

# **Faculty Advancement Support Technology (FAST)**

## **Final Project Report**

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### **Date**

May 3, 2007

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# **FAST Project**

## ***Objectives***

The Faculty Advancement Support Technology (FAST) project seeks to increase faculty satisfaction of completing the Annual Supplement to the Bio-Bibliography (Bio-Bib) by designing and testing an intuitive and easy-to-use web interface for the Bio-Bib; it seeks to reduce faculty input error and uncertainty through its design structure and use of end-user semantics; it seeks to reduce faculty effort and completion time by accessing data from pre-existing data stores; and it seeks to capture 'intelligent' data, allowing it to be reused in other faculty reports or for other legitimate educational interests across campus.

In its largest scope (outside the scope of this phase of the project), FAST will include a complex set of interlinked web-based services which allow professors, review committees, departmental administrators, senior/executive campus administrators, and other potential partners to enter, organize and view faculty efforts and achievement from a web interface with user-specific privileges, functions and views.

## ***Sponsors***

FAST is co-sponsored by Associate Vice Chancellor Shelton Waggener from the Office of the Chief Information Officer (OCIO), and Vice Provost Jan de Vries from the Office of Academic Affairs and Faculty Welfare.

## ***Executive Summary***

Success in the FAST project is a result of three significant efforts: development of a faculty-centered application, development of web-based services to automate portions of the Bio-Bib, and the maintenance of momentum.

Professors want to display their accomplishments, label them with appropriate semantics and metadata, and present them in peer-respected formats. Faculty already maintain these data with these criteria; they reside in a *Curriculum Vitae* (CV). Some CVs are more up-to-date than others, but they are the primary document and model used to communicate achievements among academics.

Consequently, to design a web-based service which faculty will actually adopt, designers must shape their design with this model in mind. To ask a professor to input more data or exert more effort than s/he would expend on their CV will decrease faculty satisfaction and will undermine its adoption of service.

After research and testing, the FAST project designed a prototype which reflects this model: it allows professors to cut and paste entire citations, it sorts publications by the most significant metadata--review type, it presents and confirms clean formatting by presenting citations in a WYSIWYG preview; and allows the document to be updated throughout the year and not at one setting. It becomes an expanding document, not a static report.

The design is complemented by two services which automate the transfer and formatting of pre-existing data from other campus databases: CSIR, which holds course data; and GradLink, which holds graduate committee assignments. This pre-filling of the report greatly increases faculty satisfaction by reducing manual input time and allowing for simple annotation of the data.

Finally, FAST is a campus-wide service. It needs to reflect the achievements of all faculty from any discipline. Further, it needs buy-in from all key stakeholders—anyone who would review these data: chairs, deans, Academic Personnel Office (APO), Budget Committee, and the Academic Senate, to name a few.

At any given time, one or many of these stakeholders may be in transition. Lack of attention to this breadth of stakeholders will impact momentum. In an effort to maintain momentum I have mixed the program management methods. There is a multi-year vision of all intended services features which holds our long-term focus; concomitantly, this is interlaced with shorter semester-long sprints per agile methodology. Each sprint terminates with a boundary object deliverable (prototype) which all stakeholders can discuss and make decisions about.

These boundary objects offer a tangible product on which decision-makers can assess progress. This has proven successful enough that faculty and the administration typically want the next set of features and ask for another installment--typically due at the end of the proximate semester.

## ***Context***

In order to standardize merit and promotion at the University of California, Berkeley, all ladder-rank faculty are required to submit a variety of documents annually—one of which is the Bio-Bib. Whereas other requested documents may contain more qualitative or subjective input from peers, supervisors, or the professor him/herself, the Bio-Bib is designed to be a quantitative, objective summary report of a specific set of data that can be directly compared against other Bio-Bibs.

The three major reporting categories of the Bio-Bib derive from the overarching directives of the University of California; they request that a professor list their efforts and achievements (and by inference, their leadership) in Teaching<sup>1</sup>, Research, and Service. These categories are fleshed out in the Academic Personnel Manual (APM) Section II<sup>2</sup>, and most specifically in section 210<sup>3</sup>.

The review committee shall judge the candidate with respect to the proposed rank and duties, considering the record of the candidate's performance in (1) teaching, (2) research and other creative work, (3) professional activity, and (4) University and public service. In evaluating the candidate's qualifications within these areas, the review committee

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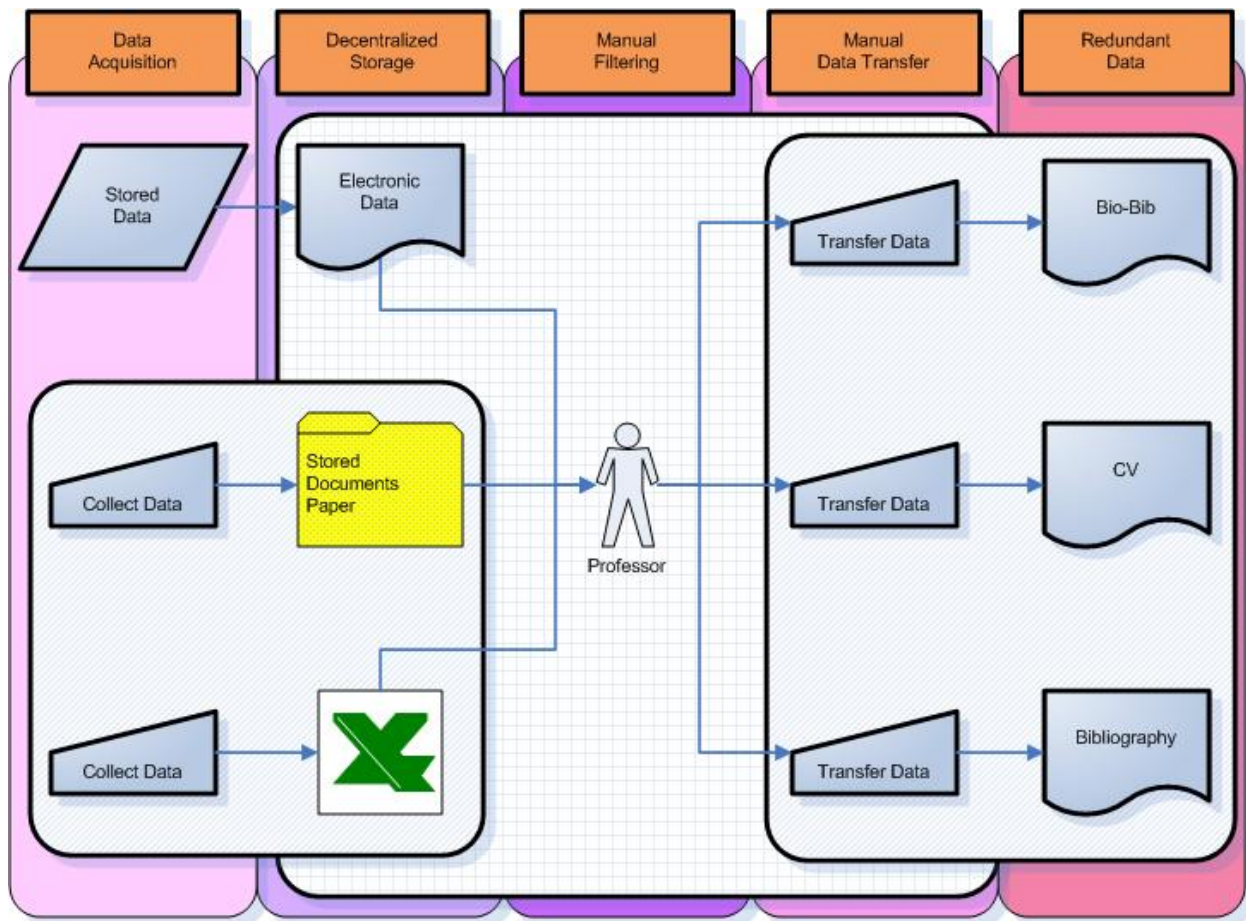
<sup>1</sup> Teaching includes both instruction and advising; Research includes published and creative works; and Service includes UC, professional and public service.

<sup>2</sup> APM, Section II, *Appointment and Promotion*, can be found at <http://www.ucop.edu/acadadv/acadpers/apm/sec2-pdf.html>.

