Humanizing an Organization through Digital Experiences

Bernadette Geuy, University of California, Berkeley; Berkeley, United States; bernadetteg@berkeley.edu
Rachel Hollowgrass, University of California, Berkeley; Berkeley, United States; rhollow@berkeley.edu
Titta Jylkäs, University of Lapland; Rovaniemi, Finland; titta.jylkas@ulapland.fi

Abstract

Student life at a large institution like University of California, Berkeley, is challenging in many ways. Along with the often extreme academic demands, students must discover and navigate numerous services while simultaneously integrating themselves into formal and informal campus communities. Historically, core student services were delivered in a piecemeal and disjointed way via a dozen or more websites. A large investment in a Student Information Systems (SIS) replacement project has since unified these service experiences through CalCentral, a Berkeley-developed service portal, and created with a significant focus on user experience design.

While significant strides have been made to improve and simplify how services are delivered to students, the design team has been challenged to push their vision of the service ecosystem further, to "humanize the institution." The vision goes through the SIS project and beyond, by first switching mindsets from service producers to service providers, and second by looking at how deeper relationships can be created digitally between students and the institution. The research, with students and different stakeholder groups, shows that beyond usability and learnability, there are greater opportunities through service design to contribute to students' senses of agency, inclusion, connectedness and wellbeing. The design team is codifying new design principles and developing prototype experiences that look more closely at tone, behavior and contributing to a positive emotional state of mind. The service delivery through CalCentral is humanized and augmented in affirming ways, to use language that is accessible, and to guide students through complex paths.

Keywords: service design, humanizing, student services, organization change, transformation design

Introduction

The University of California, Berkeley is the preeminent public research university in the world, founded in 1868, now with a student body of over 37,000 and a world-renowned faculty that includes seven Nobel Laureates. This large organization forms a unique ecosystem of people, functions and systems that in its scale can have a high complexity. To renew the ecosystem, the University embarked on a large and complex project in 2015 to replace a number of existing aging systems that comprised the Student Information Systems (SIS). The project transitioned to an ongoing operation, mid-2017.

The SIS project aim was to enable the transformation of the student experience during their studies by providing a single portal — Berkeley-developed CalCentral — as the primary service delivery vehicle for students, faculty and advisors. Through easy access and use, the portal supports and guides the student in the processes of admissions, enrollment, registration, financial aid, billing and payment, and advising. In order to deliver the desired student experience, the project included research into the work of faculty and staff. The CalCentral portal aims for a switch from service producers in departments offering piecemeal services, to a model of service providers operating across a common platform with simplified and unified self-service tools and information.

Unlike in a traditional information technology (IT) development project, the sponsors and leaders of the SIS project wanted to position the initiative as a business transformation initiative. The positioning of the project offered opportunities to look at the system from a different perspective and to apply user-centric methodologies in the process.

Within the context of a university, the emphasis and investments in creativity, design and service innovation is not self-evident and are usually made in support of the academic experience. In contrast, less emphasis and few resources are charged with addressing opportunities to reduce the administrative burdens and obstacles that detract from learning, research, degree progress, and self-actualization. Here, risk aversion and budget constraints contribute to a service landscape that can be lacking in creativity, where the incentives to improve service offerings are limited, and where the tolerance for change to administrative functions is at the incremental level. The SIS project however, afforded the University a rare opportunity to look broadly and systematically at administrative services, both technically and from a service delivery perspective.

In the SIS project the user experience (UX) design team worked as a gateway between the technology and users (students, faculty and staff) to find out the real needs and pain points in

their processes, to involve the users in the design process and to create designs that answer to the recognized needs. Even though the UX team is relatively small compared to the size and complexity of the entire project, 4 designers plus 5 portal developers in an overall team of 220 people, it played an essential role in making the voices of users heard. The assessment of administrative services through a user-centered design lens made it clear that there are large opportunities to streamline, simplify and reduce operating costs and significantly improve service experiences for all stakeholder groups.

