 1990, booming from approximately 18,000 undergraduate students to almost 30,000 undergraduate students enrolled for Fall 2016, with further growth envisioned via the 2020 Initiative and other plans. Shields currently seats 3,400 students, as it did twenty-five years ago. Meanwhile, the annual gate (entry) count has increased from 1.4 million in 2012/13 to 1.6 million in 2015/16. Students complain of a high demand for study spaces on the UC Davis campus: “There’s no way to avoid losing your seat if you get up to do something.”
RESEARCH FINDINGS

There is comparatively more demand for Library study space than for use of hardcopy collections. Concurrently with pressures for more study space, use of hardcopy collections has decreased. Checkouts per all academic users has dropped, with the steepest decline among undergraduate students. Only 20% of undergraduates—who make up 86% of the Library’s visitors—report using physical collections while in the Library. In 2011/12, undergraduates checked out approximately two items/year; now, they barely check out one. And among faculty and (non-Library) staff, who make up 3.5% of the Library’s visitors, just 34% report doing so to use collections.

Shields has two highly desirable inherent qualities: a central campus location, and approximately 350,000 assignable square feet (making it by far the largest UC Davis campus building). Currently the balance of space provides roughly 40% for collections, 40% for users, and 20% for Library personnel and back-of-house operations. This distribution is not uncommon for many traditional libraries but may be rebalanced to respond to changing needs.

Reimagining the Library’s facilities requires responding to urgent needs for work space (particularly for undergraduates), while supporting users’ needs for physical and digital information resources as approaches to scholarship and research continue to transform, during a time of rapidly evolving information technologies.

1. Library Use Study conducted by the UC Davis Office of Research October 2015-September 2016.
2. Excludes Library personnel.
USER PERSPECTIVES

BALANCING THE NEEDS OF ALL SCHOLARS

Undergraduate students, graduate students, and faculty have different expectations for their academic experience and the role that the Library should play. While undergraduates are engaged in transitioning into college life and completing their coursework, graduate students are invested in establishing their academic identities, and faculty are committed to transmitting knowledge and advancing the academic discipline.

UNDERGRADUATE STUDENTS

The academic experience for many undergraduate students involves the challenge of transitioning from high school to college, and from home life to independent living. The Library, as the center of academic life, can be an intimidating place. Many students are not aware of the multitude of resources and services available through the Library. For those who try to seek such things out, the process can be overwhelming.

As undergraduates seek to meet the many demands on them, they tend to look for places and resources that enable them to “get stuff done” efficiently. They expect the Library to be an all-encompassing, inclusive space that supports long hours and provides essential working amenities.

Undergraduates’ use of primary sources and special collections is driven by course requirements, rather than being their core research practice. Students are introduced to primary sources through class visits or tutorials from library experts; a few wander in to special collections unaided. When looking for resources, undergraduates tend to choose sources and research topics based on convenience, on what is easily available at the moment, which can lead to them being unparticular. Digital books and journals are frequently referenced due to their ease of access and searchability.
GRADUATE STUDENTS

Graduate students are invested in their academic experience and tend to work for long periods of time—"writing the whole weekend"—with piles of books, copies of journal articles, or multiple browser tabs. They like to have their own space to "camp out" but may lack good options. As a result, graduate students often end up working in their department lab or at home.

Graduate students occasionally use services at the Library but they primarily work independently. They see an opportunity for the Library to become a technology leader—a center for advanced resources—with access to supercomputing, virtual reality, and media editing tools. Currently, such resources are distributed in departments and only accessible to limited audiences or by word of mouth.

Graduate students are driven to pursue academic experience beyond the classroom or lab. With their dissertations, they hope to show "that I know how to conduct research independently." While potentially deep in their work or isolated in their lab, graduate students desire multi-disciplinary events and programs to share ideas, demonstrate knowledge, and connect with others.

FACULTY

Many faculty members speak fondly about their experiences as students and highlight the role the Library played then: "the Library used to be the center of academic life." They recognize that campus life today is different, but some seek to pass on this tradition.

Many faculty describe the Library as a storage space; a "warehouse for books" that is closer to them than the centralized UC storage facilities. Faculty also recognize that the Library should not just provide access to information, but also offer students guidance in how to evaluate, synthesize, and present it.

Across all disciplines faculty emphasize the importance of journal subscriptions and library experts. Journals are clearly vital to recording and advancing knowledge within disciplines. Many faculty know Library personnel by name and speak of the positive experience of working with them.
LIBRARY EXPERIENCES

SUPPORTING INFORMATION ACCESS, ENGAGEMENT, AND DISCOURSE

Users expect three key experiences from the Library: accessing information in all forms, engaging with information to create new knowledge, and connecting with others in an academic hub at the center of the campus.

DEMOCRATIC ACCESS TO INFORMATION

The UC Davis Library has 10.3M items in its collections, comprising 4.7M book and journal volumes (including 866K digital books), as well as numerous scores, maps, manuscripts, and many other materials. Regarding journals, the Library’s users have access to 122K print and digital titles.1 Providing access to these and other information resources—whether owned or licensed by UC Davis or not—is essential to the Library’s mission.

Such growth in the Library’s collections poses challenges for how users discover, access, and manage these resources. The first step to resource discovery is typically online: 80% of faculty researchers start with electronic research resources or a general search engine; only 2% begin their research within the library building proper (Ithaka S+R Local Faculty Survey). Many students conduct their entire research exclusively online.

There is some tension between faculty and students when it comes to the Library’s physical and digital resources. In order to push students to conduct Library-based research, some faculty may establish information resource requirements for assignments (for example, Cite five hardcopy primary resources). Yet the faculty may also supply digital access or PDF copies to core material.

The Library will need to continue to provide access to both organized physical collections and easily discoverable and navigable collections of digital resources.

FROM ACCESS TO ENGAGEMENT

UC Davis is a top-ranked public research university with a reputation for solving problems related to food, health, the environment, and society. The university current receives approximately $790 million in sponsored research funding, and aims to increase this to $1 billion.

The Library is recognized for not only providing access to information resources, but also services and expertise to engage information in pursuit of scholarly inquiry. One of Ithaka’s key findings is that UC Davis faculty value and depend on the library’s support of their research more highly than do faculty surveyed at other R1 institutions and the other UCs. Faculty are eager for the library’s specialized research support services and technical infrastructures, especially in support of information management and digital services. Ithaka also found support for the library taking the lead in improving undergraduate students’ information literacy and research skills.

However, many incoming undergraduate students and novice scholars are too daunted by the overwhelming amount of information to pursue rigorous scholarly inquiry. Instead they pursue research on single aspects of topics. Many faculty hope to inspire in students a desire to explore information through questions—“not just answering a question but embracing a state of not knowing.” But this can be the tough for students, who are often unsure of what to ask, or even who to ask at the Library for help.

The Library can make the research process approachable for beginners and support more advanced scholars as they work with varied resources. Providing the necessary support enables users to explore ideas and feel comfortable asking questions, trying new things, exploring ideas, and failing.

REVIVING THE ACADEMIC HEART

The Shields Library occupies a unique position at the center of the campus community. It is one of the few academic spaces that welcome the public.

The existing architecture has an imposing and forbidding exterior and, as a result of the several renovations, a somewhat disjointed interior. Remnants of past renovations impede easy flow into and throughout the building. Access is currently limited to the west face, despite preexisting entrances on each side of the building, and students are greeted by security, a large barrier (the backside of an exhibit space), and a steep staircase in front of a glass wall. Perceptions of the Library among students is predominately one of a quiet, but uncomfortable study space. Many faculty use the space rarely, seeing it as purely a storage space for books.

There is a lot that can be done to activate the Library space. The entrance could be improved with architectural changes or by incorporating enticing amenities or event space. Circulation and wayfinding can be improved by providing greater access between spaces.

The Library’s role as a campus resource that touches each part of the academic community means it is well-placed to track and promote the work of faculty and students. It is also a space where others can learn from and connect with fellow researchers, or broadcast new ideas beyond the campus.
LIBRARY FACILITY VISION

UC Davis has a bold vision to build a library without limits: a large-scale, ambitious reimagining and renovation of the flagship Peter J. Shields Library that will support a growing student body and new forms of research and learning. Beyond its physical space, the library is creating a leading-edge digital platform for knowledge creation, management, and sharing by the university’s research community. Revolutionizing the physical library will create the conditions for success for our students and faculty and establish a national model for the library for the 21st century. It will offer access to expert services that extend beyond the walls of the library to support student learning and academic success, faculty research and digital scholarship, data science and data management, and transformations to scholarly communication.

Revolutionizing the Library will not only create conditions for the success of students and faculty, but also turn the Library into an international leader for the 21st century. This Library will be both digital and physical, dynamic and enduring, exciting and inspiring.

**UC Davis Library Vision**

The Library is the academic hub of UC Davis, advancing research, education and innovation in a networked world. It will be an interdisciplinary resource for the entire community that enables transformative research and education through its provision of critical scholarship, tools and services.

Building on the Library vision statement, the following facility vision and design principles describe how the physical spaces will advance the objectives of the institution.
The Library is the crossroads for learning and research in all forms—from independent study to advanced research projects.

It provides democratic access to the physical collections and digital information resources, cutting-edge tools, and expertise as well as environments for acquiring, creating, engaging with, and sharing knowledge. It is a neutral space, independent of discipline and free from judgment, open to the entire campus community for the exploration and exchange of ideas through academic socializing and discourse.
The purpose of Library space is to:

» **Support learning from information resources** in all forms and formats—from physical texts to data to specialized technology—both within the Library walls and via the wealth of resources available digitally.

» **Facilitate learning from experts** who can support knowledge creation by unlocking the value of information resources and bring ideas to life.

» **Support learning from others and independently**—from quiet study to active collaboration to sharing and dialogue.

» **Activate the social heart of the academic enterprise** by welcoming students, faculty, and the campus community with creative programming and engaging resources and services.
LIBRARY FACILITY VISION

DESIGN PRINCIPLES

Each facility goal can be advanced by applying the following guiding principles in designing Library space.

» Support learning from information resources in all forms and formats—from physical texts to data to specialized technology—both within the Library walls and via the wealth of resources available digitally.

» Become the central destination for democratic, open access to new, cutting-edge resources and tools not generally available elsewhere on campus.

» Create continuity between physical spaces and digital experiences. Improve access to print collections and digital resources through enhanced navigation and better communication.

» Facilitate learning from experts who can guide knowledge creation and unlock the value of resources to bring ideas to life.

» Build information literacy and research skills through expert consultation and instruction in accessible, functional, and technologically equipped spaces.

» Support student success through integrated Library and partner services.

» Improve staff spaces to support workflow, enable internal collaboration, and create connections between staff and users.
» Support learning from others and independently—from quiet study to active collaboration to sharing and dialogue.

» Support all forms of individual and collaborative work through a variety of settings distributed throughout the building.

» Create immersive spaces for engaging and experimenting with information within service nodes that support key areas of scholarly creation.

» Support the development and sharing of new knowledge by showcasing the work created at the Library and on campus.

» Activate the social heart of the academic enterprise by welcoming students, faculty, and the campus community with creative programming and engaging resources and services.

» Activate the building with a permeable exterior that connects the Library to the adjoining streets, buildings, and the Quad.

» Reduce perceived barriers to entry and activate the first floor by incorporating services and amenities that invite all users to enter.

» Expose students to how the research and discovery process happens—by showcasing cutting-edge research in action and facilitating conversations that lead to new discoveries.
SPACE PLAYBOOK

Broad and deep engagement with the campus community was the foundation for developing a "space playbook" to describe a Library that is at the crossroad of all forms of learning and research. The following section describes a series of potential space strategies—"plays"—that support the work of key user groups who depend on Library spaces, services, and resources for education, research, and scholarship.

In developing the space plays, additional ideas were generated that speak to supporting systems such as digital infrastructure or library services. These ideas were captured as well and are highlighted with a pale gold background.

Each play includes an image of an existing space for inspiration only; it is not meant to be a specific recommendation. All persona photos are from UC Davis.
5,000 additional undergraduates are anticipated to enroll by 2020

POINT OF VIEW

Meet Sue, a first year undergraduate student who frequently spends long hours studying and cramming for exams at the Library. We were amazed to discover that while she spends hours in the Library, she is unaware of its many resources, services, and expertise.

There is an opportunity for the Library to play a more proactive role in engaging students earlier in their college career. It would be game-changing if the Library could be a place, not just a space, that helps first year students develop information literacy and critical thinking.

PLAYS

» Peer Guides
» Personalized Consultations
» Digital Introductions
» Interactive Information
» Productive Study
» Destination Courtyard
It’s 12:00 am on a Thursday night. Eight hours left, one sentence down, and six pages to go. Camped out in the 24-hour study room, Sue is scrolling through Google search results frantically as she crams for her first college research paper. Her main goal? Finish this paper and pass the class.

For Sue and many other freshmen, college can be an overwhelming transitional period. “I’m still trying to make the jump from high school to college...we’re expected to do more on our own here,” she says. Knowing the right questions to ask and the right people to talk to can make all the difference in staying on track. As a new student, Sue is hesitant to ask for help and largely depends on her social circle for information. Sue wouldn’t know anything about the Library without upperclassmen. When it comes to seeking assistance, a library expert once gave Sue way more information than she needed when she asked about the history of Davis for her research paper.