<sup>3</sup> APM, Section 210, Review and Appraisal Committees, can be found at <http://www.ucop.edu/acadadv/acadpers/apm/apm-210.pdf>

shall exercise reasonable flexibility, balancing when the case requires, heavier commitments and responsibilities in one area against lighter commitments and responsibilities in another.<sup>4</sup>

Currently, faculty, and/or support staff, expend significant effort soliciting, acquiring, aggregating and formatting data for their Bio-Bib which they glean from other sources. For example, professors may need to **request** a report delineating which classes they taught for a given a semester. Once they receive the report, they would need to **store** it until they prepare their Bio-Bib. For the following semester, they would need to **request** a similar report and **store** it. When **preparing** the Bio-Bib, they would need to **find** these reports and manually **reenter** this data into the required form (see Figure 1).



**Figure 1: Bio-Bib Creation Process**

The above figure notes the process of creating a Bio-Bib. Currently, there is a manual five step process of 1) acquiring data, 2) storing data, 3) filtering data, 4) transferring data, and 5) duplicating data. The white boxes denote manual processes which could be automated: (left) the manual collection of potential data in multiple temporary repositories, (middle) the manual filtering of collected data for use in specified reports and formats, (right) the manual duplication of identical data into three different reports.

<sup>4</sup> The academic Personnel Manual can be found at <http://www.ucop.edu/acadadv/acadpers/apm/welcome.html>, and section 210 specifically at <http://www.ucop.edu/acadadv/acadpers/apm/apm-210.pdf>.

Even though this task is simple, it is highly inefficient. It requires extensive manual effort that is extremely redundant. Quantitatively, the time used to prepare a Bio-Bib has not been verified; however, every professor interviewed felt the report was laborious. Although they appreciate its goal, many professors feel it so tedious that they postpone submission of their Bio-Bib until they become a candidate for a promotion (typically, three to five years).

Further, much of these data already reside in other electronic repositories on campus. Using a professor's time to replicate data which simply needs to be reformatted or annotated is very costly. Not only is this process time-consuming, but it is manual and consequently highly susceptible to human error.

Finally, the data is captured in paper format and can not be re-used. Identical data needed for a *Curriculum Vitae* (CV) or comprehensive bibliography would require duplicate entries; there is no means to input data and have it cascade to all applicable documents or reports.

### ***Scope***

The FAST project will not focus on all documents needed for promotion, but on the Bio-Bib itself, and more specifically, from the point of view of a professor inputting data into a Bio-Bib. Although aspects of our interface allow for flexible annotation, its purpose is meant to be a simple means of reflecting raw data. Other documents will build upon this report allowing for explanation, interpretation, and assessment of the raw data. But as the FAST team has coined it: this document is 'Just the facts!'

The Bio-Bib has multiple sections, each laden with their own set of semantics. This project has chosen not to design for all sections, but to focus on designing an intuitive process flow of initiating a Bio-Bib, entering published works, and acquiring instruction records and graduate committee data.

However, design testing of the process flow has significantly informed the scaffolding of the overall report. Although still under construction, the residual components are accounted for.

Although data capture and storage must afford reuse by other stakeholders, this phase of the project will focus on the design of user-centered interface from the perspective of a professor inputting data. Data presentation, semantics and process flow have been decided from this vantage point.

This project has collaborated with the Office of Planning and Analysis (OPA) and the Graduate Division (GD) to enable web-based access to a professor's instruction record and graduate committee efforts. This increased use of 'web-based services' is one of the strategic goals of the Office of the Chief Information Officer (OCIO). Although, significant strides have been made to secure access to all data needed, only partial data has been provided at this point.

I would like to thank the OPA for its use of all faculty course data from academic years 2004-2006. I would like to thank the Graduate Division for designing a view of all graduate

committee efforts since 2001. As governance, policy, and security issues become clarified, it looks extremely hopeful that all data will be released in the very near future.

## ***Deliverables***

In summary, this project will:

1. Document the research, testing and design of a professor-centered web interface for the Bio-Bib with specific focus on:
  - a. Initiating a Bio-Bib
  - b. Listing Published Works
2. Document the architectural design, data mapping and transfer of course data from OPA
3. Describe efforts to include Graduate committee data from GD.
4. Present a functional prototype of the above described application  
<https://fastr-dev.berkeley.edu/p8/login.php>

## ***User-Centered Design***

### **FAST Team**

Much of FAST's user-centered design has resulted from a course project assigned in 'User Interface Design and Development' taught by Professor Marti Hearst from the School of Information. Team members include Eunice Chang, Dondrea Thompson and Rich Meyer. My role is overall project manager and prototype developer of the FAST interface design as well as program manager for the larger set of services.

### **Research**

User-centered design requires implementation of a system, process and interface that is clearly understood and intuitive to the end-user. However its backend functions, its presentation and application layer must replicate a clearly understood mental model that the end-user can understand, track and engage with.

### **Interviews**

To understand this mental model, the FAST team interviewed faculty across multiple disciplines. These interviews were videotaped and the interview schedule can be found in the Appendix.

In developing the initial interview schedule, we felt it important to understand three aspects the Bio-Bib:

1. The logistics of completing the report (obtaining the form, gathering information, and submitting the form)
2. Experience and satisfaction with the report (whether the form adequately captures achievements, problems completing the form, and pain-points)
3. Goals and usefulness (intended audience, reactions to the report being made public)



It was also desired to see how professors actually use the physical form, i.e. cut and paste, manual typing, etc., subsequently, each participant was asked to complete four tasks at the end of the interview.

Four ladder-rank faculty agreed to discuss their experiences with the Bio-Bib report. Professors were sought with varying levels of tenure and across disciplines.

### ***Raw Data***

- None of the participants completed their Bio-Bib annually. Its completion was contingent upon upcoming promotion review.
- Concomitantly, submission expectations were taken from the school/departmental chair. Some faculty were unaware it was required annually.
- When asked what they would do when they encountered a problem, participants were very reticent to ask peers.
- Less tenured faculty were much more willing to expend time on their Bio-Bib; more tenured faculty were less-inclined to do so.
- None of the participants felt good when a section was left blank—even if it did not apply to them.
- Faculty who list Creative Works felt there was no obvious place to list their achievements and would ‘force’ them into other categories. It did not stop them from listing their efforts, but because they were unclear as to their proper placement, they would place the data inconsistently from submission to submission.
- When performing the specified tasks, e.g. input a publication or creative work, all faculty opened/referenced their CV/résumé and used cut-and-paste functions.
- When asked if they would ever post a Bio-Bib publicly, i.e. a web page, none of the participants were inclined to do so. It was seen as an ‘insider’ document for promotion, not a clearly understood document among peers.
- Participants who taught in other schools were not required to complete a similar document at their other institution.
- All participants felt they deserved promotion. If anything were to hinder promotion, it would stem from incorrect placement of data not from lack of achievement.

### ***Interview Assessment***

After first-hand observations and review of these interviews, the FAST team made the following conclusions:

- Professors want to complete the Bio-Bib without help and prefer not to ask for help. Given this, all instructions, guidance, explanation, etc. needs to be present/accessible in or around the document itself.
- Professors are academics who have excelled in test-taking and research. They expect to answer any question they are asked, particularly about their efforts. Questions which are not applicable to a professor which leave extensive white space can be seen as negative. They want to communicate what they have achieved, not what they have not achieved.
- Less-tenured faculty felt a strong need to pad their Bio-Bib because it was full of white space and looked 'empty'; their Bio-Bibs were more verbose.
- The CV or résumé was the primary (not only) digital resource for storing and accessing their achievements.
- Although, Creative Works is noted as a parallel category to Research, examples for these categories focused on a third category: Publications. Research, Creative Works and Publications were neither clearly defined nor exemplified which caused confusion.
- More broadly, participants felt that Creative Works were viewed as less significant than Publications and would often place them where they expected higher visibility.

### **Comparative Analysis**

Two current Bio-Bib prototype applications exist at UC Berkeley: a close-to-production system entitled the Academic Affairs Faculty Web Interface (AAFWD) at the Haas School of Business and a rough prototype linked to the HRMS database for the APO. The Haas system was built from scratch, the HRMS system was a significant effort by PeopleSoft to design a generic promotion tracking system for the university context. UC Berkeley, along with other major universities, was solicited for input.

### ***HRMS Prototype***

The HRMS prototype was helpful to analyze because it was designed with input from the Bio-Bib and slightly tailored after it was delivered from PeopleSoft. It has not undergone significant tailoring, and is still considered a rough prototype.

