

## The Opus Project: Building UCLA's Faculty Information System

[opus.ucla.edu](http://opus.ucla.edu)

### Summary

Opus, UCLA's faculty information system, is a web-based application that supports the data and processes central to academic appointment and review. It has been in use successfully on the UCLA campus since 2014. Its current release, v.1.5, was deployed in May 2017.



The Opus logo is symbolic of the project's ecosystem view and principles: interconnectedness and collaboration between people, organizations, processes and data.

### The Problem

Siloed academic systems, built up over the years, have created a tapestry of independent, non-standard data that prevented campus from having a contextual view of our faculty. Without comprehensive and trusted Academic Personnel data, there was no way to improve the processes of review, which many academics had been calling to streamline since the 1980s. Multiple attempts had failed due to:

- Need for stronger campus buy-in and more accurate data. Shadow systems multiplied as a result.
- Development occurring prior to user research or testing-- resulting in a disconnect from the needs of the campus.
- Siloed information and lack of context with other campus data. Changes to payroll data were not connected to academic records in an automated fashion.
- Failure to include all academic personnel title codes. No system was all-inclusive of all academic series
- Need for a modern, intuitive user interface
- Need for campus-wide data governance or master data management processes

### The Solution: Campus-Wide Collaboration and Input

Careful planning was needed to ensure that the Opus would begin on a foundation of verified data. Key to that was establishing a vetting process and buy-in from academics and units across UCLA.

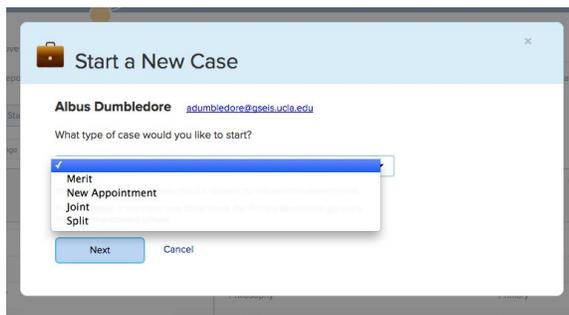
Gaps in the management and stewardship of institutional data made it critical to create structures for these conversations to occur. The *Book of Record Initiative* was a basis for beginning master data management on campus. For us to be successful, both administrators and academics must trust the data as well as the policies and procedures that surround it. As such, we embarked on the research and documentation of campus books of record; to understand the policies and practices surrounding the systems that act as sources for Opus. Additionally, we identified the data stewards themselves – offices responsible for the confidentiality, integrity, and availability of a specific set(s) of data, or books of record – systems which contain the authoritative data. This ensured better communication points and cleaner data for the entire campus.

### Campus Collaboration

We did not develop in a vacuum. Extensive consultation with faculty, user testing, open houses, and transparent processes built trust between the team and the campus. Before any coding we presented high-fidelity prototypes to stakeholders such as the Computer Systems Group (CSG), Council of Chairs, Academic Senate, Library HR, APO, and many others.



### A Screenshot from the Interactive Prototype:

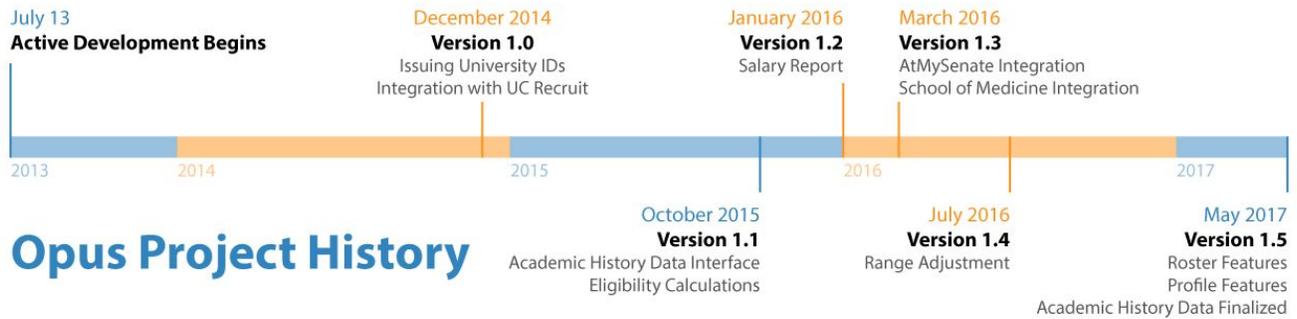


Interactive prototypes allowed stakeholders to visualize the system for the first time, and vetted the system concepts with campus. Because many potential problems were resolved in the prototype phase, we made necessary changes to the application early in the process.