There is also pressure from outside of the university to improve service delivery. The amount of services in businesses and organizations — the so-called "servitization" (e.g. Lay, 2014) — is increasing. This continuous implementation of services has been shown to be an essential part of providing the most effective solutions to users (Vargo and Lusch, 2006). Just like any other customer, students follow their individual service paths through the crucial touchpoints, and make decisions based on their personal needs and context through the service micro moments (Stokes and Harris, 2012). As students have become accustomed to consuming digital services in a convenient and frictionless way based on their own choices, they have also high expectations for digital services during their education.

Coming from the theory of product-service systems (Morelli, 2003; Roy and Baxter, 2009; Wieland et al., 2012), the paper looks at the SIS project as a digital service ecosystem that provides digital service experience, and introduces an on-going research effort with a focus on how the overall educational experience can benefit from examining administrative service touchpoints, and where opportunities exist across critical journeys to increase understanding and support decision making.

The research is done as practice-based research (e.g. Candy, 2006) through several individual use cases connected to the student's educational journey. A research goal is a holistic understanding of the opportunities for design and development. The paper explains the process of the current research and introduces the initial results of the research analysis that give the framing for the future research and design activities.

The SIS project recently transitioned into operations. While significant progress was made to reimagine administrative service in a unified way for students and faculty, the paper looks at how humanizing principles can be codified and championed in ongoing user experience design work on campus.

Literature Review

A common practice with technology projects on campus is to focus on delivering the required functionality by gathering requirements from the service provider side and working inside-out to configure and set up the necessary service delivery model. With the SIS project, an outside-in approach was incorporated by the UX designers utilizing the service design methodology with the goal of developing easy to learn and use tools for key end-users.

Service design is a discipline that combines a human-centered approach into a design of deeply considered service systems with concrete and intangible attributes (Stickdorn and Schneider, 2012; Løvlie et al., 2013). For the UX team, service design tools were a way to co-create with users (e.g. Kukk et al., 2014), to include the key stakeholders into the design process, to collect user needs and to understand the customer experience (Mayer and Schwager, 2007). The service design approach helps to form design challenges, ideate, conceptualize and prototype service experiences (Buchenau and Suri, 2000; Miettinen, 2011), design detailed services with holistic user journeys (e.g. Nenonen et al., 2008), and to implement, improve and scale the service solutions (Løvlie et al., 2013; Geuy, 2016).

During the course of the project, the UX team was challenged to expand their original vision of service and to look for ways to “humanize the institution.” Finding the right form of creating the service solutions was guided by a human-centered approach (Cook et al., 2002; Frazer Windsted, 1997) in the organization. The human-centeredness starts from understanding the customer but is realized through the service touchpoints (e.g. Clatworthy, 2011) by noticing the user as an individual and giving them a personal experience.

To “humanize” the digital service experience, the human-centered mindset is needed in the organization (Rytilahti et al., 2016), which appears in practice also as the adoption of design methods both at the operational level to design the service solutions and at the strategic level for the change of the organization (Sangiorgi, 2011). Focusing first on the operational needs, the UX team saw an opportunity to deepen a student's emotional relationship with the University, and for the student to feel that the institution “has their back” through their academic journey. What this looks like and how to codify it into design principles and designs would be part of the team’s research effort. In addition to expanding and pushing on the team’s design principles, it was clear that the team had a need and opportunity to more clearly articulate and socialize the value and impact of design on campus, as a force for ongoing and transformative change.

Research Methods

The research data has been collected through practice in several use cases following three key student journeys (Table 1). Journey mapping has been a key strategy for the SIS project and the UX team to anchor and design for both macro and micro views of end-users' experiences. The initial aim of the practice-based research has been to identify what students' needs are in terms of the provided service elements in the CalCentral portal, and to explore what "humanizing" means and looks like from a design perspective for digital experiences. For this purpose the UX team has conducted a number of research activities including student interviews (Portigal, 2013) and co-creation workshops (Sanders and Stappers, 2008) with students.