Sue primarily sees the Library as a physical space in which to study. But what if the Library could be more? How might the Library support Sue’s academic success and development of critical thinking skills? Shields Library can be that safe place, not just a space, for Sue to ask questions without fear of judgment and to receive the support she needs to succeed. Imagine the Library where Sue could book office hours with peer writing tutors for her research paper or consult in-house academic advising staff on her degree plan. With a 20% increase of students by 2020, UC Davis will need to maximize space, resources, and student support services. The future Library can become a student destination for not just studying, but for thriving. The Library could play a significant role in helping to build critical thinking and research skills in the early stages of an undergraduate student’s career.
Create lifelong learners

INSPIRING CONFIDENCE

The first college research paper or final exam can be an intimidating undertaking, leaving new students feeling overwhelmed and lost. How might we alleviate their fears, inspire confidence, and help them succeed? We provide welcoming and accessible entry points that guide new students through research and academic success. Features such as peer guides and video tutorials create a familiar environment where students are encouraged to ask questions and better learn about research and Library resources.

DESIGN PRINCIPLES ADDRESSED

» Support student success through integrated Library and partner services.
» Build information literacy and research skills through expert consultation and instruction in accessible, functional, and technologically equipped spaces.
» Reduce perceived barriers to entry and activate the first floor by incorporating services and amenities that invite all users to enter.

Getting students started on the right foot at the beginning of any project. A robust help desk that provides peer-to-peer consultations to help students begin their projects with the right resources and services. A familiar face at the entrance can make the Library feel less intimidating and more welcoming.

Staffed help desk to greet students, orient them to the space, and connect them to their peer guides. Peers guides are organized by their field of expertise and provide consultations in enclosed, individual breakout rooms.

Key feature: Provide an open, welcoming entry point to invite users in.

Staffing: Student peer guides to provide consultations. Support personnel to manage student peer appointments and space use.
**Personalized Consultations**

**Meeting students where they are and assisting them with their courses.** Consultation hub with small- and medium-sized meeting rooms for TAs, tutors, and library experts to host office hours at the library, with appropriate resources and tools. Leveraging existing advisors can connect students to a curated set of resources.

Flexible layout that includes a series of both small meeting rooms and open communal spaces to support 1:1 consultations and small group discussions. Provide access to whiteboards and technology (e.g., projector and outlets). Reservation system viewable on local digital displays and remotely via Library website.

**Key feature:** Consultation hub adjacent to relevant expertise, tools, and resources (e.g., course reserves).

**Staffing:** Learning and teaching coordinator to manage and create relationships with campus departments and Library partners.

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**Digital Introductions**

**Providing a foundational understanding of library resources and services.** Online platform to orient students to Library resources and services and connect them to follow-up consultations. Giving new researchers the language and baseline understanding to support their inquiry.

Easily digestible digital format for students to learn the basics, such as quick 1-2 minute videos featuring Library experts walking through Library spaces, services, and resources. Students can then schedule consultations online.

**Key feature:** Simple and minimalistic user interface to provide ease of use and navigation. On-demand user support and fast loading time.
Create lifelong learners

SPACES THAT INSPIRE AND MOTIVATE

Undergraduate students depend on Library spaces in their efforts to succeed in their academics. Well-designed spaces can be used as a tool to inform, inspire, and motivate people. Imagine a new student strolling through Library corridors with interactive walls that help her navigate the spaces and services in the building. To her left, she can find a seat in the comfortable productive study to write her essay, or she can go outside to the courtyard on her right, where she can take a study break and explore the study-abroad fair. Providing a variety of spaces with the latest technology and amenities can satisfy students’ academic and social needs.

DESIGN PRINCIPLES ADDRESSED

» Support all forms of individual and collaborative work through a variety of settings distributed throughout the building.
» Improve access to print and digital resources through enhanced navigation and communication.
» Create continuity between the digital experience and the physical space.

Interactive Information

Improving navigation and awareness of all resources and services available. Large touchscreen displays embedded in space that connect students to Library information and resources. Providing interactive information at the point of need can enable users to locate resources easily.

Multiple touchscreen displays featuring: interactive Library map, profiles of Library experts, portfolio of services, catalog search, and upcoming events and Library news. When the displays aren’t used, presentations of research and work supported by the Library will inspire users.

Key feature: Simple, easy-to-use user interface. Place at each entrance and on each floor (outside elevator and at top of stairs). Place signage outside the building to draw users in. Adaptable to changing user needs.

Staffing: Accessibility expertise, marketing coordinator, and tech support.
**Productive Study**

**Supporting students to do focused study and work alone or among others.** Plentiful spaces for individuals to study or do research work; comfortable, technology-equipped environments to accommodate various working styles. Many students depend on Library space as a place to focus and be productive.

Blend of shared workspaces (e.g., large communal tables) and individual workstations so users can be "alone, together" or simply alone. Plentiful outlets to support use of technology. Adjacent to collections, natural settings/materials, and artwork to inspire scholars.

**Key feature:** Invite users in and make them feel at home by providing access to natural light, soft seating, and a comfortable atmosphere (e.g., plants, fireplace, etc.). Provide noise control for quiet, deep concentration.

**Destination Courtyard**

**Providing a respite from or destination for working, a natural setting for events.** An improved courtyard space that supports individual work or reflection, as well as flexibility for hosting events and programs in a natural, inspiring environment. The courtyard is already a favorite place for students, faculty, and Library personnel, and has the potential to be so much more.

Functions as both an outdoor study space and a destination to connect with people. Flexible space and plentiful tables and seating to accommodate a wide range of occupancies and events, including performances, networking mixers, and Library programs.

**Key feature:** Increase and facilitate access to/from courtyard. Adapt furniture and equipment to seasonal changes (e.g., heat lamps).
1 in 3 newly admitted UC Davis freshmen will be the first generation of their family to graduate from a four-year university.

**POINT OF VIEW**

Meet Maria, a first-generation college student studying Cognitive Psychology who works part-time at a dining hall. Through our current research, we realized that Maria feels isolated and disconnected from the academic culture.

Maria hasn’t found her community. It would be game-changing if the Library could be an inclusive place that embraces all students as scholars and provides them with a platform to connect and succeed.

**PLAYS**

» Foundations of Success
» Experimental Learning Hubs
» Library Cafe
Maria clocks out of her shift at the dining hall at 9:00 PM and gathers her belongings as she rushes to the Library's 24-hour study room for a long night of midterm studying. With a 30-hour work week and a full course load, Maria rarely has time to socialize with friends or relax by herself. She finds an open seat, settles down, and opens her psychology textbook. As she spreads out her lecture notes, she sighs. “I don’t even know where to start...I’ve been taking on so many extra shifts lately that I haven’t had the time to keep up with all this material.” Maria looks around for familiar faces to call on for help, but realizes she’s all alone.

At 2:00 AM, exhausted and mentally fatigued, Maria packs up her bag and bikes back to her dorm room. She sets her alarm clock to 6:00 AM for her morning shift, plops down on her bed, and rests her eyes. Maria takes a moment to reflect upon the sacrifices her parents have made and the personal challenges she had to overcome in high school to gain admittance into UC Davis. "I can’t wait for this quarter to be over so I can go home and see my family...I’m doing this for them."

For many first-generation students, being the first in the family to attend college can be exciting. How might the Library embrace individual students and help them find community? Although both of her parents work full-time, Maria primarily depends on her work-study program to fund her education, along with small grants and loans from the University of California. She feels alone in dealing with the pressure of not only excelling in all her courses, but also paying for her own college tuition. Imagine the future Library that connects Maria with all the tools she needs to succeed, mentors to look up to, and a community to lean on during stressful times. The Library can empower these students to lean into the hard times alongside a supportive network.
Create learning communities

COMMUNITY-DRIVEN LEARNING

For individual students to feel a sense of belonging, the Library should be a neutral place that is inviting and inclusive of everyone. For our users, we will provide student academic support services that unlock their potential to succeed, along with open spaces that bring the community together. First-generation students can call the Library their new home-base, with plentiful workspaces, empathetic partners devoted to teaching and listening, and a safe environment in which to make mistakes and learn.

DESIGN PRINCIPLES ADDRESSED

» Support all forms of individual and collaborative work through a variety of settings distributed throughout the building.
» Create immersive spaces for engaging and experimenting with information within service nodes that support key areas of scholarly creation.
» Reduce perceived barriers to entry and activate the first floor by incorporating services and amenities that invite all users to enter.

Engaging students through the communities they identify with. A co-working space for students to study and conduct research with programs and services from supporting communities. A feeling of belonging can give students the confidence to ask questions and make mistakes, and help them succeed.

Include large open workspaces for general use, and breakout rooms and large meeting rooms that are flexible for a variety of uses: brown-bag lunches, seminars, consultations, and informal conversation. Embedded gallery space will feature student works and stories.

Key feature: Open study spaces, flexible and comfortable furniture, and round tables for shared dialogue with access to collaborative technology.

Staffing: Partnerships coordinator or program manager to oversee partnerships, space, and service delivery. Partners include minority student support groups, academic success partners, etc.
Experimental Learning Hubs

Providing spaces that facilitate dynamic and active group learning. Distributed group spaces where students problem solve, explore ideas, and challenge constraints with their classmates. Allowing small groups to learn together—working out a complex physics problem on whiteboards.

A mix of enclosed group meeting rooms and open breakout spaces for focused group work and dynamic collaboration. Group meeting room can also function as a presentation practice space. Comfortable, modular furniture and writable surfaces to support multiple learning modes. Includes access to specialized software and technology with on-site assistance.

Key feature: Flexible and neutral spaces distributed throughout building to give students a sense of belonging and ownership. Adjacent to gathering spaces for casual meetings and informal conversations.

Library Café

Inviting students in to make the Library their home and meet with mentors. An easily accessible neutral space for students to focus on their studies, work with mentors, socialize with friends, or attend events. A welcoming amenity can reduce barriers to entry and bring non-users into the Library.

Located near entry for maximum visibility. Light food service will include coffee, pastries, and snacks. Embedded exhibition featuring student stories and works. Space is flexible to host academic and social events.

Key feature: Provides a sense of comfort and safety to people gathering in the space. Plenty of communal tables to create community. Access to natural light and strong wifi connectivity throughout space for productive study and pleasant socializing.

Staffing: Café manager and staff to manage customer service and operations. Library events manager to partner with café to coordinate academic and social events.
Meet Jerry, a third-year transfer student from Los Angeles. We were surprised to realize that he didn’t know that library experts could assist with research.

The transition from a small community college to a large rigorous research institution can be challenging for transfer students, like Jerry, as they familiarize themselves with a new academic environment. It would be game-changing if the Library could create the feel of a small college with the advanced resources of a large research institution.

PLAYS
» Academic Forum
» Proactive Support
» Showcase UC Davis

37% of students entering in Fall 2016 are transfers—the highest share in the nation.
Jerry's first semester as a transfer student at UC Davis is his first time being away from family, friends, and community back in Los Angeles. His previous institution provided him with a small, tight-knit community where he felt comfortable navigating resources available and forming relationships with classmates and faculty. Now, Jerry is enrolled in a large research institution with 36,000 students. Some of his classes sizes went up from 25 people to hundreds that occupy an entire lecture hall. This shift in surrounding environments is intimidating for Jerry, who was used to seeing familiar faces every day at a smaller campus.

His first days and weeks are marked by feelings of uncertainty and detachment. With the deadline for his first research project quickly approaching, Jerry frequents the Library during his breaks between classes, trying to make progress on his project, but feels lost about where to go for help. Jerry soon learned that the Library could assist with the research process.

Transfer students confront significant changes in their lives and education as they adjust to a new academic environment. While freshmen undergraduate students enter the college experience together, with fresh eyes, transfer students bring with them varied expectations of what an academic institution should offer and the needs they should meet. How might the Library be an integral partner in facilitating this transition? Imagine the Library where a transfer student meets a roving library expert outside the CoHo to chat about helpful Library resources. And imagine the UC Davis community coming together at the library to listen to a faculty member or graduate student give a two-minute TED-style talk on her research and opportunities to get involved. The Library could become Jerry's new home base, helping him thrive intellectually and make the most of the opportunities available at UC Davis before he graduates.
Reduce barriers to scholarship

SUPPORT BOUNDLESS LEARNING

Students who transfer are leaving one community for another, carrying with them expectations for how an institution of higher education should support them. Transfer students may come from many different places, but the Library can help create one destination to bring them all together. With community programs that connect students with common academic interests, the Library can become a shared resource and community-building experience.

DESIGN PRINCIPLES ADDRESSED

» Support the development and sharing of new knowledge by showcasing the work created at the Library and on campus.

» Expose students to how the research and discovery process happens—by showcasing cutting-edge research in action and facilitating conversations that lead to new discoveries.

Academic Forum

Sharing the work of scholars to foster dialogue and inspire new insights. A platform and gathering space for the academic community to showcase and exchange their ideas, research, and scholarship. Providing a sneak peek into the work of other scholars can make the unfamiliar more approachable.

A blend of event and meeting spaces for speaker series, symposia, workshops, and meet-ups. Speakers can nominate themselves or other people to build community. The forum also supports what may happen before and after an event, such as presentation practice and social mixers with food and drink.

