# University of California Berkeley

## Turning Policy into Power Using Student, Faculty and Staff Smart Electronic Forms

### Improving Customer Service While Saving the Planet, One Form at a Time

**Larry L. Sautter Award Proposal 2020**

*Submitted by:*
Jody Couch, Executive Director, Enterprise Applications, UC Berkeley
jody@berkeley.edu (510) 685-5138
Information Services and Technology

**IT Services eForm Implementation Team:**

- **Project Lead:** Andrea Lloyd, *Student Information Systems, Enterprise Applications* – Senior Business Systems Analyst – Design, build, implementation, training, outreach
- **Technical Lead:** Ken Hensel, *Student Information Systems*, *Enterprise Applications,* Senior Applications Programmer – technical analysis, training, implementation, build, design
- Functional Analyst: Deepthika Nallaparaju, *Student Information Systems, Enterprise Applications*, Design, build, implementation
- Functional Analyst: Lisa Chang, Functional Analyst, *Student Information Systems, Enterprise Applications*, Design, build, implementation
- Functional Analyst: Barbara Sowden, *Student Information Systems, Enterprise Applications,* Design, build, implementation
- Technical Applications Programmer: Rahul Shrivastava, *Student Information Systems, Enterprise Applications* Technical analysis, training, implementation, build, design

**Vendor Support:**

Gideon Taylor Consulting
http://gideontaylor.com/Solutions#Solutions-Campus-Solutions

**IT Services Executive Level Support:**

- Jane Valentine, Associate Director, Support Systems, *Student Information Systems, Enterprise Applications*
- Ross Stivison, Technical Director, *Enterprise Applications*
- Rana Silver, Functional Director, *Student Information Systems, Enterprise Applications*

**Campus Partners**:

- *Berkeley Graduate Division*: Jeret Lemontt, Director
- *Berkeley Law*: Carol Rachwald, Registrar; Claire Blide, Associate Registrar
- *Berkeley Veterans Affairs*: James Collins, Assistant Registrar; Jay Nelson, VA Specialist
- *Berkeley University Extension*: Amy Chung, Registrar
- *Berkeley Office of the Registrar*: Walter Wong, Registrar; Doug Au, Analyst
- *Berkeley Financial Aid & Scholarships*: Pearl Chen, Analyst; Blanca Nuila, Assistant Director; Doris Iberico, Analyst; Kerry Franzetta, Associate Director

Dedication to making the student experience on campus easier to navigate is at the core of the work done by the people who support our Student Information Systems (SIS). Significantly eliminating paper waste and saving the planet is a secondary but no less important goal. The UC Berkeley electronic forms team (Team) managed to do both, as well as creating efficiency in processing multiple kinds of requests for students and faculty, eliminating duplicate data entry, reducing errors, and saving tons of trees.

During the campus life of a student, there are a multitude of processes that in the past would require a paper trail. By creating an electronic form (eForm) exchange system, the Team has helped to significantly reduce the number of hours required to exchange documentation, which greatly enhances how students, faculty and staff experience campus administrative processes. This time savings enables faculty, advisors and staff to focus on different touch points in the student experience, and better serve our students.

Utilizing the delivered workflow functionality in PeopleSoft Campus Solutions, the Team worked with Gideon Taylor (GT) software to design and build electronic forms that auto-fill, validate data and rules, perform automated system updates and trigger instantaneous notifications to users. The workflow of these forms is also complex, based on a combination of the specific data entered into the form, information related to the applicant, and logic stored within the application to determine the routing paths of each form.

While the Gideon Taylor product was an existing software, it was developed for use with Human Resources or Financials applications. The Team worked directly with GT to help them shape and deliver a more effective product to specifically serve the needs of students, faculty and the administrative campus staff. Each year, the Oracle Corporation recognizes a few PeopleSoft clients who have done impressive work with their PeopleSoft systems. In 2019, as a result of the collaboration between the Team and GT, the Oracle Corporation chose to honor UC Berkeley as PeopleSoft Innovators for their work with eForms.

More information regarding PeopleSoft Innovators can be found here:

- Oracle website: https://docs.oracle.com/cd/E52319_01/infoportal/innovators.html
- UCB IT announcement: https://cio.ucop.edu/ucb-team-honored-as-peoplesoft-innovators/

As a result of implementing eForms, students can now request to change their degrees, initiate enrollment into classes, change current enrollment, add units, create degree committees, request a leave of absence, submit a petition for exceptions, submit qualifying examinations, request emergency fund loans or request a doctoral candidacy review from the ease of their laptop, smartphone or tablet. eForms cater to a student population that is not only tech savvy but also expects efficiency and instant gratification, providing an improved student user experience.

Faculty and staff processes have also greatly improved from using eForms and the automated workflow. These processes include student withdrawals and cancellations, qualifying exams, class enrollment and adjustments, veteran benefits, law class awards, academic rule exceptions, enrollment exceptions and graduate division exceptions.