Table 1: Description of the use cases included in the research

Student Journey	Hypothesis	Research Methods	Key findings for design needs
Undergraduate onboarding	Students are overly stressed and confused about the number of tasks and decisions that they must make, from application till their first day on campus as a student. There are opportunities to guide the experience through critical gates.	Student interviews (N=15) Experience mapping workshop (20 staff members)	Status messages are unnecessarily alarming. Required actions are sometimes missed. Deeper opportunities exist within service areas, ex: housing.
Funding and paying for my education	Financial Aid and Billing departments' business functions don't map to students' mental models and limited knowledge of how to finance their education.	Design Workshop for Students (35 students)	Language usage and knowledge barriers Workflow is poorly signaled through the user interface resulting in questions like: how does this work, what is my status, what happens next and when? A lack of tools to support decision making
Academic planning and enrollment	The rules, tools and processes around planning for and enrolling in classes are opaque, confusing, and hard to navigate to achieve the desired results.	Student-built strategy map (6 students) Student interviews and survey input (N=85)	Functional restrictions and a lack of transparency are reducing self-service agency resulting in increased traffic to advisors and academic staff

Co-creation Workshops

For onboarding, interviews were collected from 15 students as input for a workshop. Each service provider participant was responsible for conducting an interview and sharing the results in an experience mapping exercise that located a number of service improvement areas.
Interviews were also coded to quantify happy, neutral and unhappy sentiments by service to create an opportunity “hot spot” map that highlighted areas for deeper research and investment.

To understand students’ financial service needs — in particular how students understand and interact with financial aid offers and billing — approximately 35 students participated in a design studio workshop where they brainstormed pain points and then used whiteboards to design new digital experiences. The UX team videotaped the student teams as they presented their designs to capture the comments and ideas, and for more detailed textual analysis.

For academic planning and enrollment, SIS project student employees were charged with deconstructing and mapping their processes in a whiteboarding workshop. The journey map looks beyond basic tools and functions, and identifies key decision points including a prioritized set of information sources (Figure 1). Additional input came from students in a “town hall” style meeting and through a survey.