The HRMS prototype had many useful features most notably its link to the personnel database which allows much of the biographical data to be pre-filled. It allows data to be stored intermittently throughout the year, uses simple navigation to add an additional record, offers easy-to-use calendars, and provides activity feedback. (See Figure 2).

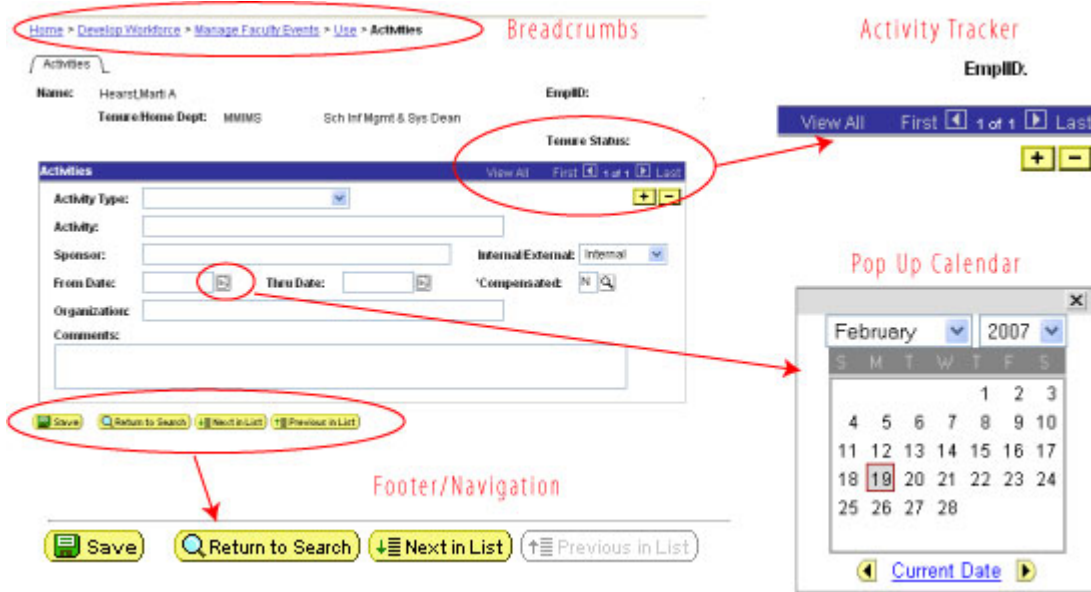


Figure 2: HRMS Navigation Tools

However, to reach the screen displayed in Figure 2, one has already clicked five times through choices and terms more familiar to the administration than to the professor. This is somewhat reflected in the navigation bar which reads: Home > Develop Workforce > Manage Faculty Events > Use > Activities. As a user, I am not even clear that I am on the Bio-Bib site.

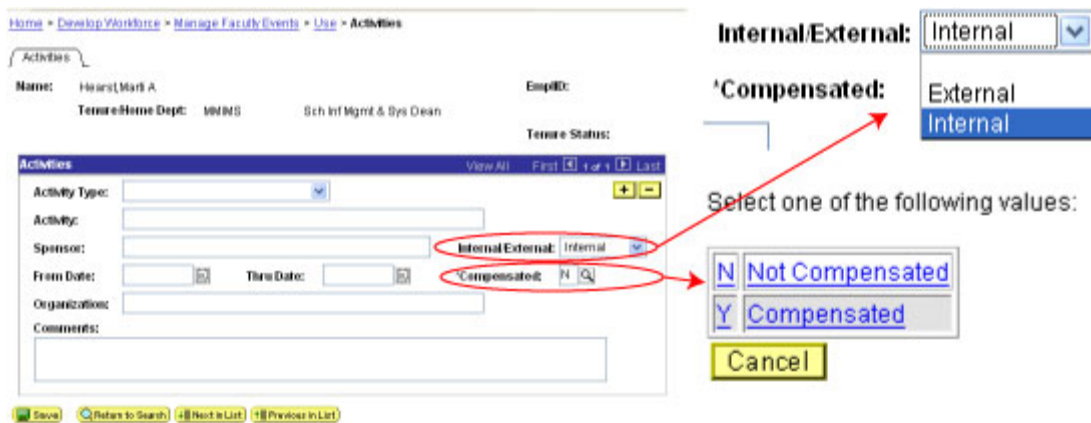


Figure 3: Administration-Centric Data

In many screens the HRMS prototype requests data that have no obvious meaning, no explanation, and no rationale as to how it relates to a professor's achievements (See Figure 3). This may be data the administration wants and/or needs, but it is not part of the Bio-Bib.

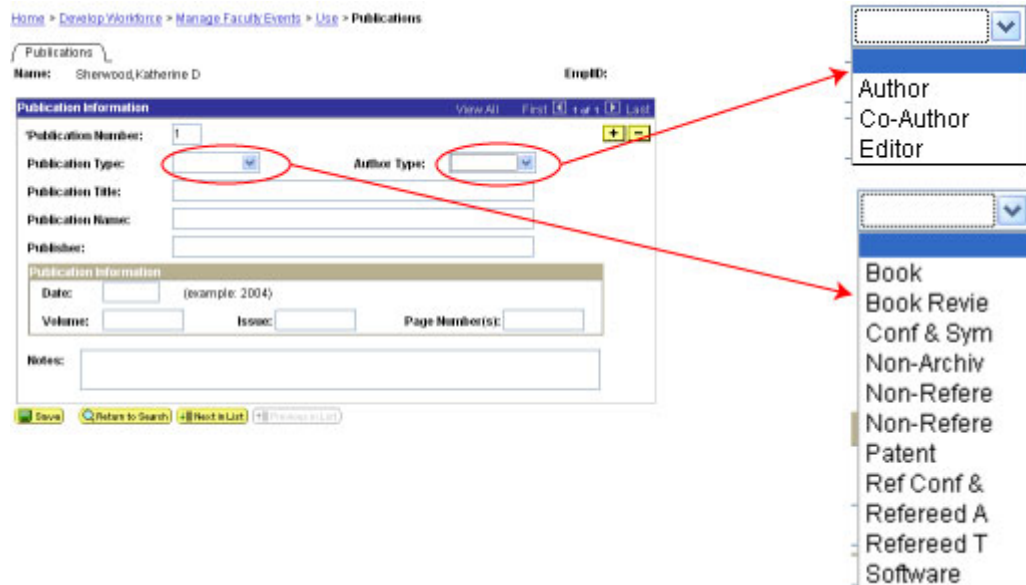


Figure 4: Publication Types and Semantics

The HRMS prototype describes a very limited set of publications types (See Figure 4). The HRMS prototype lists ‘Book Review’ but not ‘Film Review’ or ‘Performance Review’ which are much more prevalent in the Humanities. The prototype also uses unfamiliar semantics such as ‘Refereed A’ and ‘Refereed T’ as well as categories of data not used by many faculty such as ‘Archival’ and ‘Non-Archival’.

The design and structure neither reflects the model of a CV nor the perspective of the faculty. It seems it would greatly serve the administration but unclear how it would serve the faculty.

### ***Haas Prototype – Academic Affairs Faculty Web Interface (AAFWI)***

The AAFWI attempts a much bolder goal of making a faculty portal with a variety of services. The AAFWI navigation bar attempts to link profiles, reports and ultimately web pages from aggregated data. It presents itself as a personal portal.

Although much more inviting, many of the options are again for administrative purposes. Because many of the categories that appear in the navigation bar are also requested in the Bio-Bib, it is unclear how/if these two options interrelate. Although instructions inform the user to begin by clicking the ‘Biobibliography’ link, it is placed on the 19<sup>th</sup> line on list and represents one of many seemingly equal or greater options to select.

Once ‘Biobibliography’ is selected, the user is taken to a replica of the paper buttons which link to various web input forms (See Figure 6). Although easier to manipulate than the paper form, it disallows for mistakes. One can ‘Add’ many things, after which one can ‘Edit’ what I entered (see Figure 7). But if a mistake is made, one is unable to ‘Delete.’