The work done by the Team benefits not only UC Berkeley, but any educational institution who chooses to work with the GT product.

Interactive, user-friendly and efficient technology is the new norm. A majority of higher education institutions are behind by over a decade in some areas of service delivery and efficiency. Process forms and workflow fall into this dark hole of missing intelligent technology. Berkeley is paving the way for forms that deliver faster, more accurate data collection and validation, and instant automated workflow.

The innovation challenge: Transition from paper to digital

Four years ago, most of Berkeley's processes involving student/staff forms were paper. Workflow was stuffing those papers into envelopes and hand delivering across campus. This is the way it is still done at many universities. During Berkeley's student information system replacement project, the decision was made to begin replacing those obsolete methods and practices with technology not only to bridge gaps in functionality with the new system but also deliver a better user experience.

The inefficiency of paper forms was not the only problem. Data entry errors and data loss (papers falling off the grid) or sitting on someone's desk, cost of printing and paper, cost of staff time and maintenance, long student wait periods and illegible entries were some of the additional issues.

How has the implementation of eForms affected campus?

- 66 paper forms have been analyzed and redesigned, replaced with 20 eForms
- Physical transport of forms via intercampus mail was replaced with 86 automated workflow pathways
- Rather than a piece of paper that has to be picked up, delivered, or mailed, 174 different automated notifications are emailed to students, faculty, and staff, alerting them to required actions or outcomes
- eForms have already automated over 100,000 Enrollment changes, which used to require individual instructor actions
- As of May 1, 2020, 7,700 Emergency Loans (eLoans) have been provided to students in need. The edits built into the Emergency Loan Request eForm enable it to automatically process eLoans from the student's initial request through final loan disbursement without the need for ANY human intervention, if the request meets certain requirements. When the form identifies any non-qualifying exceptions, it automatically routes to a financial aid counselor for review.
- 6,600 Degree Changes automated
- 176,275 eForms have been processed

How has the implementation impacted the greater University environment?

- 580,000 pieces of paper saved and counting, increasing our sustainability
- Time-saving for staff, students and faculty
    - Staff time savings = 3,178 days at 8 hours per day
    - $1.1 Million in average campus partner staff salary savings

The Team worked closely with other units within SIS - including the Developers, Functional Analysts, User Experience Design, Training, and the Data & Reporting teams. Identifying, analyzing and designing the eForms required robust participation from departments across campus. Multiple eForms have been created for:

- Graduate Division
- Financial Aid & Scholarships Office
- Undergraduate and Graduate Academic Advising
- Office of the Registrar
- Berkeley School of Law

Other campus partners who have requested and built eForms include the Office of Athletics, Berkeley International

Office, Berkeley Summer Sessions, Berkeley University Extension, Cal Veteran Services and the Division of Equity & Inclusion - Disability Services.

Each eForm required a commitment from the campus department staff to work in collaboration with the Team in order to identify the current processes that would benefit most from the transition away from paper, with an analysis and design approach that looked at the end goal of the form, rather than a simple recreation of the existing paper form. The collaborative sessions allowed the team and campus partner to brainstorm and identify additional functionality that could be included in the automated forms. Once the eForm was designed and built, the campus partners participated in providing test scenarios, and then in testing the final product. Students were included in testing sessions to provide feedback, which could then be incorporated into the design before the eForm was finalized and made available to the campus.

The eForms built by the Team are used by Undergraduate, Graduate, Law and University Extension students, Faculty members across campus; Undergraduate, Graduate, and Law Advisors, College Deans, Department Directors, and Departmental Staff.

eForms improve operational efficiency and usability/accessibility. Improvements to user experience include enhanced access to information, improved formats that provide greater usability, including for students, staff, and faculty with disabilities. eForms provide automated updates to student records upon form approval, which both saves staff time on data entry and reduces errors. The automated notifications eliminate the need for mass mailings or individual email composition related to each eForm.

The use of eForms can be adopted by other departments or other UC campuses, avoiding design, development, and operational costs. It can leverage existing infrastructure or be easily integrated with other existing services and processes. The Change of Academic Program/Plan form is used by multiple Colleges across campus. Several eForms are shared between Graduate Division and Berkeley Law, with each unit able to adjust the logic and workflow routing for their particular needs.

The COVID-19 pandemic required changes to normal procedures at UC Berkeley, and the Team was well positioned to respond to Campus needs in a short turnaround time. The College of Letters & Science (comprising 80% of the Undergraduate student body) requested a Late Class Drop petition, so that students could request to drop a class beyond the normal term deadline. Working with staff Advisors, the Team was able to have an eForm available online to students within one week. Over 10,000 Late Class Drop requests were processed following its release - work that would have required manual processing, including back and forth communications, if not for the eForm.