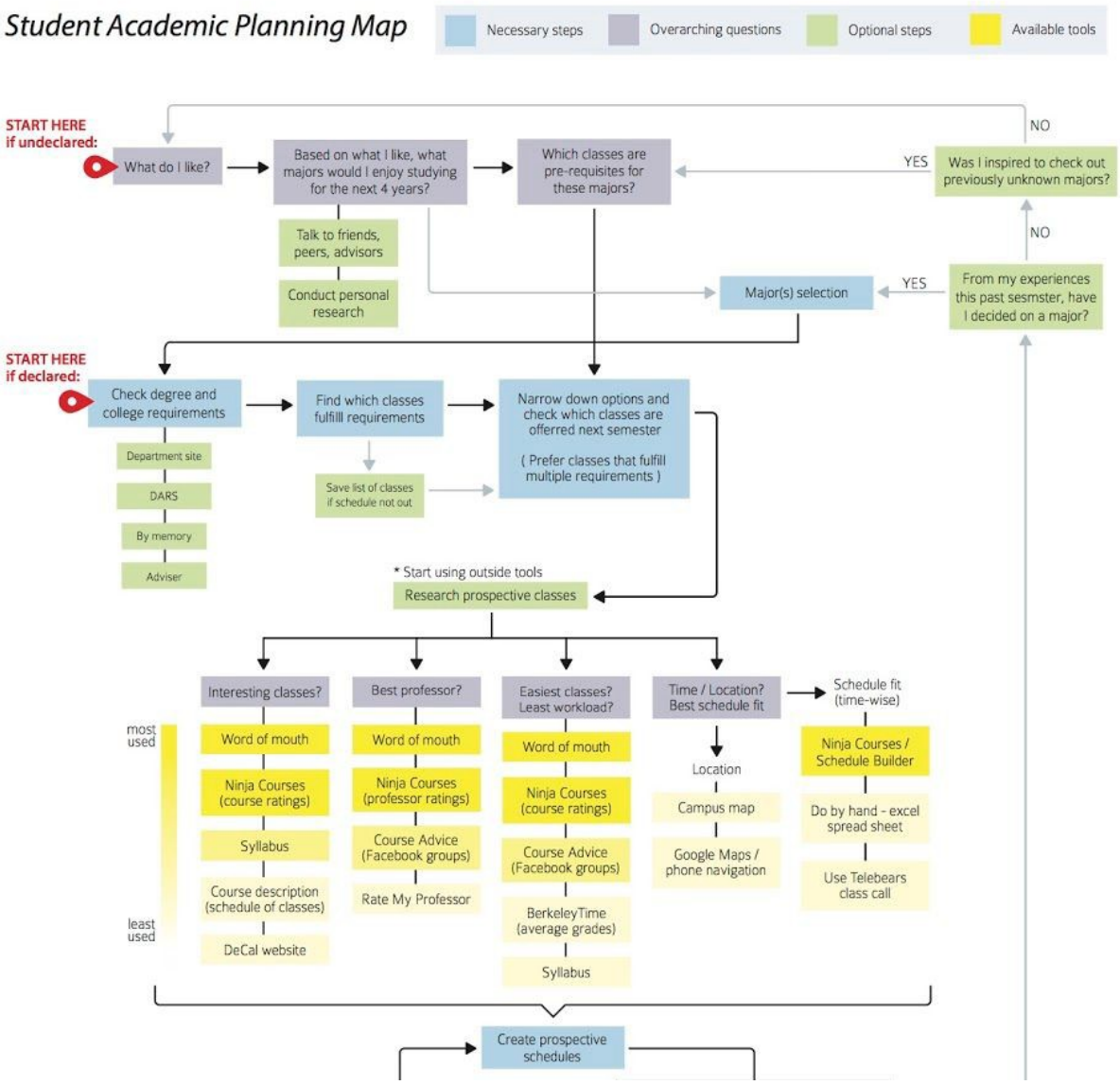

Figure 1: Academic Planning and Enrollment Map (portion of a larger process)

Discussion

The opportunities for service improvements are many. The analysis shows that students are facing many challenges as they navigate campus life. While CalCentral has created a unified service delivery platform with a focus on organizing, alerting and presenting data to end-users in a user-centric way, the UX team has identified some key findings that will inform future research and design activities, including:

- Augmenting alerts and messages for context setting.
- Designing workflows that guide journeys and decision making.

- Improving transparency with university processes to increase understanding.
- Using accessible language and a guiding tone.

These key categories of research and design opportunity areas were defined to help the framing of the future research: information and knowledge; communication; transparency; workflow guidance.

Another key finding is the close connection of digital and in-person services. Even though the services would be provided through different backend systems, in the overall experience all the steps in the process can be assumed to belong together. In order to be successful in a service delivery, and truly humanize the institution, the digital experiences must align with in-person experiences.

Humanizing the Organization

When discussing the topic of "humanizing the organization" with students, they immediately drew upon their interactions with people on campus. The research has shown that in the context of digital services, the cognitive load of students (Mullainathan and Shafir, 2013) and the emotional relationship with the institution can be greatly improved through an investment in service design and through the goal of humanizing the institution. Humanizing the organization can mean taking the time to understand the profound needs of the user, basing the design on user needs (Pinheiro, 2014), involving the student, faculty and staff in the design process through
co-creation, and providing human-scaled solutions characterized by reduced complexity and context-appropriate language and communication.

The themes that have emerged from the initial research analysis point towards humanizing the organization. Our focus on the key challenge areas of delivering digital services revealed an opportunity to augment the ability of the students to act (Manhaes, 2015) in their best interests and to be successful in their pursuits of their academic goals. The ability to act comes from having the needed knowledge and support, which can be also an empowering experience (Gantier and Labour, 2015) for the students in their educational journey.