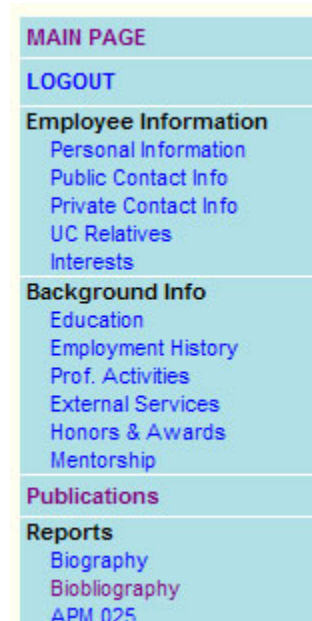


Figure 5: AAFWI Navigation Bar

## ANNUAL SUPPLEMENT TO THE BIO-BIBLIOGRAPHY

All information refers to the period of July 1, 2006 to June 30, 2007

NOTE: INFORMATION CONTAINED IN THIS DOCUMENT IS OPEN TO ACCESS BY THE PUBLIC.

(Copies of this Supplement will be maintained in the offices of the Chancellor, the Dean, and the department and are considered by the University to be non-confidential in nature and therefore subject to public inspection under the California Public Records Act.) Policy requires that reports be submitted annually by all faculty who are members of the Academic Senate, faculty whose appointments are in a title series equivalent to the Professor series (see Section 32-0, Academic Personnel Manual), and all academic or other administrators who hold an academic appointment in one of the above title series. If you need additional space, please attach extra sheet(s).

[Main Page](#)

Academic Title: \_\_\_\_\_

Name: Meyer, Rich DEPARTMENT Haas School of Business

I TEACHING (including University Extension teaching)

1. [Add](#) New courses devised and instituted.
2. [Add](#) Systematic effort undertaken to improve instruction.
3. [Add](#) a.) Masters theses and projects chaired by you and completed this year (give names of students and titles of theses or projects and indication whether Plan I or Plan II)  
[Add](#) b.) Master theses and projects completed this year on which you have served as second or third reader (give names of students and titles of theses or projects)

Figure 6: AAFWI Bio-Bib Interface

Further, it is unclear how this data will present itself when the report is presented. Most, dare I say all, faculty would not present their CV in this format or presentation style

1. [Add](#) New courses devised and instituted.  
[Edit](#) av 102

Figure 7: AAFWI Preview and Edit

Similar to the HRMS prototype, the AAFWI publication section requests highly detailed data which is requested to be parsed by the professor on each publication,. (see Figure 8). Although, a professor may have all the data to complete this form, the form itself requires much more time to complete than cutting and pasting an entire publication from a CV. Particularly in the Sciences, where there may be more than ten co-authors, delineating each one in a separate field would be far slower then the present system.

**Publications**

Effective Date:   
 (mm/dd/yyyy)

Type:

**Co-authors:** Co-authors may be added after your entry is otherwise complete. Please enter the rest of your data and click "Submit." On the main biobibliography page, scroll down to find your publication entry and click "Edit." You will see a new line for "Collaborators," and an "add/edit" button. Click this button to add or edit co-authors and collaborators.

Title:

Organization:

Publication Name:

Edition:

Editor:

Volume:

Issue:

Figure 8: AAFWI Publication Entry Form

The AAFWI publication options are very Haas-centric, e.g. Comments/Opinions/Published Interviews (see Figure 9). However, they do not reflect the broad spectrum of potential publication types across campus. Although they attempted to reuse many of the categories of the current Bio-Bib; the question was never asked whether these categories adequately reflect all professors.

Finally, these options vary depending on which 'Publication' link is selected. If you click on the navigation bar, one set is presented; when working through the Bio-Bib, a different set is presented.

- Books/Monographs -- Books
- Books/Monographs -- Monographs
- Non-Refereed -- Book Chapter
- Non-Refereed -- Book Review
- Non-Refereed -- Comments/Opinions/Published Interviews
- Non-Refereed -- Conference Proceedings
- Non-Refereed -- Contributions
- Non-Refereed -- Non-Archival Journal
- Non-Refereed -- Periodical
- Non-Refereed -- Practitioner Publication
- Non-Refereed -- Report
- Non-Refereed -- Technical Report
- Others -- Other
- Others -- Software
- Others -- Work in Progress
- Others -- Working Paper
- Refereed -- Archival Journal
- Refereed -- Conference Proceedings

Figure 9: AAFWI Publication Types

## Methods

User-centered design has many methods to utilize. Not all work for any given situation; appropriate methods must be selected on their usefulness of input. The methods undertaken in our design process were the following:

- Interviews (previously discussed)
- Personas
- Task Scenarios
- Card Sorting
- Low-Fidelity Prototyping
- Iterative Interactive Prototyping

## Personas

Personas are a means to create a specific user for which a product is being built. It requires understanding the underlying goals and motivations of the end user and aggregating them into archetypal personality. It is worth noting that no professor's goal in life is completion of the Bio-Bib. This is a means to goal, say promotion or recognition. User-centered design seeks to design around these goals to better empower the end-user.

Personas always have names and characteristics and can not represent 'anyone' or 'the general public.' After designing a persona named 'Jane,' designers will typically stop asking 'what would the user want?' and start asking 'what would Jane want?' Personas don't solve problems, they focus them.

Based on interviews and feedback throughout the project, the FAST team developed and made multiple revisions to three personas. We created a primary persona named Allison Randall, a secondary persona named Jennifer Williams-Ortiz, and a tertiary but largely referential persona named Mark Lund. Again these are archetypal characters that reflect our end user.

Allison and Jennifer will be described here; Mark Lund and our revision process can be found in the appendix. May I present: Allison Randall.

---

*Allison Randall*

*“Almost there!”*

Allison Randall is a 37-year-old Associate Professor of Dramatic Arts at UC Berkeley. Her husband is 39 and serves as an editor for Sunset Magazine (a West-coast lifestyle publication). He travels frequently. As they both approach 40, they have decided that now is the time



to finally start a family.

Allison next personnel review should promote her to a full professor. She is adamant that she must secure this tenure level before they have their first child. Although she used to accompany her husband on many of his trips, she has chosen to limit these in order to focus on her professional activities.

Much of Allison's time is spent working on a book about 19th century European playwrights. She has been writing this book for the last three years, and is finishing up the last chapters. She hopes that the publication of this book will enable her promotion full professor at UC Berkeley and solidify her national recognition within the Dramatic Arts community.

Allison is also very involved in the local arts community. Recently, she was asked to write the program notes for a new play in San Francisco's American Conservatory Theater. Because this is both a published work and a high honor in her field, she wants her professional efforts to be recognized.

### **Goals**

- Attain full professorship so she and her husband can begin having children.
- Clearly establish scholarly credibility by publishing her book.
- Clearly illustrate her various publications over the last three years.
- Pursue validity of her accomplishments.

### **Justification**

Allison reflects several distinct issues facing certain professors: she is still vying for full professorship and must reflect herself well to attain it; she works in the arts and needs her creative work to be both validated and viewed as significant; her field respects books more than publications but these take much longer to produce; she has a book that is considered 'in press' but can not be claimed as published within her reporting period.

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*Jennifer Williams-Ortiz*

*“The more you put in,  
the more you get out!”*

Jennifer Williams-Ortiz is a 29 year-old Assistant Professor in the Department of Cognitive Psychology, with a co-appointment in Linguistics. She has been at UC Berkeley for three years, and was hired at the same





time as her husband, who is a 34 year-old Associate Professor in Linguistics.

Jennifer did a post-doc at the University of Michigan, and studies English language acquisition among Mexican-American immigrants. She currently serves as primary advisor for four Ph.D. students and as secondary advisor for another four Ph.D. students who comprise her research group that meets informally every week

Last year, she received a grant from the National Institutes of Health to set up a lab in the department. She is eager to attract the best graduate students to her lab and start establishing her work. Jennifer is therefore very active within the department and frequently attends all of the department mixers. She also sees students regularly during her open office hours.

Jennifer is up for her 2nd review in the Psychology Department, and is eager to impress her colleagues. She actively asks, observes and listens to other faculty members about what to get involved in and on what activities to spend time, in order to 'learn the ropes'.

To date, she has published one article in a peer-reviewed journal and hopes that the future productivity of her lab will propel her steadily along the tenure track. She works very closely with her students. She has just co-authored a paper with one of her students and is in the process of co-authoring papers with two others.

She knows that publications not only strengthen the reputation of the lab but also add to her visibility. Her volunteer work with the Berkeley Unified School district as an ESL advisor also serves this purpose.

Most of her advancement review-related materials are in electronic form, since she maintains an electronic record of her activities, most of which appear on her CV. She is proactive in keeping organized records of her activities and other review materials.

Outside of work, Jennifer enjoys playing volleyball with friends, camping and knitting the occasional scarf.