Key feature: Create an open and welcoming space for many different segments of the campus population to engage with information and each other.

Staffing: Events and exhibition manager to coordinate programming and form relationships with UCD community. Tech support to troubleshoot at events.

Images this page and next: University of Pennsylvania, Texas Tech University, University of Houston
Showcase UC Davis

Displaying campus work in order for students to discover research opportunities. A platform for organizations to share their work, stories, and events to heighten students’ awareness of their campus community. The Library can collect and showcase the work of UC Davis to connect scholars from across the campus.

Pop-up display spaces will serve as a way for users to discover and explore UC Davis life. They can be static or interactive: e.g., showcases can come to life with Q&A sessions, live demonstrations, and exhibits. Students are exposed to the diversity of their community by browsing social events, breaking news, and groundbreaking research. There is space for students to post their stories and thoughts.

Key feature: Drive curiosity and engage users with enticing imagery, a mix of colors, and interactive exhibits.

Staffing: Marketing and outreach coordinator to partner with campus organizations.

Proactive Support

Connecting with a wide range of students to address questions in context. Roving library experts hold informal pop-up office hours at other campus buildings to extend the Library’s presence and reach atypical users. Meeting students where they enable personal interactions as well as address questions in context.

Library experts hold informal pop-up office hours at other campus buildings: department buildings, residence halls, the ARC, CoHo, Memorial Union, etc. Services include general overview of Library resources and services, research consultations and support, writing help, and more. Library personnel can also reach out to campus community events (e.g., campus club fairs, freshman orientation, etc.).

Key feature: Adapt to user needs and behaviors (e.g., increase hours at peak times, such as end of quarter).

Staffing: Administrative assistant to coordinate schedules and locations.
POINT OF VIEW

Meet Alekh, a graduate student in Mechanical Engineering who spends hours writing on his weekends. We were surprised to realize that he tends to work independently but would like to interact with scholars from outside his discipline.

Alekh seeks to make connections to broaden his perspective and research ideas. It would be game-changing were the library to help Alekh connect to people and advanced resources as he establishes his academic career.

PLAYS

» Research Kickstarter

» Advanced Resource Library

» The Digital Library

50+ of UC Davis graduate programs are organized as interdisciplinary graduate groups
It’s Saturday evening. Alekh is typing away on his laptop, surrounded by piles of books and with a warm mug of coffee in hand. Wide awake since 7:00 AM, Alekh has been working on his dissertation at home, stationed at the dining table in his apartment with occasional trips to the fridge. While time has been moving at a steady pace, Alekh’s mind has been pulsing at high speed, juggling abstract frameworks and complex databases, trying to gain clarity from a plethora of information.

Since Alekh first began his graduate studies at UC Davis three years ago, he has primarily worked independently. At this point in his academic career, he has developed some sense of direction for his dissertation. Yet somehow his scholarship feels fragmented, like an incomplete puzzle waiting to be pieced together. “As a grad student, I feel isolated and stuck in this black hole we call research,” he says. “I wish there were spaces to interact with people outside of my field.”

As a PhD student, Alekh’s world revolves around spending long hours writing over the weekend and conducting research with his faculty advisor. In his research process, Alekh accesses scholarly journals online or occasionally requests books to be delivered to his office. To Alekh, the Library is simply a portal for accessing resources. How might the Library play an integral role in Alekh’s research progress and transform the way he thinks about and manages his data? Given the evolving nature of research, the Library could do more than just store and provide access to information. It could be an interactive learning environment that advances scholars’ thinking and elevates their work to impact local and global communities. Imagine the future Library where Alekh could launch an interdisciplinary research project with the support of a community. The Library could become a place where Alekh’s new connections to fellow experts helps bring his research to life.
Bring research to life

CONNECTING NEW KNOWLEDGE

The world of graduate students centers around their specialized research. Conducting, analyzing, and writing about new research can be a time-intensive process. Let’s leverage UC Davis’ interdisciplinary culture and reinvigorate the research process for researchers by connecting them to people from other disciplines with different mindsets. With an advanced digital library, cutting-edge tools, and community-centric programs, we can enrich the research experience and, as a result, create lasting new knowledge.

DESIGN PRINCIPLES ADDRESSED

» Become the central destination for democratic, open access to new, cutting-edge resources and tools not generally available elsewhere on campus.

» Create immersive spaces for engaging and experimenting with information within service nodes that support key areas of scholarly creation.

» Create continuity between physical spaces and digital experiences.

» Expose students to how the research and discovery process happens—by showcasing cutting-edge research in action and facilitating conversations that lead to new discoveries.

Research Kickstarter

Bringing research projects to life with the help of an interdisciplinary community. A work and gathering space with a digital platform to help students refine their ideas and launch their research. Having different perspectives can generate new thinking and inform better research.

Students share their developing research ideas with UC Davis’ interdisciplinary community and meet potential collaborators via “problem talks,” which may take place online or in the Library. Participants learn by being paired with a faculty mentor and partaking in research clubs. Includes open lab space with comfortable furniture, coffee, and collaborative technology for users to develop and test out their research.

Key feature: Supports interdisciplinary collaboration through configurable, neutral spaces. Engages in larger campus community by connecting with Walker Graduate Center.

Staffing: Program manager to coordinate events and space.
Advanced Resource Library

Providing democratic access to the latest cutting-edge resources and technology. Open access library of state-of-the-art resources and technology—virtual reality, 3D-printing, GIS mapping and displays. Advanced resources enable scholars to further their ideas, broaden their perspective, and distinguish their academic career.

Includes virtual reality technology for creating immersive research and learning environments and expansive data visualizations: 3-D printers and technology to bring ideas out into the physical world, and GIS-linked digital maps and updated satellite imagery. Technology-enabled production studios with smart wireless chargers to create in a high-tech atmosphere. Hands-on makerspaces with a prototyping cart to help graduate students build their ideas and concepts.

**Key feature:** Connects to network of other advanced resources available on campus.

**Staffing:** Advanced resources expert.

The Phygital Library

Integrating the Library’s physical and digital resources to streamline access. Mobile application to connect users with Library resources, services, and events either in the building or available online. For researchers, accessing resources easily and efficiently is key to success.

The mobile app will include features such as research databases, an online catalog, expert consultations, stacks navigation, and social media. Browse digital catalog of books and online journals and request immediate delivery or pickup. Text a question and receive a response within seconds. Users can create a profile to bookmark their favorite resources.

**Key feature:** Simple interface that considers hierarchy of information for seamless user navigation. Adapts to user’s needs.
POINT OF VIEW

Meet Barbara, an associate professor in Environmental Sciences. We were surprised to realize that for a course requiring field measures, she had difficulty locating key data sources and tools to help her manage her data.

Barbara needs both access to the right digitized data sources and people to support her interpretation of the data. It would be game-changing if the Library could be the central data-science hub that not only provides access to data, but also the services and tools that help users manage data and uncover insights.

PLAYS

» Data Access Launchpad
» Open Collaboration Studio
» Visualization Hub

"The future Library can be purveyors of dynamic information, a data-science hub and a center for all modalities of communication and information." - Genetics Professor
Like a master composer with a grand piano, Barbara uses data visualizations to express her ideas and thinking. As you walk into her office, you see three desktop monitors, a laptop, an iPad, and a couple of books on the side. It is clear that Barbara digests most of her information on digital platforms. In preparation for her new undergraduate research seminar, she calls up all of the different data sources she would like to explore with her students.

As she outlines her course, she anticipates some challenges. “I cannot emphasize enough the value of digitizing older materials; the future of scholarly research depends on the preservation of digitally encoded knowledge,” she says. In addition, Barbara is expecting to handle a wide range of data contents and formats, which adds a layer of complexity to the process. For Barbara, it is exciting to imagine the Library becoming a central “data research repository” that is accessible to everyone.

With the advent of Big Data, new sources and formats of data pose new challenges and opportunities for researchers. To advance a scholar’s impact in their research communities, it is vital to both preserve existing data and streamline access to new data sources. How might the Library enhance Barbara’s experience in accessing and managing data? As the central hub of a vibrant research campus, the Library could be designed to not only house data, but also proactively guide students and faculty in navigating it. Imagine the future Library as an open data-science hub, where Barbara brings her students for a shared experience in data visualizations. A transformed Library will offer all the tools to work with data in innovative ways.
Explore data in new ways

THINKING WITH DATA

Data is a vital resource for researchers at UC Davis. In today’s technologically advanced world, we have boundless ways at our disposal to access, shape, and codify data to create impactful research. The Library can be a neutral place where researchers working in different disciplines can explore the power of data together.

DESIGN PRINCIPLES ADDRESSED

» Become the central destination for democratic, open access to new, cutting-edge resources and tools not generally available elsewhere on campus.

» Create immersive spaces for engaging and experimenting with information within service nodes that support key areas of scholarly creation.

» Support all forms of individual and collaborative work through a variety of settings distributed throughout the building.

» Expose students to how the research and discovery process happens—by showcasing cutting-edge research in action and facilitating conversations that lead to new discoveries.

Visualization Hub

Supporting scholars in visualizing their data and research stories. An interactive environment with in-house expertise allowing students and faculty to learn about data and experiment with visualizations. Being able to manipulate data in real time and see the results can advance research and inspire new insights.

Immersive visualization where data can be analyzed and experienced at a large scale. Side-by-side consultations and workshops to build users’ capabilities with visualization tools. Bookable and shareable presentation spaces for users to work with visuals and instructors to experiment teaching with data.

Key feature: Provide an explorative and immersive environment with multiple high-definition screens and projectors. Ensure seamless user navigation with on-site support.

Staffing: Graduate-student researchers and data experts.

Images this page and next:
OPEN Glasgow, Northeastern University, NCSU Hunt Library
Open Collaboration Studio

Creating new knowledge through interdisciplinary, collaborative work. Shared space with instruction labs and a wide array of software and tools to support research as a data-driven, collaborative process. An experimental space encourages multiple audiences to learn by trying, failing, and succeeding.

Access to full suite of software that supports research (e.g., R&R, Studio, ArcGIS, Canopy, etc.) with on-site support. Computer workstations, with large monitors, to support individual and collaborative work. Info desk can guide users through space and refer them to other Library experts. Programs and events can give users a platform to share their work, learn from one another, and network.

Key feature: Support experimentation and collaboration with open, flexible space and furniture, and collaborative technology.

Staffing: Grad student researchers for software support and info desk staff.

Data Access Launch Pad

Simplifying the data collection, management, and synthesis process. A user-friendly interface that allows scholars to explore databases, create visualizations, and consult data experts with ease. Fostering data literacy and use of standards are essential to supporting data-driven research.

Tutorial to guide users in data management, collection, and storage. Subscription option for databases most relevant to users' research areas. Includes guidelines for naming conventions, metadata, etc. Online chat system to connect with data specialists for consultations.

Key feature: Simple and elegant user interface designed with the data novice in mind. Support remote access with compatibility on personal computers, smartphones, and tablets. Anticipate user needs with proactive customer support.

Staffing: Mobile app developer, data library experts, and tech support.
POINT OF VIEW

Meet Jun, a History professor who depends on primary resources and secondary sources for his research. We saw the "mini library" in his office where he invites students to exchange books and ideas in an intimate, comfortable setting.

Jun values not just the physical presence of books and library collections, but the experience of bringing a class in to explore and discover knowledge. It would be game-changing if the Library could provide an engaging journey with its collections, one that connects people with the depth of knowledge available and, ultimately, to each other.

PLAYS

» Special Collections Lab
» Materials Library
» Ergonomic Stacks

"Having the books available is like having art objects—the books themselves are the complete story."
- Art History Professor
One of Jun’s most enjoyable experiences at UC Davis is getting lost in the stacks and interacting firsthand with old primary sources. When surrounded by books, opportunities for discovery feel limitless. Jun believes that the knowledge inscribed in books inspires opportunities for human connection. To Jun, the Library is more than a warehouse for books, it is an “extension of the mind,” shared soul where different ideas collide and merge. A book’s value can transcend its covers to connect people with different backgrounds and perspectives. Jun regularly invites students into his little, book-lined “library office” to exchange and share books, journals, newspapers and, most essentially, ideas. He feels most at home with a cup of tea, a good book, and an engaging conversation with a student.

With the ongoing digitization of Library materials, Jun is eager to preserve the experiences, memories, and insightful conversations that emerge from physical collections. How might the Library reimagine its collections to create new experiences and journeys for its users? Imagine the Library where the stacks become a destination, inviting users to freely browse in a comfortable environment. And imagine the Library offering different types of collections that create sensory experiences—materials of all kinds that people can touch and interact with. The Library is not merely a warehouse for books, but a birthplace of insights and connections. For Jun and many others like him, the Library’s space and collections can merge to produce a dynamic experience of scholarly inquiry, drawing knowledge from all around the UC Davis campus.
Create a collections experience

SHOWCASING COLLECTIONS

How might we inspire paradigm-shifting conversations from books that engage people from different disciplines? And what does a library’s physical collection look like in the 21st century? The Library can be an innovator in redefining the way we experience source material. Redesigning the stacks can provide a more appealing experience for users to explore collections. Providing tangible materials of different textures and shapes can inspire scholars in the research and creative process. Making the conservation and preservation of special collections visible to the public can also spark intrigue and curiosity.