Augmenting the ability to act must be done in a guided manner, with a deep understanding of students and their needs, and through workflows and language that is aimed at students, not administrators. Also the underlying policies and business practices must be transparent to enable students to understand the rules of the system and process, and to navigate and pursue a winning strategy for themselves with minimal uncertainty. Addressing these findings will

contribute to students' senses of agency, inclusion, connectedness and wellbeing, which in turn will make the institution be perceived as more human.

An output of the analysis is a maturity model (Figure 2) that describes the different stages of humanizing the organization through design. This model addresses an overarching desire to "augment the potential to act" (Manhaes, 2015), and imparting knowledge, through design solutions, that inform and empower decision making. This model is predicated on a
design-driven set of methodologies where the context, needs and emotions of users and stakeholders are well understood, and the service focus and pathways of end-users have been mapped out. The model illustrates the starting state of traditional Information Technology (IT) methods, UX design focus for the service system, and the focus on greater personalized experience through Service Design. These three steps are familiar activity for the SIS project UX team, but in order to achieve the humanized organization, organizational transformation is required.

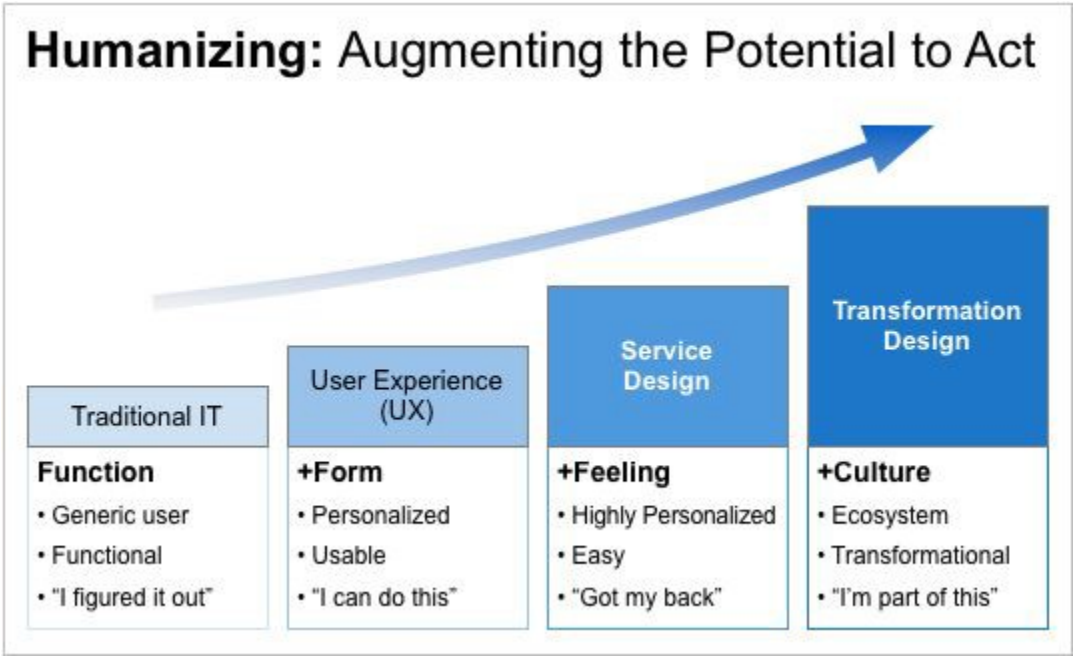

Figure 2: Maturity model for humanizing the organization through design

As a discipline, transformation design includes the aspiration of tackling problems that are complex and ambiguous. Through collaboration between different disciplines and by employing participatory design methods, transformation design aims for creating fundamental change.
Building the needed capacities and using the design skills, transformation design provides the first steps towards a changing culture and organization. (Burns et al., 2006)

The transformation of a culture or organization is an ambitious approach that requires noteworthy time and effort as it aims to transition the organization from the current state to the visioned state (Manhaes, 2017). It also necessitates close collaboration between partners and stakeholders. As Pirinen (2016) explained "collaboration is a transformative capability that necessitates the crossing of the structural, cultural and other boundaries of individuals, organisations and networks and can be supported by strategic, operational and cultural integration, by the creation of trust and through the recognition of mutual value among the actors." With the human-centric skills, designers have the opportunity to support the transformational change from the operational level and to strategic level (Sangiorgi, 2011).