## **Goals**

- Set the stage for pursuing a successful career in Psychology.
- Build credibility among the other professors in her department and be viewed as successfully on the tenure track
- Pursue visibility and recognition among the graduate students in her department so that she can grow her lab.
- Run a successful lab with publications to gain visibility among Psychology academics outside of her department.
- Build public credibility

## **Justification**

Jennifer represents a new, young and untenured professor who is beginning her professional career and has little prior experience with the Bio-Bib. Jennifer is eager to do well and be viewed positively by her colleagues. She sees the Bio-Bib as a record of achievement to help her move up the ladder. Although she realizes that junior faculty are expected to have more white space on the Bio-Bib, she is looking for opportunities to fill in as many different categories as possible to show her professional engagement. She also represents professors who invest a significant amount of time with their students and other professional activities.

## **Task Scenarios**

After interviewing faculty about the Bio-Bib and observing them physically using it, the FAST team designed a set of Bio-Bib-related tasks that our personas would need to successfully accomplish in order to meet their goals. These tasks have become our metric for evaluating success. We ask ourselves, can ‘Ally’ easily and quickly accomplish this task given what we’ve designed.

One may ask why two of our tasks focused on “Completing an Unpublished Work” or “Submitting a Non-traditional Publication” in lieu of a “Published Work” and a “Traditional Publication.” Consistent feedback was received that traditional publications were a clearly delineated category and were expected to be published.

However, some fields have very different publication types, e.g. a Musical Score or Recording, which are not clearly delineated. Further some disciplines may take three years to publish a work that is complete, requires no revisions, and may be the most significant working paper in the field. These tasks are not intended to disempower entry of traditional published works, but to delineate clearer categories for all published works while maintaining the obvious nature of the more traditional ones.

These tasks have been continually revised as we have received user feedback. The progress and evolution of these tasks can be found on the FAST project web site which is listed in the Appendix.

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### ***Scenario #1: Starting a New Bio-Bib***

Allison Randall has just been asked by the chair of her department to complete her Bio-Bib for the 2004-2005 reporting period. Although she has completed the Bio-Bib a number of times using a word document template, she has decided that she would like to complete the form online this year, using the new FAST Bio-Bib system she has heard about. She opens the email from the department secretary that contains website address to the online system, and clicks on the link.

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### ***Scenario #2: Editing a Previously Saved Draft***

Jennifer Williams-Ortiz started her Bio-Bib last week for the 2005-2006 reporting period, beginning with the teaching and research portions of the report. Before she had time to complete the publications section, she had to run to a series of meetings. Now that she has a couple hours to commit to finishing her report, she wants to log back into the FAST Bio-Bib system to continue working on her 2005-2006 report.

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### ***Scenario #3: Reporting a Non-traditional Publication***

Given her expertise, the highly recognized American Conservatory Theater has just asked Allison to write the program notes for a Henrik Ibsen play. As high an honor as this is, Allison needs to ensure that writing the notes will not detract from her attaining tenure. Allison is reviewing her Bio-Bib to see whether this will strengthen her effort; she needs to clearly see that writing these program notes for a distinguished play would display itself prominently in her Bio-Bib.

---

### ***Scenario #4: Reporting a non-published work***

Allison has been working on her book of 19th century playwrights for three years. She has a signed contract with a publisher and it is due for release on September 15. She has twelve complete chapters that have already been copy-edited by the publisher; all she has left is the conclusion and introduction—these will not be complete before the end of the academic year. Completion of this book will validate her credibility and status in the dramatic art community. It is much more prestigious than journal articles in this field. In her Bio-Bib, Allison must reflect her extensive effort and quasi-completion of a book that will be neither formally complete nor formally published until after her Bio-Bib report is due. The book has a promised publication date and its completion is—for the most part—a formality.

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### ***Scenario #5: Cutting & Pasting from a CV***

It is Saturday, August 12, the day Jennifer has set aside to complete the Bio-Bib. On her laptop in her small study room, she opens the Bio-Bib document she received via email from her department secretary.

Jennifer regularly keeps an electronic record of her professional activities and achievements. Most of these, like her co-publications with students are on her CV, which she keeps up-to-date. Those that are not on her CV, she stores in an electronic folder. She keeps a small stack of

potentially useful paper documents in her special red folder in her office desk drawer. She has brought her red folder home to complete her report.

Jennifer wants easy transfer of data, as close to automatic as possible. For her, the publications section of the Bio-Bib must be able to accommodate the cutting and pasting of information from her CV and other on-line documents to minimize typing.

---

### ***Scenario #6: Editing & Resubmitting a Journal Publication***

It is 4:50 PM on Friday afternoon, and Mark Lund is rushing to finish up on his Bio-Bib report. He promised the department secretary that he would complete it by Monday morning, but he promised his wife that he would pick her up from work at 5:30 PM to take her to dinner. He figures that he has ten minutes to quickly enter the remaining publications information and submit the report, before he has to leave.

It was a prolific year for Mark, as he co-authored three articles in rather prestigious journals. He has just entered the third publication and is scanning the preview of all of his publications, when he realizes that he misspelled the last name of one of his co-authors. He wants to change the spelling before he submits his final report.

---

### **Card Sorting**

Midway through the project, the FAST team realized it needed more research into discipline-specific semantics. To properly reflect published works, the team needed to discuss specific publication types that may be limited to specific disciplines.

Interviews were conducted with senior faculty in the Departments of Music, Performance Art, and Art Practice. Our goal was to delineate what types of works they published, assess what distinguished a published work from a creative work, and how to abstract the publication types in such a way that faculty member could clearly understand a labeled term (with familiar language) but also limit its detail so as to have as few categories as possible.

After delineating publication types, the types were written on individual cards so that they could be selected and moved. The senior faculty were then asked to arrange them into categories. In doing so, they were forced to make many choices as to where publication types overlapped, what delineated one from another, where certain types could be merged, and how significant a publication type was viewed in a given field.

For example, we learned that publishing Program Notes for a theatrical performance—an article denoting the history, influence, and theme of a play—was such a high honor in the dramatic art community. It required expert knowledge, was competitive in nature, was solicited, and received its significance was contingent on the soliciting institution.

Card sorting enabled us to broaden our publication types, use discipline-specific terms, and appropriately place them in their proper category. Here is a list of our current publication types.

### ***Publication Types***

- Article
  - Convention
  - Journal
  - Magazine
  - Newspaper
  - Program Notes
  - Internet
- Book
  - Chapter
  - Entire
- Edited Work
  - Journal – Special Issue
  - Book – Chapter
  - Book – Entire
- Music
  - Recording
  - Score
- Proceeding
  - Conference
  - Symposium
- Report
  - Technical
  - Non-technical
- Review
  - Book
  - Essay
  - Film
  - Performance
  - Recording

Our latest prototype test revealed two publication types which need to be included: software and patents. A category title has yet to be defined. Intellectual Property has been suggested, but because all published works contain intellectual property this title may cause potential ambiguity.

### **Prototypes**

#### ***Low-Fidelity Prototypes***

Low-fidelity prototypes allow designers to get user feedback in the initial stages of design. Its cost is low because significant coding is not required; it can be done with paper and suspended belief.

We asked four participants to complete a series of tasks by showing them a paper document which reflected our web interface. They then had to talk ‘out loud’ and physically select a drop down menu, link or text box on the paper and communicate what they would do when selecting the respective box/field/link. One team member would then manually change the paper with paper overlays or new screens to demonstrate what would happen if a particular selection was chosen; this process including showing errors.

The screenshot shows a web interface for 'Bio-Bibliography Annual Supplement'. The user is logged in as 'Allison Randall' and is viewing the 'Publications' section. The main form is titled 'Journal Entry' and contains the following fields and options:

- Publication Type:** Journal (selected from a dropdown menu)
- Author List:**
  - 1. Alison J Randall (Primary) [Edit | Delete]
  - 2. Mark T Lund (Non-Primary) [Edit | Delete]
  - Fields: First: [ ], MI: [ ], Last: [ ], Role: [ ] (dropdown)
  - [Add to Author List]
- Article Title:** Trademark Law in the 18th Century
- Journal Name:** Harvard Law Review
- Referee:**  Peer,  Student,  None
- Archival:**  Yes,  No
- Status:**  Published,  Pre-print
- Year:** 2007 (dropdown), **Volume:** 23, **Issue:** 3, **Pages:** 150-164
- [Add to Publication List]

Figure 10: Low-Fi Prototype -- Publications Entry

Figure 10 displays the major options of our paper prototype. It attempts to organize data into logical groupings, i.e. author(s) data and publication data while capturing significant metadata in quick an easy selection format, i.e. referee type, archived journal.