DESIGN PRINCIPLES ADDRESSED

» Become the central destination for democratic, open access to new, cutting-edge resources and tools not generally available elsewhere on campus.
» Create immersive spaces for engaging and experimenting with information within service nodes that support key areas of scholarly creation.
» Improve staff spaces to support workflow, enable internal collaboration, and create connections between staff and users.

Special Collections Lab

Showcasing the unique and rare materials featured at the UC Davis Library. A Special Collections studio and lab that exhibits the unique collection as well as research, instruction, and consultation activities. Connecting to primary sources can bring to life the hunt for knowledge for students, researchers, and scholars.

Connect Special Collections to the UC Davis community by showcasing unique collections and making visible the conservation and preservation process. Special Collections staff can host tours and provide side-by-side demonstrations. Faculty continue to bring classes in for tours, discussions, and workshops using the Special Collections.

Key feature: Highlight collections in different areas throughout the building using a variety of platforms, (e.g., secure display cases of rare materials, pop-up exhibits, embedded galleries, interactive displays of digitized collections, etc.).

Images this page and next: UC Davis, Harvard University, McNally Jackson Books
Artifacts Library

Expanding the material collection of the Library to include samples and artifacts. A diverse collection of materials—from agricultural samples to materials to rare maps—for users to discover and advance their research ideas. UC Davis already collects many unique artifacts and creating a library space can extend their value.

Collections are open for the public to look at, touch, and feel. Service point welcomes users to browse artifacts and reserve time to interact with them. Signage helps users navigate and learn about the diverse collection.

**Key feature:** Maintain security by enclosing fragile materials in a secure, lockable case, which users can request access to.

Ergonomic Stacks

Creating comfortable access to the physical stacks to support browsing. Redesign of the stacks to be more ergonomic and user-friendly to welcome users and enhance the experience of navigating the stacks. Browsing the shelves is a joy for many scholars and essential to building research ideas.

Stack heights are varied in order to accommodate different user needs (e.g., disabilities). Small tables and soft seating distributed throughout the perimeters of stacks allow users to sit comfortably while browsing collections. Clear signage and wayfinding for easy user navigation throughout stacks.

**Key feature:** Create a sense of inclusivity in the collections experience by designing for all kinds of users (e.g., reluctant users, people with disabilities, etc.).

**Staffing:** Accessibility specialist and shelving designer.
EXPERIENCING THE PLAYS

ONE PLAY, MANY EXPERIENCES

While each persona’s needs can be met with a select suite of plays, each play has the flexibility to offer unique experiences for a breadth of user groups—undergraduates, graduate students, faculty, staff, and the broader Davis community. In particular, the Productive Study, Personalized Consultations, Visualization Lab, Academic Forum, and Research Kickstarter can provide different users with equally valuable experiences.

A Humanities scholar working among a pile of books at the Productive Study

A Library expert consulting a student about her research paper in Personalized Consultations

An undergraduate amazed by the action at the Visualization Lab

A community member giving a talk at The Academic Forum
Productive Study

Scholars come to the Library with their own personal styles and preferences for how they study and work. The Productive Study provides a diverse suite of spaces to meet different needs, all with the single mission of supporting focus and inspiring productivity.

Surrounded by Books

A Humanities scholar is curled up in a corner, tucked away near the stacks among a pile of books. Compiling research resources has never been so comfortable.

Working out a Physics Problem

An undergraduate is visualizing a complex Physics problem on an open, writable surface. With plentiful space to think and contemplate, he is able to take his time to fully grasp his course concepts and ace his final exam.

Inspired by Others’ Productivity

Being alone alongside other students focused on their studies can provide an inspiring atmosphere to motivate and enhance concentration.
Personalized Consultations

Students have a variety of needs that must be supported to advance their academic success, from solving problems in Mathematics to hunting through primary-source archives in History. The Library can be a home-base that connects students to multi-disciplinary experts in an inviting, open space. It is at the Library where TAs and subject specialists can assist students with research and writing.

TA FACILITATES A STUDY GROUP

A TA is going over key course concepts covered in the final exam while a group of students huddle and ask insightful questions to progress learning.

1:1 TUTORING SESSIONS

A tutor is helping out her student in a quiet enclosed space, where they have the privacy to focus on individual growth and development.

LIBRARY CONSULTATIONS

A subject specialist is guiding a student on how to prepare for her research paper, augmenting digital resources with relevant resources from the stacks related to the topic.
Visualization Lab

The advanced Visualization Lab isn’t just a space for the data whiz or the tech genius, but also a place that can amaze and excite users who are new to the world of data visualization. It provides cutting-edge tools to manipulate data, create environments for immersive learning in any discipline, and enable experimental teaching and learning in innovative ways.

A PROFESSOR EXPERIMENTS

Intrigued by the advancement of data technologies, a professor schedules time in the Visualization Lab’s instruction space and experiments with new ways of using data visualizations to help his students learn.

GRAD STUDENTS DIVE DEEP

An interdisciplinary group of graduate students are using interactive media walls to visualize and synthesize satellite imagery.

AN UNDERGRADUATE GETS INSPIRED

While passing by the Visualization Lab, an undergraduate observes a pair of graduate students immersed in an interactive environment and experiences a “spark;” she too wants to be involved in this experience.


Academic Forum

People from all kinds of disciplines and schools of thought gather and meet here at the Academic Forum to engage with and learn from each other. UC Davis can create connections with its local community by inviting the public to relevant events. By coming together, to explore the intersection of their ideas, students and faculty facilitate the creation of new knowledge.

INVITING THE PUBLIC IN

A local farmer from Dixon is giving a talk on sustainable farming in the region and sharing his point of view on the future of the industry. His narrative can provide a real-world perspective and strengthen campus relationships with the community.

HOSTING FACULTY DIALOGUE

Faculty from across the campus are united in an active discussion on the future of higher education. Bringing together different perspectives on a transdisciplinary problem can foster community and create new insights.
Research Kickstarter

Scholars and researchers will inevitably come across speed-bumps in their research journey. With the Research Kickstarter, they will no longer feel alone in their scholarly pursuit. They can share their research problems, receive help from others, and, most important, find a new interdisciplinary community of researchers to connect with.

SHARE YOUR RESEARCH PROBLEM

An engineer is running out of ideas for her research project about the water and sanitation crisis in India. She walks into the Research Kickstarter studio to share her problem at a “problem talk.”

JOIN A RESEARCH CLUB

She joins a research club focused on social innovation that is made up of researchers and scholars from across different disciplines, from Environmental Science to Design. They all share the same passion for developing creative solutions to humanitarian problems.

GAIN NEW INSIGHTS

After lively brainstorm sessions with her newfound interdisciplinary community, she gained new insights and is able to build a simply designed prototype.
Create the crossroads of learning

- Peer Guides
- Personalized Consultations
- Digital Introductions
- Interactive Information
- Productive Study
- Destination Courtyard
- Foundations of Success
- Experimental Learning Hubs
- Library Cafe
Academic Forum

Showcase UC Davis

Proactive Reference

Research Kickstarter

Advanced Resource Library

The Phygital Library

Visualization Lab

Open Collaboration Studio

Data Access Launchpad

Special Collections Lab

Artifacts Library

Ergonomic Stacks
NEXT STEPS

The project will continue into the second phase of Space Programming. With the support of this document as well as design advising from the brightspot team, the chosen architects and designers will refine the space playbooks and actualize the vision for the building.

While the design and construction of the Library spaces will depend on fundraising and present a long time horizon for implementation, there are opportunities to consider immediate pilots within the existing library buildings. Additionally, partnerships can extend the feasibility and reach of the plays and these relationships can be investigated and initiated in advance of the renovation.
ARRANGING PLAYS IN SHIELDS

There are four organizing principles for the incorporation of the space plays within the Shields building:

**Activate the first floor with welcoming amenities and showcasing exciting activities and features in a permeable architecture**

**Create service and resource nodes that create destinations in the space and connect users with resources, knowledge, and each other**

**Embed improvements to infrastructure and spaces with continued access to Library resources and services**

**Pull visitors up and through the building with visibility to active knowledge creation**
Each organizing principle can be accomplished with a combination of space plays:

**Activate the first floor with welcoming amenities and showcasing exciting activities and features in a permeable architecture.** The plays that attract the campus community with welcoming services, valuable amenities, or interesting displays include:

- Library Café
- Peer Guides
- Interactive Information
- Showcase UC Davis
- Proactive Reference

**Pull visitors up and through the building with visibility to active knowledge creation.** The plays that encourage users to pass through the building and communicate the exciting work at the library include:

- Destination Courtyard
- Academic Forum
- Research Kickstarter
- Open Collaboration Studio
- Visualization Lab

**Create service and resource nodes that create destinations in the space and connect users with resources, knowledge, and each other.** The plays that establish unique services and destinations within the library include:

- Personalized Consultations
- Foundations of Success
- Advanced Resource Library
- Data Access Launchpad
- Special Collections Lab
- Artifacts Library

**Embed improvements to infrastructure and spaces with continued access to Library resources and services.** Making improvements to the building infrastructure—pervasive wifi connectivity, more outlets—is essential. The plays that extend overall building renovations include:

- Productive Study
- Experimental Learning Hubs
- Ergonomic Stacks
- Digital Introductions
- The Phygital Library
PSEL AND CHSL

Regarding the Physical Sciences and Engineering Library, there are multiple factors that in combination make it very likely the facility will not receive significant investment as a future library facility. These factors include PSEL’s proximity to Shields, the intense space pressures and constrained options the university faces in that particular sector of the campus, and limited financial resources. The university has proposed alternative, high-impact uses of most of the PSEL space; the library space that would remain in the proposals has a number of potential alternate uses, including reconfiguration to become a physical sciences-focused library outpost or learning center.

The Carlson Health Sciences Library was originally designed to serve the medical and veterinary schools on the west side of campus. However, the Health Sciences District has evolved considerably over the last decade. Most of the medical school, including the entirety of the undergraduate medical education program, has relocated to the medical center campus in Sacramento. The veterinary school is expanding dramatically, and its long-range space plan envisions major changes to the Medical Sciences 1B building that houses Carlson. CHSL thus needs a new vision, developed collaboratively among that campus’s parties, that considers the Health Sciences District’s shared needs for library and related shared academic spaces and associated services.

Consequently, the University Library and the School of Veterinary Medicine established a task force to identify the shared academic services and associated spaces most needed by the faculty, students, residents, and researchers in the Health Sciences District. These could include traditional library services -- access to research collections and expert librarians -- but could equally include ad hoc instruction and technology-enabled spaces (e.g., maker labs, media production and videoconferencing facilities), data science consulting labs, or other modern information-related research and teaching activities that require shared, convenient, physical spaces.
PILOTING PLAYS

To successfully implement the plays, we can mitigate risk and gain insights through piloting and testing.

PILOT ROADMAP

The plays with the biggest pilot potential are divided into three sequential phases. The first phase can be done immediately to address current user needs. The second phase requires more staff engagement, but provides leeway to fail and iterate. The last phase involves purposeful long-term planning and multiple iterations.

PILOTING PRINCIPLES

1. Start simple. Often times, prototypes can be built at little to no cost, such as rearranging furniture or sketching out a future user’s story.
2. Empathize with users. Seek to understand the people that will experience your plays. Test out your pilots on users and capture their feedback.
3. Stay flexible. Iterate your pilot based on user feedback and be attuned to the changing context of UC Davis and other research universities.
4. Assess. Develop measurements for each pilot to understand how well specific features support the user experience and library objectives.

Phase 1

PRODUCTIVE STUDY: This can be tested out with simple reconfiguration of furniture and limited technology investments. Create and test out a variety of study spaces: individual workstations and "alone, together" communal spaces. Add powerstrips and other charging stations.

LIBRARY CAFE: Start with a mobile coffee cart (e.g., partner with CoHo). Consider arranging tables and chairs around the coffee cart to create a pop-up cafe. Ideal short-term pilot timeframe is during peak times, such as finals week.

DESTINATION COURTYARD: Expand use by adding more seating. Consider installing heat lamps to test use in colder months. Start hosting programs, events, and performances in the space.

Phase 2

INTERACTIVE INFORMATION: In the first iteration of this play, create more physical signage, infographics, and wayfinding that communicate Library navigation and services. Next, consider adding digital kiosks and signage.

ACADEMIC FORUM: Start out with a short speaker series and test out in large spaces, e.g., courtyard and 4th-floor patio. Gather community input by surveying topics and speakers of interest. Consider hiring temp staff to help with recruiting speakers and managing events.

SHOWCASE UC DAVIS: Enhance current exhibit spaces with bold, exciting graphics and imagery featuring UC Davis and community happenings. Partner with campus organizations to advertise their events and host interactive exhibits. Invest in museum-quality, secure display cases.

Phase 2

ERGONOMIC STACKS: Enhance access to collections by first piloting book delivery, primarily serving faculty and grad students. Long-term scenario planning will inform the reorganization and distribution of collections.

THE PHYGITAL LIBRARY: Align inventory of Library’s physical spaces and resources to a digital platform. Requires conducting UX research and usability tests to develop and refine digital prototype.
BUILDING PARTNERSHIPS

EXTENDING THE SERVICES AND REACH OF THE LIBRARY

Establishing partnerships with campus offices, organizations, and initiatives provides benefits to all partners -- the library, the partner, and students and faculty. For the Library: it can amplify existing services; augment the organization’s capacity, expertise and tools; extend institutional objectives; and attract new audiences. For partners: the partnership can offer a home base or outpost; adjacency to a network of similar services; and access to the Library user group. For users, it offers a draw to the Library, convenience to valued services, and a sense of place or identity.