### Technology

- UX Stack: React, Redux, JQuery, Bootstrap, SASS
- Back End: SQL Server DB, Java, Hibernate, Spring framework (spring security, spring mvc, spring data, spring tx etc), Drools along with JSON format (Jackson Parser), encryption/decryption
- ETL: Informatica
- Authentication and Authorization: UCLA Single Sign On (Shibboleth), Grouper with OAuth2

## Timeline



## The Product

Opus integrates real-time data from Payroll (PPS), Academic Senate, UC Recruit, and the School of Medicine. This integration supports and highlights the critical interdependent network of data across campus. We provide user-driven, flexible reporting tools that support staff & administrators in carrying out their work. Our diverse user base of Deans, Department Administrators, Chairs, and others require different views of data. We are able to create canned reports for different needs, or give users the ability to customize tables themselves.

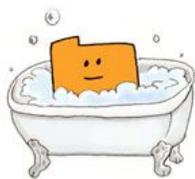
- Data appears through multiple lenses using customizable displays of fields, filters, and visualizations
- Opus aggregates data from other trusted systems to support decision-making based on facts and context
- Opus manages data access and permissions based upon existing policies and approved standards

## Screenshots:

The user can view different series, ranks, and other variables by using the drop down filters.

Different reports are created by sorting, filtering, and showing/hiding columns.

## Data Clean Up Screens - Cleaning up over 11,000 academic personnel records



- Verified the underlying data was correct
- Allowed Dean's offices to correct their own records
- Used built-in checks and controls to catch data entry mistakes or policy errors
- Users verified **11,272** appointments in the system

## Roster

- First unified view of all academic appointees at UCLA
- Shows which unit is responsible for an appointee's academic review
- Robust reporting features

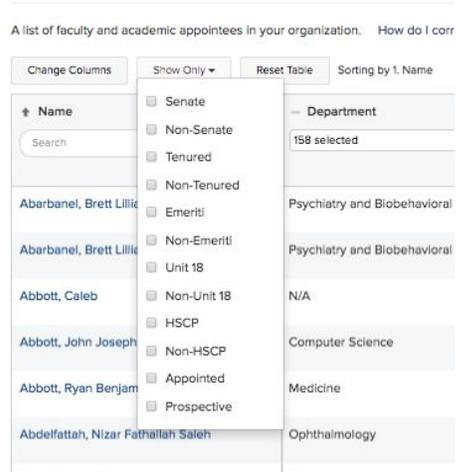
## Salary Report

Aggregates and compares salaries across different units, title codes, comp plans, and many other variables. Computes the percentage above scale and further above scale.

## Case Management

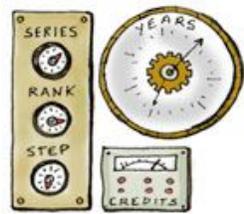
Shows a campus-level view of all reviews and their location, as well as a summary of all relevant case information, thereby mitigating the need for many phonecalls.

## Roster



The roster can be sorted by Senate, Non-Senate, Emeriti, and other faculty groupings.

## Eligibility Calculator



- First automated academic eligibility calculator in the UC, replacing error-prone calculation
- Allows administrators to see at a glance what type of review Appointees are next eligible for, when the review must be completed, and the next step in the Appointee's career path
- Prepares administrators for upcoming review workload; provides just-in-time guidance and support for faculty, ensures that unit is in compliance with UC policy
- This module uses UC Policy as its rules engine, and is easily adoptable by other UCs