Our prototype was well received and was accompanied with many minor suggestions for change. But it also induced the most significant change to our approach and consequently our design. It derived from an off-hand comment by one of our participants. He simply commented that it would be easier to “cut and paste a citation from his CV.”

Upon reflection, this was the epiphany moment we had sought. We realized that professors had already gathered critical metadata and cleanly formatted it in a peer-understood format – a citation. They used a well-defined document which collects this metadata for acknowledgement/review by their peers—a CV. Both the citation and the CV are well understood and common means by which professors understand and reflect achievement. By requiring them to deconstruct their citations, we actually ask them to perform significantly more work with little or no incentive.

### Interactive Prototypes

Our latest prototype (version 8) attempted to embrace this user model. It requests an entire citation as one piece of data and requests a much smaller set of metadata primarily designed to enable sorting and presentation. A citation can be cut and pasted from their CV to facilitate the process and reduce errors.

The screenshot shows the 'Bio-Bibliography Annual Supplement' website. The user is logged in as 'Saxenian, A'. The navigation menu includes 'Home > Published Works > Published Work Entry'. The main form is titled 'Add New Publication' and contains the following fields:

- Citation:** A large text area for entering the citation.
- Publication Type:** A dropdown menu with 'select one' selected.
- Citation Style:** A dropdown menu with 'select one' selected and a link to 'Citation Style Examples'.
- Review Type:** A dropdown menu with 'Peer-reviewed' selected.
- Publication Status:** Radio buttons for 'Published' (selected) and 'Not published'.
- General Notes:** A text area for additional notes.

Buttons for 'Cancel', 'Preview', and 'Save' are located at the bottom of the form.

**Figure 11: Final FAST Prototype**

Figure 11 displays a screen shot of the publication entry form. To draw the user's locus of attention, the 'Citation' textbox is placed first and made larger than the other input fields. It is purposely 5 lines high to communicate the ability to input a large citation and allows for scrolling once those five lines has been exceeded.

Professor's are also concerned with how their document looks. Whereas web sites between professors may vary in quality and style, CVs are almost always well formatted and professional.

To serve this need, preview options were granted at every step (see Figure 12) as well as a WYSIWYG preview screen of all listed citations (see Figure 13).

**Figure 12: Publication Preview Screen**

This allows users to preview and edit their entry before submitting. All but one participant used the preview screen and it clarified a professor’s desire to format well and protect against mistakes.

**Figure 13: WYSIWYG Publication List**

This screen allows users to see the actual format of the data they are submitting. The bounding boxes for ‘Peer-Reviewed’ or ‘Non Peer-Reviewed’ publications only appear if a document in that category has been submitted. This removes the greatly disliked white space for categories that are irrelevant to a given professor. Similar to the CV, professors only see and submit what they have achieved.



Finally, to allow data entry at multiple sittings, we offered a status update for each section of the Bio-Bib. In Figure 12, the left navigation bar shows multiple sections with 'Not Modified' under the section title, but the Published Works section displays a timestamp communicating the time that data was last input.

The status update also allows professors to mark a section 'As Complete.' Marking as Complete (see Figure 14) does not lock the section but is enables the user to inform him/herself that they think this section no longer needs attention. It reduces their memory load and allows them focus elsewhere.



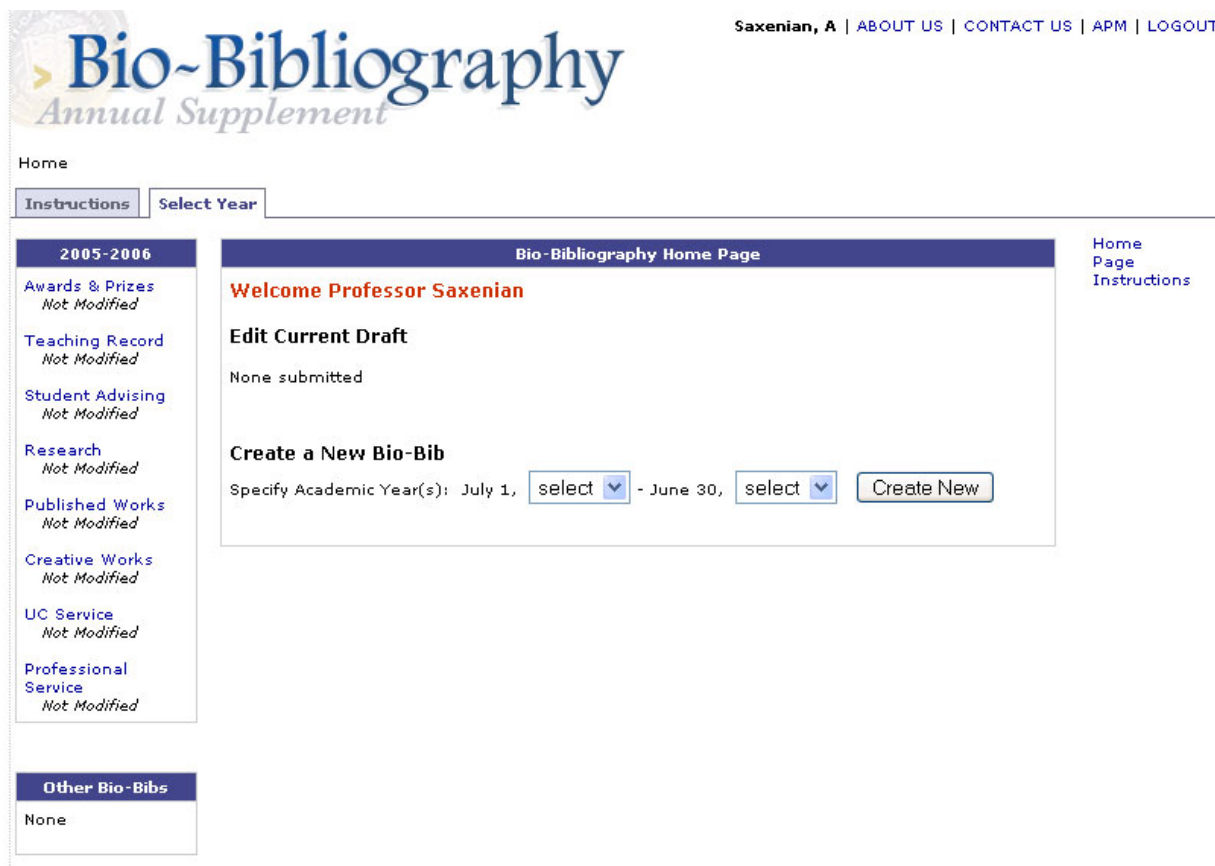
**Figure 14: Mark as Complete Button**

Finally, we wanted to offer professors a status of progression across the entire document. This is difficult, because not all sections of the Bio-Bib are required by all professors, and completion of a section is contingent on the professor not an outside metric.

After much debate and trial and error, we designed a tab system which displays the overall progression of the Bio-Bib itself. As a user enters the Bio-Bib, they will be presented with two tabs: 'Instructions' and 'Select Year' (see Figure 14). Upon login, the selected tab will always start on tab 2: Select Year.

Again, we are building our primary designs for Ally and our secondary design for Jennifer. Newer professors like Jennifer need access to instructions and can not be overlooked, but they are not the majority. By purposely selecting the second tab as active, we offer Jennifer access to instructions without forcing Ally to make extra clicks to start her Bio-Bib.

After selecting a year, two additional tabs appear: 'Enter Accomplishments' and 'Final Preview and Submit.' Further, once a year is selected, the active tabs moves to the 'Enter Accomplishments'; it communicates the progressive flow of the report without requiring mandatory input for any given section. Once all accomplishments have been entered, they can select 'Final Preview and Submit.'



**Figure 14: Instructions and Select Year Tabs**

After a professor logs into the system, only two tabs are visible: Instructions and Select Year. The selected tab is Select Year to allow the majority of professors who have completed multiple Bio-Bibs one less click to start their report. However, new users will need a more detailed description of what the Bio-Bib requires, examples and instruction information. Once a year(s) is selected the tabs change (see Figure 15).