Together with partners, the Library can support its mission and serve a broader audience by leveraging its central location to:

» enhance the student experience and support student success
» activate and consolidate information expertise on campus
» create a distinguished space for services
» build networks and connect individuals and groups across campus
» showcase research and work completed on campus

There are three types of partnerships the Library can create: a service hub, a unique offering, and a sense of placemaking. Combining the three in support of each other can help to amplify the impact of the Library on the scholarship and academic success of the campus community. Each is described in more detail on the following pages with a list of potential partners, how the hub would function, and the space model for each.
Service Hub

**DRAWING USERS INTO THE LIBRARY**

Offering valued services, targeted to the undergraduate student population, can make the library more accessible to this audience and support their academic success. This partner hub would build on two plays—Personalized Consultations and Foundations of Success—and leverage the First-Year Seminar as an entry point to introduce students to the wide range of services available at the library and on campus. This is modeled after the success of the Student Community Center except that it is focused on building academic communities through the affiliations that students already have.

The Foundations of Success provides a suite of spaces such as instruction space, small group meeting spaces, and a range of open workspaces within an area that welcomes and reflects the student population. Adjacent is the Consultation Hub with small enclosed or semi-enclosed meeting spaces. Some proximity to the entrance and café will encourage student use and create a welcoming atmosphere in the library.

The partners in this scenario would primarily provide their services and presence in a flexible manner, visiting occasionally for events or programs, episodically for on-call or surge programs, or recurring for on-going, scheduled programs. A range of partners would be engaged to activate the space with services and programming.

- First-Year Seminar: courses hosted in Foundations of Success and students referred to consultation services available at the library and elsewhere on campus
- Writing Center: courses hosted in Foundations of Success as well as offering consultation hours
- University Writing Program, course TAs, academic tutors, and IT Express would all offer support and consultation services

Three partners could be more integrated into the service hub with dedicated outposts or rotating service points.

- Student Academic Success Center: extend support and direct students to services offered across campus
- Undergraduate Research Center: help students develop foundational, beginner, and advanced research skills
- Center for Educational Effectiveness: gather input from students to inform improvements to instruction

Additionally, the hub could be scheduled as a testing center when needed.

This partnership opportunity positions the Library at the beginning of a student’s journey and creates a “face” that is welcoming, supportive, and responsive to undergraduate students.
Unique Offering

DISTINGUISHING SHIELDS

Offering spaces, services, and resources unique to the campus can establish the Library as an essential academic hub for the community. This partner hub builds on three plays—Research Kickstarter, Collaboration Lab, and Visualization Lab. The existing Data Science Initiative is an example space for this type of partner hub.

The Research Kickstarter is a large meeting and workspace with flexible spaces for smaller group meetings. It is a presentation and discussion space while the adjacent Collaboration Lab is an open project space with flexibility to support project teams with access to unique resources, such as a makerspace, media lab, or other specialized technology. The Visualization Lab is also adjacent as a supplemental resource, with expert support available as needed. This hub would also benefit from some proximity to the Advanced Resource Library.

The Research Kickstarter is a welcoming entry point to the hub where researchers can share and work through their research challenges—from the novice approaching a research paper to the seasoned academic looking to trouble-shoot a data challenge. Partners can facilitate “problem talks” and provide follow-up consultations:

» Undergraduate Research Center
» Research Support Services
» Office of Research
» Data and Digital Scholarship

The Collaboration Hub provides the option to engage partners and research teams in flexible project spaces for a given amount of time with access to resources specific to the initiative. Potential partners to engage in projects and activate the space include:

» Data Science Initiative (existing)
» Social Science Data Service
» Center for Community Change
» Davis Humanities Institute
» Social Science Institute
» Academic Technology Services (to provide expert support on specialized resources)

Additionally, this hub would complement and connect to existing labs and unique resources on campus such as the engineering incubator, geology cave, makerspace, or media lab, creating a vast network of unique offerings.

This partnership opportunity creates an exciting mix of users and resources in a suite of spaces that enable experimentation and development of new research for the campus and world.
A Sense of Place

‘YOU HAD TO BE THERE’

Placemaking connects people to a space and each other through programs and events that celebrate and reflect the community. This partner hub builds on two plays—Showcase UC Davis and Academic Forum—and build on the existing marketing and development work at the Library.

Showcase UC Davis is an easily accessible and dynamic space to showcase the work of the Davis campus and the story of the community through dynamic signage and interactive exhibits (with appropriate security). This is complemented by an adjacent auditorium that flexibly supports events ranging from speakers, panel discussions, performances, and film.

The partners in this scenario would collaborate in programming and activate the space with content, events, and people. The Library may organize some programming or structure series (e.g., recurring TED talks, rotating student shows) but it is primarily a space and platform for other campus entities to share and celebrate their work.

Many different types of partners and programs could be supported:

» Undergraduate Research Center: organize students conducting research and display or present their work
» Academic Departments: support science fairs, art exhibits, or other student work
» Academic Senate / Federation: host presentations and informal conversations to inform students about research or campus engagement opportunities
» Special Collections/University Archives: curate exhibits and associated events/lectures to share the history of UC Davis or other unique collections
» Student Community Center: send a traveling exhibit from the collections out to another location, like SCC
» Strategic Communications: provide a venue for featuring some of the publication through exhibits or events, such as the Faculty Dateline (i.e., interviews with faculty)

This partnership opportunity positions the Library as an exciting and welcoming place to experience and discover the constantly changing and always impactful work of the campus community.
This appendix provides a summary of the findings from research and engagement activities conducted during the first phase of the Library Space Planning Project for UC Davis Library. The findings from the spring quarter were further refined and validated during the fall quarter of 2016 and translated into space renovation and reconfiguration opportunities.
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APPENDIX

70  Project Process and Background

77  User Profiles and Experiences

87  Space Assessment

101 Services and Library Personnel

111 Collections Overview

117 Summary and Next Steps
PROCESS OVERVIEW

OBJECTIVES

The University Library launched a study to inform long-term planning and near-term renovation and reconfiguration of Library facilities at UC Davis (including the Peter J. Shields, the Carlson Health Sciences (CHSL), and the Physical Sciences and Engineering (PSEL) libraries).

Wide engagement across the entire University and extensive consultation with students, faculty, staff, and other campus units, are central to understanding the needs and expectations of the Library’s users.

brightspot strategy has been engaged to lead the first phase of the study: visioning and user research. This will be followed by a detailed space programming phase and design of specific renovations, reconfigurations, and repurposing of existing facilities.

SCHEDULE

The visioning and user research study is split between the Spring and Fall of 2016 in order to reveal preliminary insights early and optimize time with students and faculty given the interruption of summer break. The first phase of research was **broad + exploratory** to understand the experience of teaching, research, learning, and working at UC Davis. The Fall **validation + translation** phase will include activities to refine initial insights and define actionable ideas for the Library. The results of the broad and exploratory phase is documented in this Interim Findings Report.
RESEARCH QUESTIONS

The following questions will be explored, refined, and answered throughout the user research, space programming, and architectural planning process.

1. CONTEXT: What does the future of UC Davis look like and what role should the Library play?

2. RESEARCH: What is the nature of research at UC Davis and how might the Library support it?

3. DIGITAL SCHOLARSHIP: What is the impact and future of digital scholarship at UC Davis and what are the implications for the Library?

4. EDUCATIONAL EXPERIENCE: What is the Library’s role in education, particularly undergraduate?

5. COLLECTIONS: What are the roles of physical and digital collections on campus and in support of research and scholarship?

6. SERVICES: What is the role of Library services and “research support”?

7. COLLABORATIONS: What is the role of the Library in building and supporting networks and collaborations?

8. PARTNERSHIPS: What is the nature of, and opportunity for, Library partnerships with other campus units?

RESEARCH ACTIVITIES

User research, completed in May 2016, included the following activities and participation. Analysis was also completed of visitation, transactions, and collection growth and use across the UCs.

<table>
<thead>
<tr>
<th>Research tool</th>
<th>Participants</th>
<th>Content</th>
<th>Data</th>
<th>Input</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations and Tours</td>
<td>12 sessions, 8 sites</td>
<td>broad</td>
<td>qualitative</td>
<td>indirect</td>
<td>synchronous</td>
</tr>
<tr>
<td>Faculty Focus Groups</td>
<td>26 Faculty</td>
<td>deep</td>
<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>dscout mission</td>
<td>27 snippets</td>
<td>broad</td>
<td>quantitative &amp; qualitative</td>
<td>direct</td>
<td>asynchronous</td>
</tr>
<tr>
<td>In-Context Interviews</td>
<td>3 Faculty, 3 Students, 3 Staff</td>
<td>deep</td>
<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Tabling</td>
<td>148 comments</td>
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<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
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<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>User Interviews</td>
<td>6 Students, 17 Faculty, 3 Staff</td>
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<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Leadership Interviews</td>
<td>7 University/Library leaders</td>
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<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
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<tr>
<td>Committee Sessions</td>
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<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Journaling</td>
<td>84 Staff</td>
<td>broad</td>
<td>quantitative &amp; qualitative</td>
<td>direct</td>
<td>asynchronous</td>
</tr>
</tbody>
</table>
UC MISSION:
The distinctive mission of the University is to serve society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge. That obligation, more specifically, includes undergraduate education, graduate and professional education, research, and other kinds of public service, which are shaped and bounded by the central pervasive mission of discovering and advancing knowledge.

UC Davis became the 7th University of the UC system in 1959, though its history stretches back well before that to when it was a university farm for UC Berkeley. It is the third largest of the UC schools and is comprised of four colleges and seven professional schools.

ACADEMIC PROFILE
UNDERGRADUATE PROGRAMS: 104
GRADUATE PROGRAMS: 96
COLLEGES:
Agricultural and Environmental Sciences, Biological Sciences, Engineering, Letters and Sciences
PROFESSIONAL SCHOOLS:
Graduate School of Management, School of Education, School of Law, School of Medicine, School of Veterinary Medicine, School of Nursing

POPULATION PROFILE
Headcount Population Annual Averages
UNDERGRADUATES: 26,463 (+13% since 2011)
GRADUATE AND PROFESSIONAL STUDENTS: 7,538 (+1% since 2011)
FACULTY: 2,450 headcount (1,475 FTE)

RESEARCH PROFILE
CARNEGIE FOUNDATION: Very High Research Institution
PARTICIPATION: 38% of Davis undergraduates have assisted faculty with research
RESEARCH SPENDING: $786 million

Data source: “UC Davis Total On- and Off-Campus Headcount Population Annual Averages” available through the Provost’s Dashboard (Other Data Links, Annual Campus Metrics)
Six cultural themes emerged during conversations with campus leadership and the campus community. These themes characterize the UC Davis culture and define and connect students and faculty across campus.

**PRACTICAL**
From its historic founding, to pioneering agricultural programs, veterinary school, and orientation towards the sciences, UC Davis provides practical information and research for its community.

**IMPACTFUL**
As a land-grant institution, UC Davis has a mandate to pursue research that will allow local efforts to have a global impact. The directive to not just explore ideas, but understand their application, permeates the campus.

**SKEPTICAL**
Amidst change, an unpredictable budgeting climate across the UC system, and dearth of space available on campus, a healthy skepticism permeates the campus culture.

**INTERDISCIPLINARY**
Taking full advantage of UC Davis’s diverse colleges and professional schools requires an unbounded view of subjects. Interdisciplinary efforts are valued, though not always supported by University infrastructure.

**BLENDDED**
A community as large as UC Davis depends on spaces that are flexible and empower working together. The most successful meeting spaces on campus blend user groups as well as interiors and exteriors.

**ADAPTABLE**
A spirit of determination and adaptability is evident from both leadership commitment to ambitious projects and students who respond to and prepare for being successful through their university career—whether finding space to work in groups or bringing their own power strips to the Library.
LIBRARY AT A GLANCE

MISSION:
Advance the community’s success and impact through knowledge stewardship

VISION:
The Library is the academic hub of UC Davis, advancing research, education and innovation in a networked world.

VALUES:
We are a broadly collaborative and client-centered organization that values high quality scholarship, learning, and service to our community. We provide a work environment of integrity, respect and transparency, and a staff characterized by excellence, diversity, flexibility, and risk-taking.

The UC Davis Library is made up of four libraries; Peter J. Shields Library, Physical Sciences & Engineering Library, Carlson Health Sciences Library, and Blaisdell Medical Library (in Sacramento), the first three of which are being considered together for this project. The Library collaborates with the other nine UC campus libraries on a number of initiatives including the California Digital Library, the Melvyl catalog, and regional storage facilities based on UCLA’s campus and in Richmond, near UC Berkeley.