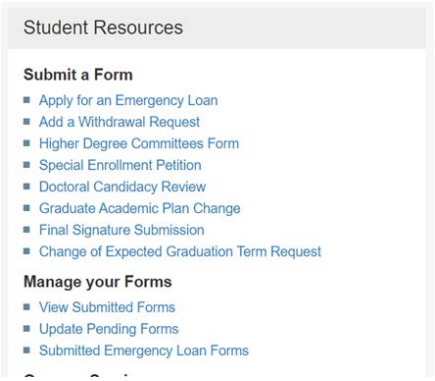
Also in response to the COVID-19 pandemic, UC Berkeley made the decision to make all classes available as Pass / No Pass (P/NP) for the Spring term. The Multi-term Class Grade Request eForm allowed a student to request that their Fall Term be graded, even if their associated Spring Term was P/NP. This eForm provided faculty a secure and FERPA compliant means of reporting student grades. Per Assistant Registrar Rebecca Sablo " Without this form, some [department] would have been responsible for recording student grade option preferences prior to May 8 and collecting applicable letter grades from faculty. . . In addition to saving faculty time by giving them one place to report grades for fall, it inevitably saves us some time by reducing the number of student and faculty inquiries, and providing a report for easier manual entry into CS (Campus Solutions). We really appreciate SIS's support!"

The Team continues to collaborate with GT and challenges them to find better solutions and innovations to the eForm product that serve all who use it. While the initial project effort is now complete, the development and use of eForms will continue to increase campus efficiency and sustainability. Once departments experience the ease of use with a

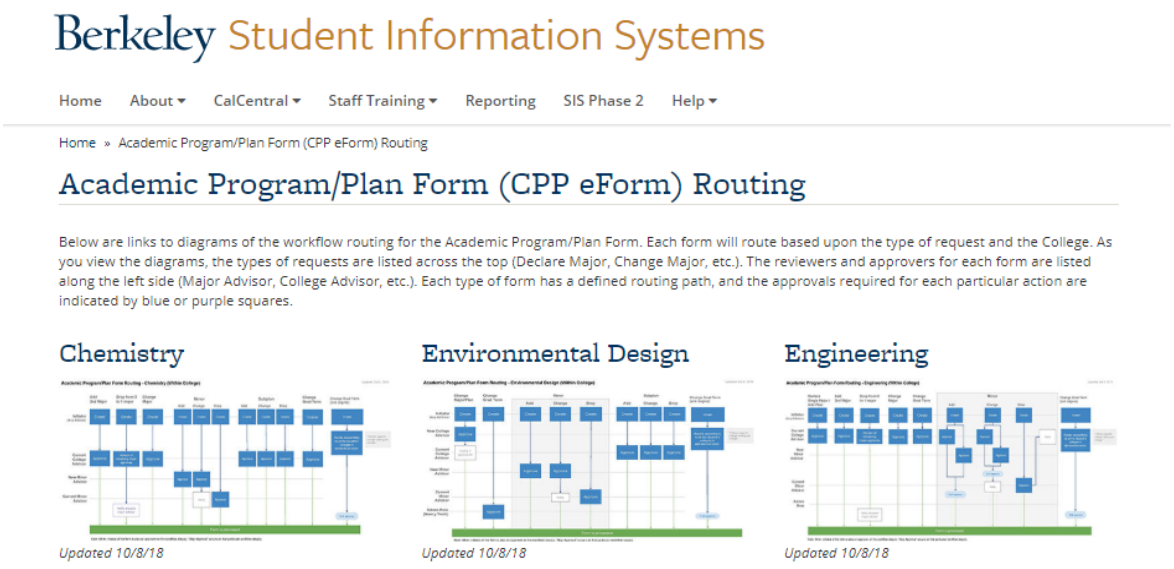
well-designed eForm, they are inspired to think of new ways to automate their business processes. With the groundwork that has been laid with this project, the SIS team will continue their work with eForms to transform business services as part of their operational practice.

### Product examples:

Access to eForms is provided to students, staff and faculty through the CalCentral student portal https://calcentral.berkeley.edu/. Relevant eForms will display, based upon the particular student. This example is for a Graduate student.




**eForm Job Aids** View screenshots of how eForms appear to users, and see instructions for their use.

- https://sis.berkeley.edu/grad-re-enrollment-eform
- https://sis.berkeley.edu/submit-interdepartmental-eform
- https://sis.berkeley.edu/juris-award-and-prosser-prize-eform
- https://sis.berkeley.edu/qualifying-exam-report-eform

**Workflow Routing** The Academic Program/Plan Change eForm (CPP) is a good example of the complexity of workflow routing that eForms allows. Each College has its own set of internal rules. View additional examples at https://sis.berkeley.edu/academic-programplan-form-cpp-eform-routing