**Figure 15: Progression Tabs**

After a year is selected, two additional tabs appear to walk the user through the progression of the Bio-Bib. At any time they go backward to change the year on which they wish to work, or move forward to preview their entire report.

### ***Building a Service-Oriented Architecture***

Service-oriented architecture (SOA) is a means to capture, store and release data so as to allow its reuse by authenticated users. Building an SOA is currently a key strategic focus of the OCIO. However SOA is new and the university is dated.

Before many of the current capabilities enabled by the Internet and more recently web services, data stewardship and security was much less complicated. It was not less important, bit less

complicated. For the most part, data was seen as somewhat static and data administrators were responsible for their specific set of data.

As web-based services and mashups have evolved, it has become apparent that significant financial and scholarly benefits can be gained by merging data from multiple data stores, thus creating incredibly helpful tools, tracking, dashboards and reports for administration, research and development, and scholarship. However, to merge these data, one must determine ownership of data.

The university has strongly upheld its duty to guard its personal data for both students and faculty, guard its intellectual property and protect its clientele. Data administrators have properly maintained strong security and authentication processes to ensure data protection. But for the most part, these measures are domain-specific.

Domain-crossing, and subsequently sharing and collaboration, is at the heart of SOA. But it requires a standardized means to enter a domain, clear documentation of how to share within a domain, and secure and stable means of sharing with other domains.

Standards and data governance policies are moving steadily, but they are still young. I will describe my efforts to build a web services for FAST as well as document lessons learned from crossing domains.

## To Be Architecture

The goal of FAST is create a set of web-based services and tools around Faculty achievements that meet latent or active faculty needs. It has begun with the Bio-Bib as it provides a tangible pain point that can be relieved by adding automated services.

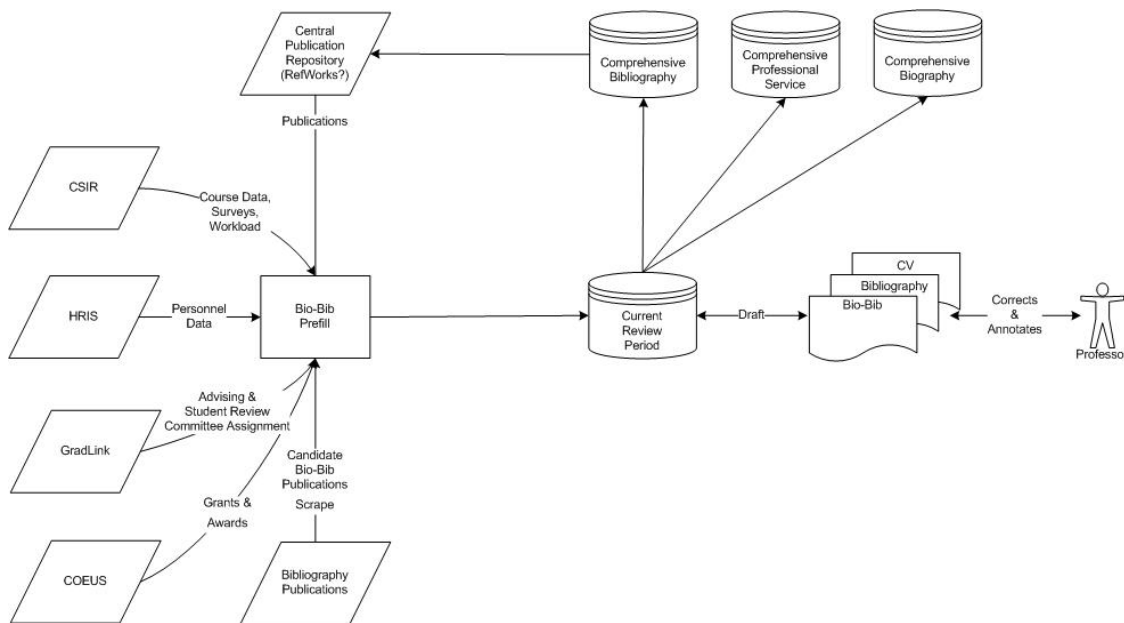


Figure 15: To Be Data Architecture the Bio-Bib

A potential service to the faculty would be to aggregate pre-existing data residing on campus databases and directly map it to the appropriate place(s) in the review documents. Potential sources of record were researched which might contain helpful data. Below are potential candidates for this data.

- HRMS – Personnel data, employee rank, department, and education.
- CSIR – Courses taught, workload percentage, enrollment, and student surveys.
- GradLink – Masters and Ph.D. committee assignments and advising.
- COEUS<sub>1</sub> – Grants and research data.
- Academic Senate – UC committee data.
- BibServer – Bibliographic data for the Departments of Math and Statistics.
- RefWorks – Bibliographic data of present users.
- Haas Academic Affairs Application – Haas-specific faculty data.

To date, we have direct access to none of them with approved permission to access CSIR and GradLink.

### ***CSIR***

CSIR is the database of record for course data. OPA has granted permission to view two entire years of all course data from the CSIR database. Passwords and logins were offered to enable this service. But when the two domains attempted to ‘share space,’ both security models were breached. Neither was wrong, but they were not interoperable.

As this future efforts progress, security models will need to be addressed and data request agreements will need to be accepted to enable joint stewardship and shared responsibility of the data. Most likely, APIs will be developed to allow secure passage of data between differing models.

Positively, a workaround was found. The OPA allowed a copy of the data to be walked over to my server and physically placed in an identically formatted database. This is great progress. It displays growing trust and a commitment to collaboration. Because of this, I was able to access the data in its raw form and native structure in order to map it into the Bio-Bib. The functionality proved successful and elated professors.

Within the Bo-Bib report, a professor can select ‘Teaching Record’ from the left navigation bar. When doing so s/he will be brought to the screen shown in Figure 16.

Saxenian, A | [ABOUT US](#) | [CONTACT US](#) | [APM](#) | [LOGOUT](#)

# Bio~Bibliography

*Annual Supplement*

Home > Teaching Record

[Instructions](#) | 
 [Select Year](#) | 
 [Enter Accomplishments](#) | 
 [Final Preview & Submit](#)

**2004-2006**

[Awards & Prizes](#)  
*Not Modified*

[Teaching Record](#)  
*Not Modified*

[Student Advising](#)  
*Not Modified*

[Research](#)  
*Not Modified*

[Publications](#)  
*Not Modified*

[Creative Works](#)  
*Not Modified*

[UC Service](#)  
*Not Modified*

[Professional Service](#)  
*Not Modified*

**Teaching Record**

This page is under construction.

[Detailed Instructions](#)

**Figure 16: Get Teaching Record**

In prototype tests, professors were asked to input their teaching records. They often groaned and reluctantly sought for the Teaching Record link. Upon seeing the screen in Figure 16, they immediately noticed the word ‘Get’ on the center button. In hope, they pressed it. What returned was a list of all courses taught by them, by semester with student enrollment data and a place to input their instructional score (see Figure 17).

Teaching Record					
2005-2006					
Course Name	Course Length	Hrs/ Wk	Hrs/ Term	Enrollment	Student Rating
<b>Fall</b>					
Cy plan 299	15	0	0	3	## /7
Infosys 299	15	0	0	2	## /7
Infosys 602	15	0	0	1	## /7
Course Name	Course Length	Hrs/ Wk	Hrs/ Term	Enrollment	Student Rating
<b>Spring</b>					
Cy plan 299	15	0	0	4	## /7
Ias 292	15	0	0	1	## /7
Infosys 190	15	2	30	13	## /7
Infosys 211	15	3	45	14	## /7
Infosys 290	15	3	45	13	## /7
Infosys 299	15	0	0	1	## /7
2004-2005					
Course Name	Course Length	Hrs/ Wk	Hrs/ Term	Enrollment	Student Rating
<b>Fall</b>					
Cy plan 299	15	0	0	3	## /7
Infosys 295	15	1.5	22.5	4	## /7
Course Name	Course Length	Hrs/ Wk	Hrs/ Term	Enrollment	Student Rating
<b>Spring</b>					
Cy plan 299	15	0	0	4	## /7

Figure 17: Pre-filled Teaching Record

They were elated and commented on how much time this would save. Providing this service, not only increased satisfaction from faculty, but instilled trust that they were being heard. It minimally saved 30 minutes/year per ladder-rank faculty and removed possibility of user-error caused from manually typing in the data.