COLLECTIONS PROFILE

HOLDINGS:
More than 10 million print and digital items in the collection

DATA:
More than 6.5 million megabytes

CHECKOUTS:
More than 100,000 annually

INTERLIBRARY LOAN TRANSACTIONS:
23,657

SERVICE PROFILE

SERVICE POINTS:
8 Service Points, >100 service hrs / wk

STAFF COUNT:
132 regular employees (121.38 FTE)
119 student employees (30.72 FTE)

REFERENCE TRANSACTIONS:
44,139

PRESENTATIONS TO GROUPS:
17,569 Participants

SPACE PROFILE

SQUARE FOOTAGE:
437,419

VISITOR COUNT:
1.66 million annually

SEAT COUNT:
3,391 in Shields
LIBRARY CONTEXT

The University’s 2020 Initiative calls for a significant increase in undergraduate population in addition to identifying the need to invest in infrastructure to support this growth. This includes improving physical infrastructure, such as the Walker Hall renovation or the new Ann Pitzer Center, but it must also consider the units that serve and enable research and teaching across campus. Libraries are an essential component of the University’s programmatic infrastructure, and part of the foundation upon which the research and teaching missions of the UC system depend. Moreover, the Library’s own needs are shifting, and while the buildings are still a core component of this, understanding how to support emerging needs like data usage and management is becoming an increasingly vital aspect.

This Library Space Planning Project emerged from the Library’s 2013-2016 strategic plan, which identified the need for building improvements. One of the Library’s most significant resources for students is the spaces it offers, and improving spaces is a critical component of developing a robust infrastructure on which the Library can continue to thrive. The strategic plan also calls for spaces that will support staff interactions and collaboration, and understanding the experiences of Library personnel is a key part of this project.

This project seeks to understand how the Library’s spaces can continue to support other programmatic goals related to research, education, and collections, and how the physical and digital experiences of the Library can be aligned to create the best possible user experience.

2013 - 2016 LIBRARY STRATEGIC PLAN

**INFRASTRUCTURE GOALS**

- Online Platform: Create a world-class virtual library environment
- Organization & Governance: Maximize the Library’s effectiveness and impact in pursuit of our mission
- Buildings: Revitalize library spaces for a growing community of learners and a changing research environment

**PROGRAM GOALS**

- Research: Increase UC Davis’s research impact
- Education: Improve UC Davis’s educational quality by preparing students for life-long learning
- Collections: Maximize the community’s access to the comprehensive collection of knowledge

2020 INITIATIVE GOALS

- Deliver the benefits of a UC education to an additional 5,000 undergraduates
- Provide more international experiences for our campus community
- Boost regional economic development and create jobs
- Provide sufficient additional revenue to support up to 300 new faculty positions
- Improve our existing infrastructure and make investments
USER PROFILES AND EXPERIENCES

This section describes the experience of users broadly while identifying some variations by user type. This provides a lens through which to understand use of the space, services, and collections.

KEY FINDINGS

» Overall, faculty and graduate students tend to use Library resources while undergraduates tend to use the Library spaces.

» Another distinction exists between the sciences disciplines, which tend to be pro-digital, while humanities disciplines tend to be pro-physical resources.

» The experience of undergraduate students at the Library is defined by access, convenience, and ease of use.

» The experience of graduate students at the Library is defined by the spaces, resources, and programming that further their independent work.

» Faculty users offer differing perspectives on which resources and services should be represented at the Library, the emphasis on or balance between physical and digital, and the possibilities for the Library to act as a central meeting space for interdisciplinary interactions.

» The research experience, for all users, brings them through a cyclical lifecycle from idea to sharing and archiving.

DATA SOURCES

The themes presented here reflect conversations with more than 70 faculty, students, staff, and Library personnel from interview and focus group activities. Additionally, input from tabling sessions on the quad and in the Shields Library informed the perspective of students. Any quotes in italics are paraphrased from participant statements. Population data was accessed through the UC Davis Provost’s Dashboard.
The UC Davis community includes a total population of 57,936 people (2014-2015 annual average). Observing the community by their primary roles, two types of library users exist:

» Faculty and graduate students, 17% of the campus population, tend to be resource-driven

» Undergraduates, 46% of the campus population, tend to be space-driven

A portion of the staff segment include groups that use both the resources and spaces. For example, groups like the Center for Educational Excellence use both Library space for instruction and seminars, and Library resources in the development of curriculum innovations.

Of this total population, 13,711 or 24% live off-campus, frequently working at non-campus locations. These populations may access the Library collections remotely or depend on other libraries in their area (Sacramento, Berkeley). This represents almost half of the faculty and staff (11,840 out of 23,936) and 5.5% of graduate and undergraduate students.

As a land grant institution and library open to the public, the use also extends to the population of Davis, a total of 66,205 residents (United States Census Bureau). In addition, due to our proximity to the state capitol, Library resources are also used by state employees working in areas ranging from fish and wildlife management; to water quality; to civil and environmental engineering (roads, building, levees, dams).

The roles of undergraduates, graduates and faculty are explored in more detail on the following pages.

Data source: "UC Davis Total On- and Off-Campus Headcount Population Annual Averages" available through the Provost’s Dashboard (Other Data Links, Annual Campus Metrics); other includes nonsalaried and affiliated staff.
PROGRAM DISTRIBUTION

The student population is distributed between four colleges and six professional schools; a total student population of 36,104 (Fall 2015). While each program has specific needs and expectations of the Library, there is a distinction between those in the science programs which tend to use digital resources and those in the humanities programs that tend to use physical resources. Social sciences occupy a sort of middle ground as they are increasingly depending on digital resources.

Despite these distinctions, there is a fair amount of overlap in programs and expertise, resulting in some collaboration between programs (mostly in research projects, not yet in the classroom).

Understanding the distinctions and specific needs and perspectives of each discipline is a priority for our ongoing research.

Data source: "UC Davis Student Population Headcount -- Fall 2015" available through the Provost's Dashboard (Other Data Links, Annual Campus Metrics); *includes School of Education

<table>
<thead>
<tr>
<th>Colleges and Schools</th>
<th>Enrollment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture and Environmental Sciences</td>
<td>6,984</td>
<td>19%</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>5,642</td>
<td>16%</td>
</tr>
<tr>
<td>College of Engineering</td>
<td>4,445</td>
<td>12%</td>
</tr>
<tr>
<td>College of Letters and Sciences</td>
<td>11,186</td>
<td>31%</td>
</tr>
<tr>
<td>Graduate Division*</td>
<td>4,405</td>
<td>12%</td>
</tr>
<tr>
<td>School of Law</td>
<td>561</td>
<td>1.5%</td>
</tr>
<tr>
<td>School of Management</td>
<td>492</td>
<td>1.5%</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>1,373</td>
<td>4%</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>148</td>
<td>.5%</td>
</tr>
<tr>
<td>School of Veterinary Medicine</td>
<td>798</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Total Student Population</strong></td>
<td><strong>36,104</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
UNDERGRADUATE STUDENTS

Undergraduate students represent a majority of the campus population and have been identified as a user group where increased Library engagement with their education is a priority. There are six themes that define their educational experience, relevant to the Library:

**MAKING THE TRANSITION**
Undergraduate students are in the process of making the transition from high school to college, and from home life to independent living. This is especially true for first generation college students who may not have a model to follow.

**LACKING IN AWARENESS**
Many undergraduates are unaware of the value a library provides for the university or the multitude of resources offered. Even awareness of the available resources does not guarantee understanding the role: “I didn’t know librarians teach research.”

**INTIMIDATING EXPERIENCE**
The Library can be an intimidating place with its scale and depth of expertise. For those students who seek out resources or services, the process can be overwhelming. Peers provide an alternative reference: “I wouldn’t know anything without upper classmen.”

**SEEKING CONVENIENCE**
Undergraduates tend to choose resources and research topics based on what is easily available, which can cause them to be nonselective. Digital books are frequently referenced due to ease of access and ability to search.

**REQUIRING USE OF RESOURCES**
Their use of primary sources and special collections in the Library is almost solely driven by course requirements. Students are introduced through class visits or tutorials from librarians; a few wander in unaided.

**LOOKING FOR ALL-INCLUSIVE**
There are many demands on undergraduates as they transition to the college experience and they tend to look for places and resources that enable them to “get stuff done” efficiently. This influences the spaces that they choose—those that support comfort and ability to stay long hours with working amenities.

Faculty set resource requirements because they want students to experience the Library and build their ability to “shelf read” but, with an understanding of what motivates their students, they often supply digital access or pdf copies to ensure that the core content is covered.
GRADUATE STUDENTS

The graduate programs at UC Davis are among some of the top programs in the nation and include a significant user base at the Library. There are six themes that define graduate students’ educational experience, especially as relevant to the Library:

PUTTING IN EXTRA HOURS
Graduate students are invested in their academic experience and tend to work for long periods of time—“writing the whole weekend”—among a pile of books or using special technology resources. They would like to have their own space to “camp out” but currently lack good options.

FEELING ISOLATED
These circumstances tend to distribute graduate students into isolated pockets across campus either working in their department lab or at home. This also applies to their area of expertise where they feel “no one knows as much as I do about this topic.”

SEEKING EXPERIENCE BEYOND LEARNING
Aiming to complete their project or dissertation at the highest level, graduate students also want to pursue experience beyond learning in the classroom or lab. Completion of their dissertation is less about completing it and more about “showing that I know how to conduct research independently.”

SHARING IDEAS AND CONNECTING
While potentially deep in their work or isolated in their lab, graduate students desire events and programs inclusive of other fields to connect with others. This is also an opportunity to demonstrate the knowledge that they’ve built in their discipline.

USING SPECIAL RESOURCES
Multiple students mentioned finding special resources on campus by chance or by word of mouth. These resources—supercomputing, virtual reality, media editing tools—are typically distributed into departments but could benefit from cross-disciplinary use and position the Library as a technology leader.

WORKING INDEPENDENTLY
Graduate students may occasionally use services offered at the Library but primarily work independently. They see the need for instruction on research basics and how to search effectively hosted at the Library or in the classroom.

This section also incorporates the perspective of post-doc students, though only a handful participated in the spring quarter of research.
FACULTY SIMILARITIES

Through conversations with faculty, three shared perspectives were repeated:

BALANCE HISTORY / FUTURE

Many faculty speak fondly about their experience as a student and highlight the role that the Library played: “the library used to be the center of academic life.” They recognize that the environment of today’s campus is different but seek to pass on this tradition. This conflicted perspective is reflected in the tendency to share pdf resources while also hoping students learn to “shelf read.”

There are also those that describe the Library as “not your parent’s” embracing different types of resources and functions.

Some may hold too closely to the past while others run far into the future. Balancing this with an appreciation for historical approaches and information while looking towards creating new information can guide a productive new vision.

“A CLOSER STORAGE SPACE”

The Library is described by many faculty as a storage space; a “warehouse for books” closer than the centralized UC storage facilities. Some seek a closer, department-oriented library while others will hold on to resources (anywhere from 50-120 mentioned) indefinitely, renewing them as needed. Individual offices can look like mini-libraries reflecting a specific discipline or passion and providing a “unique perspective on the world.”

Despite this perspective on the Library, faculty recognize that the function is no longer just about accessing the information but knowing how to understand, synthesize, and present it.

SUBSCRIPTIONS AND LIBRARIANS

Across all disciplines faculty emphasized the value of the subscriptions and librarians. Subscriptions were vital to maintaining knowledge within their discipline and identifying trends or opportunities in their research. Many faculty referenced librarians by name and speak of the strong relationship and positive experience of working with them.

While important, faculty also recognize the financial implications related to maintaining a high standard of these services.
Three topics were emphasized where faculty had a variety of perspectives:

**FACULTY DIFFERENCES**

Faculty have different expectations for the collections, services, and support that should be offered at the Library. Faculty tend to be defensive of their relevant collections and databases when discussing the priorities for the Library moving forward. Several humanities faculty mention the collection as having an influence in their decision to work at UC Davis. Science faculty tend to focus on convenience of access, often through digitization and databases. But humanities faculty tend to see the Library as a resource for their programs and reflected that the “Library needs to emphasize its value, especially at a science-oriented university.”

Moving forward, the Library should continue to be attentive to how it supports the different disciplines and consider the balance between science- and humanities-oriented support.

**REPRESENTATION AT THE LIBRARY**

Building from the representation at the Library, faculty tend to focus on what form the resources and collections take—physical or digital. Some faculty, many in the sciences, say “digitize the entire collection” while others value the physical collections as a representation of the academic gravitas of the university.

Many recognize, and see the value of, moving towards digitization but are wary of the product being robust enough to replace the access they have today. A prioritization of digital infrastructure and management is required to make this work.

**PHYSICAL AND DIGITAL**

In considering the future direction of the Library, many faculty shared perspectives on the role it could play as a central, neutral meeting place for academic pursuits across different disciplines. In the current campus context, many departments are pressed for space which creates a territorial sense even when collaborating across departments. Therefore, a central presence on the campus might be able to better facilitate these interactions.

Faculty provided a variety of ideas on what form those interactions may take, from the informal, such as hosting occasional events, to more formal, such as supporting collaborative research projects. Some felt that these functions could not come at the expense of core Library offerings or the presence of physical collections.

**A CENTRAL MEETING PLACE**
RESEARCH EXPERIENCE

FROM IDEA TO ARCHIVE

Users approach research from many different perspectives and execute it uniquely to their discipline. However there are three shared stages of the research experience for users across role and discipline.

Beginning with an idea
Whether inspired from something recently learned or based on a moment of inspiration, ideas come from many places. Students pursuing an assignment look for new information or faculty seek a gap in knowledge within their discipline.