Conclusion

Future Research

The overarching goal of the UX team will be to design in a way that best supports students' knowledge and sense of empowerment, in context and in support of key service touchpoints. It will be important to benchmark and track metrics that indicate students' senses of agency, and understanding.

Tactics will include:

- Codifying guidelines around language use and tone
- Designing micro moments that celebrate progress and affirm actions
- Codifying and demystifying complex workflows, and exposing rules and options
- Guiding decision support and strategic choices

In the case studies shared, business cases can be developed to quantify and qualify savings in staff time by improving the self-service functionality for students through the portal as well as addressing staff transactional workflows. Now that the SIS project is in operations mode, and there are fewer resources available to develop improvements, the relative value and impact of addressing these use cases must be weighed to determine where the greatest return in staff time can be achieved. Value assessments are becoming a critical activity in a resource constrained environment. Here, the UX team continues to provide vital input to the question of return on investment, or as they prefer, Return on Experience (ROE).

Against this backdrop, the UX team must continue to advocate for the value of design through use case design and research. Creating a vision for humanizing through design allows the UX team to contrast where they have come from with a future state of services

experiences on campus. The UX team is early in its implementation of humanizing design principles, which it sees as going hand-in-hand from a cost/benefit perspective with improving the digital experiences of students, staff and faculty. Figure 3 shows the proposed model for how the UX team must interact with business and technology colleagues.