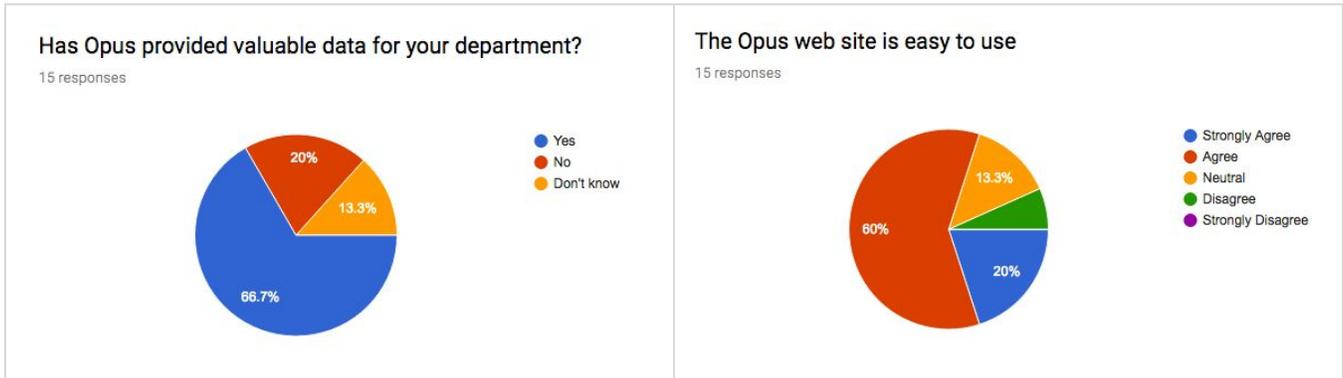
## Emphasis on User Experience

From the beginning, Opus emphasized usability and customer experience. Its interface takes cues from modern applications such as Amazon, TurboTax, and Zappos- the goal being an experience comparable to products that people are familiar using every day. Additionally, when building an enterprise application for a university, the last thing your users expect is a little bit of humor. Although it was a risk to depart from the serious tone of most university apps, users appreciated the unexpected "points of delight." It added fun to clerical work, and made our software a lot more approachable, enhancing user adoption.

|  |                                                                                                                                                                           |  |                                                                                                                                                                                                                                                            |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Users love seeing this modal and refer to it as "the woooo." "I didn't get the woooo." or "I know I did it right because I saw the woooo." or "I love the wooooo!"</p> |  | <p>This little red error modal appears when something goes wrong in the validation process. The message reassures the user that it wasn't their fault; takes responsibility for the error, acknowledges user frustration, and asks them to save again.</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

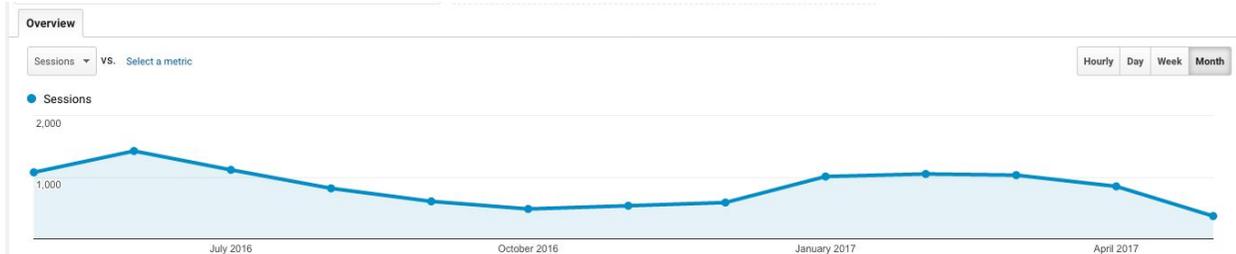
## Project Success

Our success metrics rely on the satisfaction of our users. Below are some results from our most recent user survey, conducted this May:



- “Opus is so easy to use and I love the new update! The application allows me to see everything I need in one place.” - Mike Levine, Interim Vice Chancellor, Academic Personnel
- “This is the most user-friendly application at UCLA.” - User navigating through Opus’ latest version.
- “This is exactly the type of report I need for my Dean.” - Department administrator
- “Opus is the gold standard for forward-leaning, faculty-centric institutional technology,” - Andrew Rosen, CEO, Interfolio.
- “John Abbott and his team provide prompt feedback as well as a professional environment to help us each comprehend the various stages of the OPUS project. Kudos to John Abbott and the rest of the OPUS TEAM.” - User Survey

Opus has been widely used by administrators and AP staff on campus, as shown by this Google Analytics report:



Stats:

- 892 appointments were successfully initiated.
- We have 248 users from 107 UCLA departments.

## Project Team

The Opus team is a collaboration between IT-Services and The Academic Personnel Office:

Meg Buzzi, *Project Director*  
John Abbott, *Senior Business Analyst*  
Leon Aburime, *UI Developer*  
Sony Bheemreddy, *Java Developer*  
Celia Cheung, *UI Developer*  
Aiyappa Kalakanda, *ETL Developer*  
Meena Muthaiya, *Senior Java Developer*

Satish Polasi, *Senior Java Developer*  
Amit Salunkhe, *Data/ETL Architect*  
Gabriel Shamoun, *Project Manager*  
Heather Small, *Senior Business Analyst*  
Jon Smith, *Outreach and Training*  
Tammy Thompson, *Senior Business Analyst*  
Mary Watkins, *Senior UX Designer*