Developing the concept
Multiple paths are pursued to develop an idea through concept or hypothesis to a theory. Each discipline takes a different approach; for some this includes running experiments and managing data sets. Regardless of the approach, users are juggling a lot of information from many different sources, physical and digital, and referencing many different services to further the idea.

Sharing with the wider world
Finalizing the idea takes users to submitting, sharing, or publishing. This may simply be to an instructor, to colleagues or to a wider research community; and finally, archiving the new information for future reference. At this point, ideas become fodder for inspiring new ideas, creating a cyclical process.

While specific to the research process, these stages also provide a foundation for looking at other campus experiences of learning and teaching.
Each researcher has a unique approach or path through the experience. The following captures some of the experiences shared with us at each stage.

**Broad to specific:** Approach research first with a Google book keyword search, get the call number, pull books at the Library, then sit down and go through footnotes or bibliography. (Professor at College of Letters and Sciences)

**Browse and search:** Like to pursue more abstract questions in early stages of project half through browsing and half through targeted searching. (Associate Professor at College of Letters and Sciences)

**Available and unavailable information:** Students may pick their topics based on what is easily available while researchers pick a topic based on where there are gaps in discipline’s knowledge. (Student at College of Letters and Sciences; Professor at College of Agriculture and Environmental Sciences)

**Reading deeply:** When working on research papers, requires nose in a book—“rewarding to get deeply into books.” Even if reading digital, like to work around books. (Student at College of Letters and Sciences)

**Collaborations:** Through research process, working with other students to build, set-up, and test. Also a distinction in how disciplines work together: “*Humanities grad students do grunt work; Science grad students are collaborators in research*” (Students at College of Biological Sciences; Professor at College of Agriculture and Environmental Sciences)

**Trial and error:** When researching, test a new idea by running some experiments and if it looks promising will develop a theory. (Professor at College of Letters and Sciences)

**Demonstration:** Not necessarily about others reading dissertation but rather demonstrate the capacity to conduct independent research. (Student at College of Letters and Sciences)

**Connecting:** Library can communicate its value as a community space connecting scholarship to researchers and managing Davis’s institutional knowledge. (Professor at College of Engineering)

**Gathering:** A place where people can gather, share, listen, and discover can bring people together to learn and grow. (Associate Professor at College of Letters and Sciences)
SPACE ASSESSMENT

Through the space assessment, we were focused on understanding: (a) the current performance of the UC Davis Library facilities through the perspective of the users, (b) where people go to study, meet, and learn on campus, and what makes those spaces successful, and (c) opportunities for space improvements.

KEY FINDINGS

» There is a high demand for work and study spaces on campus, the more popular venues being at full capacity during peak hours.

» Successful work spaces on campus have a variety of offerings, including: coffee and/or food, student services or affinity group offices, individual and group work settings, bookable meeting rooms, natural light, and connection between the indoor and outdoor.

» While the existing Library provides much needed space, it is underperforming in the functionality of study and work spaces, particularly in its ability to support group work, use of technology for individual or group study, and comfort and quality of space.

DATA SOURCES

Insights in this section were informed by the student and faculty focus groups, observations and tours, and tabling. These assessments provide an understanding of the qualitative aspects of space performance and are not formal condition assessments.
USERS ON CAMPUS

STUDY AND WORK DESTINATIONS:

Students select study locations based on:

- **CONVENIENCE**: students choose study spaces that are close to their classes or where they live; time is precious on a large campus. Given the students we spoke to, there is a significant concentration of spaces in the Quad District used for studying.

- **QUALITY OF SPACE**: each student has their own preferences for spaces - desks versus lounge seating, quiet versus noisy, bright versus dark. The ability to meet these requirements is a significant factor towards where people choose to study and work.

- **COMMUNITY**:
  - **ALONE, TOGETHER**: students enjoy being “alone, together” when studying or working; many students gravitate towards the meeting point where their friends are. The Student Community Center (SCC) and Shields Library are common gathering points.
  - **AFFINITY GROUPS**: many people choose study space because of collocation to an organization they belong to or identify with, such as the Transfer and Reentry Veterans Center (TRV) and the Women’s Resource and Research Center (WRRC).

- **AVAILABILITY**: likelihood of finding a study seat.

Faculty select meeting and work spaces that are:

- **INFORMAL**: The CoHo, coffee shops in Davis, Scrubs, and the Arboretum attract Faculty for their informality, which sets the right kind of environment for interactions outside of the classroom and office.

- **SERVING FOOD + COFFEE**: Faculty mention food and coffee as the primary drivers for where they go to meet colleagues, hold meetings, or take a break.

- **HAVE A MIX OF USERS**: Faculty enjoy working in environments where they can run into students and peers. The Memorial Union is a primary destination on campus to mix with other members of the community.
STUDYING ON CAMPUS

MEMORIAL UNION

SUCCESSFUL QUALITIES:
» Access to food and coffee
» Connection between indoor and outdoor environments
» Natural light
» Simple furniture supports dining and individual or group work
» Cross-section of campus community ("you see everyone at the MU")

Top: CoHo seating
Bottom: Bike parking and terrace seating

QUAD / ARBORETUM

SUCCESSFUL QUALITIES:
» Beautiful landscaping
» Diversity of seating
» "Neutral" space
» Convenient location, near primary thoroughfare

Clockwise from top: Quad hammocks; arboretum; someone reading in the arboretum

Top: CoHo seating
Bottom: Bike parking and terrace seating
STUDENT COMMUNITY CENTER

SUCCESSFUL QUALITIES:
» Variety of seating: cafe tables, bar seating, lounge chairs, etc.
» Computer lab
» Bookable meeting rooms with whiteboards
» Access to coffee
» Co-location with student service groups
» Connection between indoor and outdoor environments
» Electrical outlets everywhere

Clockwise from top: Cafe seating in atrium; LGBTQIA Resource Center; working at outdoor cafe seating with electrical outlet nearby; bookable meeting room; lounge supports informal and formal meetings.

SILO

SUCCESSFUL QUALITIES:
» Access to coffee
» Large work tables
» High ceilings
» Access to food

Students working in Silo with coffee line in the background
EXISTING SPACE ASSESSMENT
SHIELDS

Shields is seen as one of the main destinations on campus—for its primary location on the quad, quantity of study space, and access to the collection on browsable shelves. We spoke to students, faculty, and staff to understand how the space works for them.

VARIETY AND CHOICE: Students enjoy the variety of places to go to work but are looking for greater diversity in seating and noise levels—observations show that completely silent spaces are hard to find.

WORKING ALONE, TOGETHER: Students gravitate towards areas where they can work next to peers at large tables (similar to the coffee shop model).

FUNCTIONALITY: The functionality of workspace (number of outlets, lighting, furniture type) and environmental quality (air quality, temperature, cleanliness) are cited as barriers to productivity.

ACTIVE SPACE USE: The gate count data shows an overall increase in visitors to Shields over the last five years, which is consistent with enrollment growth.

![SHIELDS GATE COUNTS](image)

Students like the basement because it is quiet and secluded but complain about environmental qualities.

The classroom is nice to have but doesn’t support active learning.

Quiet areas are tucked away, still not silent.

Large desks used as meeting point.
Key library / study space qualities:

- Variety and choice
- Degrees of quiet space
- Comfortable furniture
- Large work tables
- Electrical outlets
- Good wi-fi
- Food and beverages
- Good air quality
- Access to books
- Access to staff
- Long hours

24-hr room identified as the worst space, yet in high demand

The computer lab is always packed but is not a comfortable workspace

Courtyard entrance is hard to find

Group study rooms in limited supply, 24-hr room discourage use

Students love the main reading room

Variety and choice
- Degrees of quiet space
- Comfortable furniture
- Large work tables
- Electrical outlets
- Good wi-fi

Food and beverages
- Good air quality
- Access to books
- Access to staff
- Long hours

Isolated for quiet (almost) work

Always in high demand, good for both group and individual work

Meeting, prep, workspace

Quiet, least active space

“I like to sit in the 2nd floor windows”
EXISTING SPACE ASSESSMENT

SHIELDS

THIRD FLOOR

FOURTH LEVEL

Generally quiet—people are “working alone, together”

Individual desks “cramped” in

Grad cages

Faculty carrels

The grad cages and faculty carrels are rarely used.
EXISTING SPACE ASSESSMENT
SHIELDS

24 HOUR STUDY ROOM

- Electrical outlets at every desk.
- People are primarily in the 24-hr room to do individual work using a book or computer.
- There is one Auditory Study Room and one Group Study Room with identical layouts. A corkboard is in place of a whiteboard.

MAIN READING ROOM

- Collaboration at the quiet tables.
- Bags pile up on the desk.
- Students are largely doing individual work, but are almost all with others.
EXISTING SPACE ASSESSMENT
SHIELDS

4TH FLOOR SILENT STUDY

Outlets are located in a few columns at the end of the stacks, so the corridor between the stacks and the carrels is filled with cords going back and forth between them; students confess bringing their own extension strips because of the lack of outlets in the library.

Near the elevator there is a small room with six study carrels, creating a dark study space.

BASEMENT

Students sleeping at study carrels.

1ST FLOOR

Group meeting held in hallway to access electrical outlet.
EXISTING SPACE ASSESSMENT
CARLSON HEALTH SCIENCES

MAIN LEVEL

Table seating rings the perimeter of the main reading room, users tend to be sitting alone near the window.

A standing screen greets visitors.

3-shelf high stacks offer visibility through the floor, but make it challenging to browse.

STORAGE

Several rooms currently used for storage.

MEETING

Science disciplines specifically requested display capabilities in their meeting spaces, this meeting room in Carlson has no technology.

GATE COUNT: limited data
2013-14: 84,121
EXISTING SPACE ASSESSMENT
CARLSON HEALTH SCIENCES

LOWER LEVEL

A student works at one of the few fixed computers, electricity fed through the ceiling.

Study carrels between stacks do not offer outlets.

Carlson has a lot of group study rooms with basic furniture settings. Lounges connect these rooms.
EXISTING SPACE ASSESSMENT
PHYSICAL SCIENCES + ENGINEERING

STUDY SPACE

Group work takes place next to individual work.

Outlets!!

Students doing individual, quiet work at the provided desktop computers.

TINKERING

An informal table encourage people to tinker and work through problems by making.

SIGNAGE

A sign informs patrons that the service desk is closed for the day but they can still get help at the circulation desk.

VISIBILITY

Glass is used when possible to promote visibility.

GATE COUNT: limited data

2013-14: 32,509
2012-13: 37,755
SERVICES AND LIBRARY PERSONNEL

This section examines the workplace experience for Library personnel and contains a snapshot of service points, staffing, and a quantitative look at service delivery. This helps us understand in what areas Library personnel thrive, and what enables them to do so.

KEY FINDINGS

» About a quarter of personnel time is spent directly with patrons (on average, across all roles and departments). Student employees report spending most of their time with patrons.
» Service points that can be flexible serve the Library best over time.
» Virtual reference is now more used than in-person reference.

DATA SOURCES

UCOP Data (2011-2015), ARL Data (2014), staff journaling exercises, and interviews with various Library personnel. The UCOP data provides a starting point for the analysis but will be further validated by the Library.
CURRENT SERVICE POINTS

Over time, the UC Davis Library has adapted service points to best meet the evolving needs of its users. Some old service points have become exhibition spaces, while others have been relocated for user convenience, and others have simply been closed. Below is a snapshot of current service points across the three buildings: Shields, Physical Sciences and Engineering Library, and Carlson Health Sciences Library.

<table>
<thead>
<tr>
<th>Name</th>
<th>Building</th>
<th>Floor</th>
<th>Location</th>
<th>Hours</th>
<th>Staffing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulation Desk</td>
<td>Shields</td>
<td>1</td>
<td>Near entrance</td>
<td>8am - 12am</td>
<td>Students + Staff</td>
</tr>
<tr>
<td>Information Desk</td>
<td>Shields</td>
<td>1</td>
<td>Lobby</td>
<td>9am - 6pm</td>
<td>Students</td>
</tr>
<tr>
<td>Special Collections</td>
<td>Shields</td>
<td>1</td>
<td>Lobby</td>
<td>10am - 4pm</td>
<td>Staff</td>
</tr>
<tr>
<td>Reading Room</td>
<td>Shields</td>
<td>LL</td>
<td>NW corner</td>
<td>1pm - 5pm</td>
<td>Students + Staff</td>
</tr>
<tr>
<td>Research Consult Desk</td>
<td>Shields</td>
<td>2</td>
<td>Near reference</td>
<td>9am - 6pm</td>
<td>Staff</td>
</tr>
<tr>
<td>Map Room</td>
<td>Shields</td>
<td>LL</td>
<td>NW corner</td>
<td>1pm - 5pm</td>
<td>Students + Staff</td>
</tr>
<tr>
<td>Circulation</td>
<td>PSEL</td>
<td>1</td>
<td>Near entrance</td>
<td>8am - 10pm</td>
<td>Students + Staff</td>
</tr>
<tr>
<td>Research Consult Desk</td>
<td>PSEL</td>
<td>1</td>
<td>Near reference</td>
<td>1pm - 5pm</td>
<td>Staff</td>
</tr>
<tr>
<td>Circulation Desk</td>
<td>CHSL</td>
<td>1</td>
<td>Near entrance</td>
<td>9am - 10pm</td>
<td>Students + Staff</td>
</tr>
</tbody>
</table>
SERVICE QUALITIES

Users described their interactions with services offered at the Library, the pros and cons, and the key qualities that make a good services interaction.