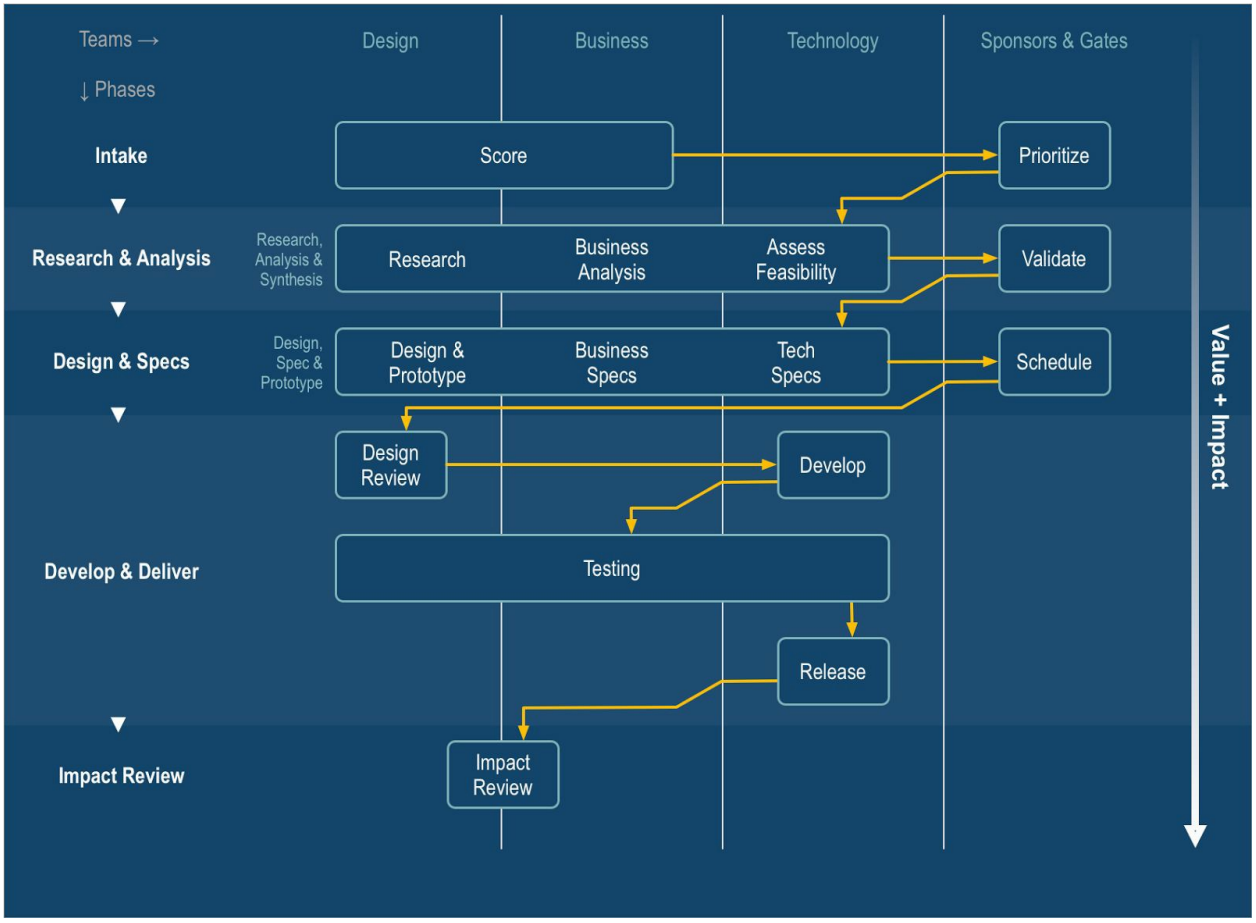

Figure 3: Impact and value touchpoint map

The UX team also values and benefits from sharing design use cases and ideas with members of the design community, in the public and private sector, as well as within academia. For example, a rich source of insights for this paper came from an in-person conversation with Mauricio Manhaes (Professor of Service Design at SCAD) at the Service Design Network US conference in Chicago, June 2017, and through his writings. Manhaes equated "humanizing" with a more tangible and action-oriented framework of "augmenting the potential to act." "Before we can act, we must have the knowledge," Manhaes said. As a preeminent university, whose core mission is research and teaching, looking for design opportunities that impart knowledge and empower students is a meaningful cause and pathway for the UX team at UC Berkeley to contribute to institutional goals.

Lastly, to achieve the transformative state from the maturity model (Figure 2), the UX team believes that staff with strong design disciplines must exist both inside and outside of the IT organization working with leadership, to facilitate problem finding and problem solving at a strategic institutional level.

References

Buchenau, M., & Suri, J. F. (2000). *Experience prototyping*. In Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques (pp. 424-433). ACM.

Burns, C., Cottam, H., Vanstone, C. & Winhall, J. (2006, February). *RED Paper 2: Transformation Design. London: Design Council.* Retrieved from http://www.designcouncil.org.uk/sites/default/files/asset/document/red-paper-transformation-des ign.pdf

Candy, L. (2006). *Practice based research: A guide*. *CCS Report*, *1*, 1-19.

Clatworthy, S. (2011). *Service innovation through touch-points: Development of an innovation toolkit for the first stages of new service development.* International Journal of Design, 5(2).

Cook, L.S., Bowen, D.E., Chase, R.B., Dasu,S., Steward, D.M. & Tansik, D.A. (2002). *Human issues in service design*. Journal of Operations Management. (20) 2002, 159-174

Frazer Winsted, K. (1997). *The Service Experience In Two Cultures: A Behavioral Perspective*. Journal of Retailing, Volume 73(3), pp. 337-360.

Gantier S. and Labour M. (2015). *User Empowerment and the I-doc Model User*. In Bihanic D. (eds) Empowering Users through Design. Springer, Cham

Geuy, B. (2016). *Service Design at Scale.* In Miettinen, S. (Ed.) An Introduction to Industrial Service Design. New York: Routledge

Kukk, J., Leppiman, A. and Pohjola, A., (2014). *Designing a Business Service experience: Customer's Perspective on Value Co-creation.* Research in Economics and Business: Central and Eastern Europe, 6(1).

Lay, G., ed., (2014). *Servitization in industry*. Zurich, Switzerland: Springer.