AWARENESS

Awareness of services—both the availability of them and their value—varies among users, with the lowest understanding with undergraduates and highest with faculty.

INTERLIBRARY LOAN

ILL is a highly valued service among faculty and graduate students. The biggest complaint is wait time.

EXPERTISE

Librarians are especially valued for their subject expertise and institutional knowledge. Faculty frequently reference them by name and students are surprised by the depth of knowledge during consultations. Librarians offer that expertise through lectures, 1:1 consultations, and course consultations.

RELATIONSHIPS

Initial interactions are especially important and can set the foundation for productive and efficient service transactions and consultations moving forward. Some of these happen in the classroom or one-on-one.

SERVICE DELIVERY

Finding the opportunity to meet in person is especially impactful for users. However, these interactions are not always possible and email or other virtual methods offer greater reach and convenience.
WORKING AT UCD LIBRARY

INTRODUCTION

We asked UC Davis Library personnel (including student employees) to tell us about their typical workday—where they spend their time, who they are with, and the kinds of activities they engage in.

To keep the survey anonymous, the only categorical data requested was their department. Department data was then organized into the following organization chart categories:

ACADEMIC SERVICES (18 entries)
- Access & Delivery Services
- Research Support Services
- Special Collections
- Maps

ADMINISTRATION (8 entries)
- Administration
- Communications and Marketing
- Development
- HR & Payroll
- IT IS

COLLECTION SERVICES (10 entries)
- Acquisitions
- Archives & Institutional Assets
- Collection Maintenance
- Collection Strategies
- Content Support Services
- Library Catalog
- Metadata Creation
- Metadata Management

SERVICE DESK (2 entries)
- Circulation Desk
- Information Desk
- Reference Desk

DEPARTMENT NOT PROVIDED (12 entries)

STUDENT EMPLOYEES (34 entries)
A DAY IN THE LIFE - LIBRARY PERSONNEL

The data on this page excludes student workers.

ACTIVITIES

50% of the work day is spent doing individual work, primarily at their desk. A combined 17% of time is spent with patrons either teaching, providing assistance and consultation, and giving tours.

PEOPLE

Library personnel spend the majority of their time working with their colleagues or on their own. Many people mentioned meeting with colleagues informally at their desk or working side-by-side with colleagues at service desks.

LOCATION

Library personnel spend most of their time in the Library facilities themselves, shifting from their individual workspace to a variety of shared spaces. When on-campus, library personnel are in meetings with campus partners, facilitating or attending a class, or taking a break with colleagues.

If someone identified time split between individual work or assistance and consultation, it was included in totals for the latter.
ACTIVITIES, by department

- Individual work
- Informal meeting
- Scheduled meeting
- Tours
- Assistance and consultation
- Teaching
- Traveling
- Break

People often switch between individual work and informal meetings with colleagues at their desk.

Service desk personnel report doing individual work at the desk when patrons are not requesting their support.

Quote at PSEL service desk: “Great reference question at the desk today! Helped grad student with research, identifying resources, he also wanted to browse shelves in his area. Took him to the aeronautics section and let him loose.”
PEOPLE, by department

- **ACADEMIC SERVICES**
  - Library colleagues
  - Patrons
  - Campus partners
  - Donors

- **ADMINISTRATION**
  - Library colleagues
  - Patrons
  - Campus partners
  - Donors

- **COLLECTION SERVICES**
  - Library colleagues
  - Patrons
  - Campus partners
  - Donors

- **DEPARTMENT NOT SUPPLIED**

- **SERVICE DESK**
  - Library colleagues
  - Patrons
  - Campus partners
  - Donors

- **STUDENT WORKERS**
  - Library colleagues
  - Patrons
  - Campus partners
  - Donors

Special Collections and Research Support Services spend >50% of their day with patrons.

Collection Services and Administration primarily spend time with their Library colleagues or alone. Several administrators are donor or partner focused.

Students have the highest touchpoint with patrons, while at service desks.
LOCATION, by department

Several Special Collections part time staff or students are based at the service desk.

ACADEMIC SERVICES

ADMINISTRATION

COLLECTION SERVICES

DEPARTMENT NOT SUPPLIED

SERVICE DESK

STUDENT WORKERS

At home
At my desk
At a colleagues desk
At a service desk
In the library (stacks, special collections)
In a meeting room
In a classroom
On campus
Off campus
Traveling

Aside from personnel who visit donors or others off-campus, most personnel only leave the Library for lunch and breaks.

Service Desks are staffed almost entirely by students (except for reference desks staffed by librarians).
COLLECTIONS OVERVIEW

This section takes a quantitative look at the Library’s collections by comparing its size and use to other UCs and allows us to look at trends over time within UC Davis’s own collection.

KEY FINDINGS

» Physical collections are growing, but items are being checked out less frequently by all user groups.
» UC Davis holds less in their digital collections than other UCs.
» Total amount of ILL transactions have declined but distribution between borrowing and lending have maintained an even split.

DATA SOURCES

UCOP Data (2011-2015), ARL Data (2014). The UCOP data provides a starting point for the analysis but will be further validated by the Library.
COLLECTIONS OVERVIEW

*All data from UCOP, to be verified.

The University of California system has unparalleled collections

The UC libraries collectively have more than 100 million items in their holdings, which they access through shared platforms and some of which is stored in shared regional facilities. Roughly 10% of those items are in UC Davis’s collection, making it the third largest library in the system.

UC Davis’s physical collections are still growing

UC Davis is still adding items to its physical collection each year. As a comparison, while this represents a 4% growth in collections between 2011 and 2015, the population of academic users on campus has grown 8%, out-pacing collections growth.

*Academic User is the total # of undergraduates students, graduate students, and academic faculty at UC Davis
Source: Collections and usage data -- UCOP statistics, 2011 - 2015
Source: Staffing data -- ARL Report, 2014
Davis holds less in their digital collections than other UCs

Despite massive growth between 2011 and 2015 (1,211%) UC Davis still lags behind most other UC schools in the amount of data it stores in its digital collections.

UC Davis’s digital collections are growing quickly

E-books and digitized items are being added to the collection at an extremely rapid rate, growing 166% and by more than 1,300% respectively between 2011 and 2015. These numbers tower over the 8% growth in academic users, and represent an aggressive effort to grow these collections.
COLLECTIONS USAGE
*All data from UCOP, to be verified.

UC Davis students and faculty checkout fewer items

UC CHECKOUTS PER ACADEMIC USER

UC Davis undergraduates, graduates, and academic staff checkout items at *33%, 58%, and 62% of the per capita averages for each of their respective peer groups across the UC system. Academic users at UC Davis checkout 2.58 books per year compared to a UC average of 5.08.

*UCSF excluded from calculations because it has no undergraduate population.

Collection usage declines for all user groups

UC DAVIS CHECKOUTS BY USER GROUP

While academic user checkouts were down 41% between 2011 and 2015 (39% overall), once campus growth is factored in, the decline increases to 46% for academic users. The steepest decline during this time was among undergraduate students, who have dropped a full 50% from checking out just above two items per year on average to barely one, while graduate student and academic staff checkouts declined 43% and 35% respectively.
ILL declines but borrows and lends maintain even split

The total number of books borrowed through ILL at UC Davis have declined by 22% while loans have declined by 18%. Despite this, the borrow / loan ratio has stayed near an even split, making evident the value of UC Davis’s collections to the libraries it shares its resources with.

UC Davis relies twice as much on other UCs for borrowing

Borrowing and loaning within the UC system has declined 24% between 2011 and 2015 while only declining 8% during that same time period for schools outside the UC system, perhaps indicating a saturation of materials usage across the system. However, ILL within the UC system is still more than double what it is outside of it.
SUMMARY AND NEXT STEPS

This report documents the results of the first, broad and exploratory phase of the visioning and user research study which was further refined and validated in the fall quarter of 2016. The following section captures some of the themes and questions that will inform the engagement activities of the next phase.
SUMMARY

Building on the unique culture at UC Davis and the strategic initiatives on campus—the University’s 2020 Initiative, Library’s 2013-2016 Strategic Plan—and the key findings of the spring quarter, the project team will further refine and develop opportunities for the Library Space Visioning project through key opportunities and questions. The fall quarter engagements will focus on determining how these users (below) can be supported through the Library experience at UC Davis (following page).

<table>
<thead>
<tr>
<th>USER PROFILES</th>
<th>KEY FINDINGS:</th>
<th>OPPORTUNITIES AND QUESTIONS:</th>
</tr>
</thead>
</table>
| UNDERGRADUATE STUDENTS | » The experience of undergraduate students at the Library is defined by access, convenience, and ease of use.  
» Overall, faculty and graduate students tend to use Library resources while undergraduates tend to use the Library spaces. | • How can the Library create more accessible points of entry for undergraduate students?  
• How can we improve the collection access experience to encourage the use of physical resources beyond course requirements?  
• How can the Library be the home base for academic success - the place you go to get things done? |
| GRADUATE STUDENTS | » The experience of graduate students at the Library is defined by the spaces, resources, and programming or events that further their independent work. | • What would make the Library a hub for graduate students? Should it be one? |
| FACULTY | » Faculty users offer differing perspectives on which resources and services should be represented at the Library, the emphasis on or balance between physical and digital, and the possibilities for the Library to act as a central meeting space for interdisciplinary interactions.  
» Another distinction exists between the sciences disciplines, which tend to be pro-digital, while humanities disciplines tend to be pro-physical resources. | • How much is the Library a center for humanities or a center for sciences? What is the balance for each?  
• Is the Library primarily a destination for physical or digital collections? What is the balance of each?  
• How can the Library enable interdisciplinary collaborative research at the University? |
### LIBRARY EXPERIENCE

#### RESEARCH EXPERIENCE

- The research experience, for all users, brings them through a cyclical lifecycle from idea to sharing and archiving.

#### LIBRARY SPACE

- Successful work spaces on campus have a variety of offerings, including: coffee and/or food, student services or affinity group offices, individual and group work settings, bookable meeting rooms, natural light, and connection between the indoor and outdoor.
- While the existing Library provides much needed space, it is underperforming in the functionality of study and work spaces, particularly in its ability to support group work, use of technology for individual or group study, and comfort and quality of space.

#### LIBRARY SERVICES

- About a quarter of personnel time is spent directly with patrons (on average, across all roles and departments). Student employees report spending most of their time with patrons.

#### LIBRARY COLLECTIONS

- Physical collections are growing, but items are being checked out less frequently by all user groups.
- UC Davis holds less in their digital collections than other UCs.

### KEY FINDINGS:

#### OPPORTUNITIES AND QUESTIONS:

- How does the Library identify partners to create active and in-depth academic experiences, at the Library?
- What role can the Library play throughout the research process? What are the key touchpoints and enhancers?
- What is the kit-of-parts for effective space use?
- How can the Library, and its locations, complement and enhance the UC Davis learning ecosystem?
- How do we create a friendly and informative face for patrons?
- What is the service philosophy across Library sites?
- How can digital be a seamless experience?
- If the physical collection is growing, where should it be housed? How should it be accessed?
NEXT STEPS

SUMMER ENGAGEMENT
The Working Committee will continue the work of the project through the summer break focusing on conversations with faculty across departments to further the understanding of similarities and differences between disciplines. Through internal conversations they will also develop the direction for strategic partners, considerations for their internal workspace, and learnings from external peers. Additionally, they will collect and verify data sets relevant to the Library space, service, and collections inventory and use.

FALL ENGAGEMENT
The brightspot team will return in the fall quarter to validate and refine the findings discovered in the spring through facilitated workshops that translate the themes and concepts into space renovation and reconfiguration opportunities.

RESEARCH ACTIVITIES
Activities planned for the fall quarter include a variety of workshop sessions to engage a diverse group of the UC Davis community in refining the findings and themes from the spring and translating these into ideas for the space and Library.

<table>
<thead>
<tr>
<th>Research tool</th>
<th>Engagement</th>
<th>Content</th>
<th>Data</th>
<th>Input</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Validation</td>
<td>digital and on-site activities</td>
<td>broad</td>
<td>qualitative</td>
<td>indirect / direct</td>
<td>asynchronous / synchronous</td>
</tr>
<tr>
<td>Thematic Workshops</td>
<td>four sessions with selected groups</td>
<td>deep</td>
<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Partnership Workshops</td>
<td>two sessions with Committee members and select partners</td>
<td>broad / deep</td>
<td>quantitative &amp; qualitative</td>
<td>direct</td>
<td>asynchronous</td>
</tr>
<tr>
<td>Insights and Ideation Workshop</td>
<td>Working Committee</td>
<td>deep</td>
<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Visioning and Scenario Planning</td>
<td>Steering Committee</td>
<td>broad</td>
<td>qualitative</td>
<td>direct</td>
<td>synchronous</td>
</tr>
<tr>
<td>Playbook Presentation and Socialization</td>
<td>digital and on-site activities</td>
<td>broad</td>
<td>qualitative</td>
<td>indirect / direct</td>
<td>asynchronous / synchronous</td>
</tr>
</tbody>
</table>
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