Løvlie, L., Polaine, A. and Reason, B., 2013. *Service Design: From Insight to Implementation.* New York: Rosenfield Media, LLC.

Manhaes, M. (2017). *Three Overarching Perspectives of Service Design*. Touchpoint Service Design Journal, 9(1), pp. 64-67

Manhaes, M. (2015, June 7). *Service as Knowledge: Augmenting the Potential to Act*. Retrieved from https://www.linkedin.com/pulse/service-knowledge-increasing-potential-act-mauricio-manhaes-d r-

Miettinen, S., Rontti, S. & Jeminen, J. (2014). *Co-prototyping emotional value.* In Proceedings of the 19th DMI: Academic Design Management Confererence 2014, 1228-1246

Miettinen, S. (2011). *Service Prototyping in Action*. Touchpoint Service Design Journal: Touchpoint 3, "Organisational Change", 2011.

Morelli, N. (2003). *Product-service systems, a perspective shift for designers: A case study: the design of a telecentre*. Design Studies, 24(1), pp. 73-99.

Mullainathan, A., and Shafir, D. (2013). *Scarcity: The New Science of Having Less and How it Defines our Lives*. New York: Picador

Nenonen, S., Rasila, H., Junnonen, J. M., & Kärnä, S. (2008). *Customer Journey–a method to investigate user experience.* In Proceedings of the Euro FM Conference Manchester (pp. 54-63).

Pinheiro, T. (2014). *The Service Startup: Design Thinking gets Lean*. Hayakawa, Altabooks and Createspace.

Pirinen, A. (2016). *The barriers and enablers of co-design for services*. International Journal of Design, 10(3), 27-42.

Portigal, S. (2013). *Interviewing Users: How to Uncover Compelling Insights*. Rosenfeld Media.

Roy, R. and Baxter, D. (2009). *Product-service systems*. Journal of Engineering Design, 20(4), pp. 327-328.

Rytilahti, P., Rontti, S., Jylkäs, T., Alhonsuo, M., Vuontisjärvi, H., and Laivamaa, L. (2016). *Making Service Design in a Digital Business*. In Proceedings of 2016 Design Research Society 50th Anniversary Conference, Brighton, UK.

Sanders, E. B. N., and Stappers, P. J. (2008). *Co-creation and the new landscapes of design*. Co-design, 4(1), 5-18.

Sangiorgi, D. (2011). *Transformative services and transformation design*. *International Journal of Design, 5*(2), 29-40. Retrieved from http://www.ijdesign.org/ojs/index.php/IJDesign/article/view/940/344

Stickdorn, M. and Schneider, J., 2012. *This is Service Design Thinking: Basics, Tools, Cases.* BIS Publishers.

Stokes, P., and Harris, P. (2012). *Micro-moments, choice and responsibility in sustainable organizational change and transformation: The Janus dialectic*. Journal of Organizational Change Management, 25(4), 595-611.

Vargo,S. L. and Lusch. R. eds., 2006. *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions.* M.E. Sharpe Inc., Armonk, 43–56.
Wieland, H., Polese, F., Vargo, S. & Lusch, R. (2012). *Toward a Service (Eco)Systems Perspective on Value Co-Creation.* International Journal of Service Science, Management, Engineering, and Technology, 3(3), 12-25

Author

Biographies

Bernadette Geuy

Bernadette Geuy is a design lead at the University of California, Berkeley, working at the intersection of design, business and technology to transform services delivery. She has an MBA and co-chairs the San Francisco Chapter of the Service Design Network.

Rachel Hollowgrass

Rachel Hollowgrass is a user experience designer at the University of California, Berkeley. She enjoys balancing the rich needs of the diverse university community. Rachel has contributed to projects at Apple, Stanford, Kaiser and Lawrence Berkeley National Laboratory.

Titta Jylkäs

Titta Jylkäs is a doctoral candidate in service design at University of Lapland, Finland. She is doing her research in collaboration with Volkswagen Group focusing on strategic service design in the digital transformation of customer services utilising artificial intelligence.