### GradLink

GradLink is the database of record for graduate committee service. Any committee on which a professor has served will be listed here. The CTO of the Graduate Division was very willing to share his data as long as FERPA and other data stewardship policies were upheld<sup>5</sup>. He further asked for a formal letter of request from my sponsor stating legitimate educational interest and asked that I sign a data request agreement ensuring data stewardship policies (see Appendix). These were excellent choices and a sign of a maturing SOA model.

<sup>5</sup> Development of restricted data lists and requirements of what is/is not shareable is a necessary step to build a collaborative environment. See <http://rdm.berkeley.edu/>.

However, after permissions were granted to access the data, it was discovered that because no request of this nature had previously been made, their system contained no roles that offered less than full access to the data. One either had full modification rights or no rights at all. Again, it is not wrong, but a sign of an old model.

On behalf of FAST, the Graduate Division technical team expending great effort over several weeks to build a 'role' that could simply view their data. Unfortunately, it was received a week ago and could not be implemented in this phase of the project.

As SOA and collaborative data models evolve, many governance and policy issues will need to be addressed. Along with that, security and maintenance models will need to be designed to afford sharing and collaboration while maintaining security. This is a key strategic focus of the OCIO and should prove very fruitful.

### ***Conclusion***

The FAST prototype was very successful. The FAST user interface team spent significant time listening to faculty to assess their needs and, in doing so, built trust with them. Almost all faculty were guarded when interviews initiated, but as they heard the questions being asked and they verified that our goal was to build them a useful product, they became loquacious, insightful and hopeful.

Given their input, the user interface design strongly reflects the process of building a CV. It is built around the citation and does not require additional effort from the faculty to parse their data. Hopefully, future iterations will offer them a additional tool which enable them to build their own CV from aggregated data within FAST.

The teaching record is a functional web-based service which needs minimal faculty input. Given time restrictions, the service was built into the prototype, but the fields and labels need further research to determine what teaching data will best serve the faculty. It currently saves faculty significant time and effort, allowing them to focus on their scholarly efforts.

FAST project has a strong future. When these initial services are complete, these data will most likely find new and creative means of merging into even more useful efforts.

## ***Appendix***

1. Paper Bio-Bib Template (MS Word)
2. FAST Interview Schedule
3. Informed Consent Form
4. Records Release Form
5. Paper Prototype Interview Schedule
6. Interactive Prototype Interview Schedule
7. FAST User-Centered Design web pages can be found at <http://courses.ischool.berkeley.edu/i213/s07/projects/fast/>



# ANNUAL SUPPLEMENT TO THE BIO-BIBLIOGRAPHY

All information refers to the period July 1, \_\_\_\_\_ to June 30, \_\_\_\_\_

NOTE: INFORMATION CONTAINED IN THIS DOCUMENT IS OPEN TO ACCESS BY THE PUBLIC. (Copies of this Supplement will be maintained in the offices of the Chancellor, the Dean, and the department and are considered by the University to be non-confidential in nature and therefore subject to public inspection under the California Public Records Act.) Policy requires that reports be submitted annually by all faculty who are members of the Academic Senate, faculty whose appointments are in a title series equivalent to the Professor series (see Section 32-0, Academic Personnel Manual), and all academic or other administrators who hold an academic appointment in one of the above title series. If you need additional space, please attach extra sheet(s).

ACADEMIC TITLE \_\_\_\_\_

NAME \_\_\_\_\_ DEPARTMENT \_\_\_\_\_  
Last, First, Middle

## I. TEACHING (including University Extension teaching)

1. New courses devised and instituted

2. Systematic effort undertaken to improve instruction

3. a) Masters theses and projects chaired by you and completed this year (give names of students and titles of theses or projects and indicate whether Plan I or II)

b) Masters theses and projects completed this year on which you have served as second or third reader (give names of students and titles of theses or projects)

- c) Service performed this year as oral examiner for Master candidates (give names of students and name of department if other than your own)
4. a) Doctoral theses chaired by you and completed this year (give names of students and titles of theses)
- b) Doctoral theses completed this year on which you have served as second or third reader (give names of students and titles of theses)
- c) Service as oral examiner for doctoral candidates (give names of students and indicate whether qualifying or final exam)
5. Post-doctoral scholars supervised (give names, dates, and research topics)
6. Academic advising activities

7. Annual Teaching Record. Faculty in departments using numerical evaluations please list the department average for "overall teaching effectiveness" or "course worth".

Lower Division Courses:

Semester and Year	Course Number	Course Title	# of Units	Registered Enrollment (use OIR info)	Number & length of formal lectures and/or labs taught per week	Team taught courses: # of lectures & labs taught during semester	# of Students from whom evaluations are available for this course
-------------------	---------------	--------------	------------	--------------------------------------	--	--	---

Upper Division Courses:

Semester and Year	Course Number	Course Title	# of Units	Registered Enrollment (use OIR info)	Number & length of formal lectures and/or labs taught per week	Team taught courses: # of lectures & labs taught during semester	# of Students from whom evaluations are available for this course
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Graduate Courses:

Semester and Year	Course Number	Course Title	# of Units	Registered Enrollment (use OIR info)	Number & length of formal lectures and/or labs taught per week	Team taught courses: # of lectures & labs taught during semester	# of Students from whom evaluations are available for this course
-------------------	---------------	--------------	------------	--------------------------------------	--	--	---

## II. PUBLICATIONS, RESEARCH, AND OTHER CREATIVE ACTIVITY

List all research and creative accomplishments, including works of art, musical compositions, and other activities of this nature. Cite only items not previously submitted. Give a full bibliographical citation for each item, or an equivalent reference if the work being cited is not represented in the form of publications. (Do not submit any material that is in progress or in press). List separately publications for which you were supervisor but not co-author (indicate your role).

1. Refereed Publications, Archival Journals, Conference and Symposium Proceedings
  
2. Non-Refereed Publications, Technical; Reports, Conference and Symposia proceedings, Articles in Non-Archival Magazines or Journals, Book Reviews
  
3. Books
  
4. Other (e.g. Patents)

## III. COMMITTEE SERVICE

1. Committees of the Academic Senate
  
2. Administrative Committees

3. College, department of other University committees

#### IV. PROFESSIONAL ACTIVITIES

Report the type of organization and the type of service(s) performed; include only activities related to your academic specialty that involved agencies other than the University or programs not administered through the University. You need report only activities during the period of your appointment, but if you wish you can include relevant activities during summer (if you have a 9-month appointment) and vacation during the summer.

1. Invited lectures, papers at meetings, and similar activities
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
2. Service as an editor or reviewer for scholarly journals or other publications
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
3. Service to scholarly or professional societies (e.g., officer or committee member)
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
4. Service to educational or governmental agencies (includes committees, panels, or commissions established by governmental agencies from the local to the international level)

5. Service as an expert witness for administrative, legislative, or judicial hearings
  
6. Service in the fine arts (includes commissions or participation in artistic events not sponsored by the University)
  
7. Practice of a profession on a part-time basis
  
8. Provisions of professional, managerial, or technical assistance to clients, private corporations, non-profit organizations, or various levels of governmental agencies (including foreign governments)
  
9. Efforts made in support of the University's Affirmative Action goals

V. SPECIAL APPOINTMENTS

Administrative posts (e.g., department officer, director of organized research unit, principal investigator)

VI. AWARDS

1. Prizes, honors, commendations

2. Fellowships and extra-mural grants

VII. SERVICE TO ELEMENTARY AND/OR SECONDARY EDUCATIONAL INSTITUTIONS

VIII. OTHER (e.g., optional information about community service)

---

I have filled out the above items or have reviewed them for accuracy.

---

Signature

Date

## FAST Interview Schedule

Eunice Chang, Rich Meyer, and Dondrea Thompson

### Interviewer checklist:

- Consent and video/audio release forms
- Copy of current Bio-Bib form used by interviewee's department (Psychology, Art Practice, or Law).
- Video recorder
- Tape recorder

### Purpose of Interview:

The name of our project is the Faculty Advancement Support Technology, or FAST. Sponsored by Offices of the CIO and Academic Affairs and Faculty Welfare at UC Berkeley, we are working to improve the current paper report entitled the Annual Supplement to the Bio-Bibliography (or Bio-Bib). Currently, you are required to submit an extensive paper report documenting your efforts and achievements for each academic year. Our goal is to build an electronic interface that could reduce the effort and cost of this process. In order to best serve the needs of the faculty, we are interviewing professors in several different departments in order to gain an understanding of the experiences, expectations, and needs associated with producing this Bio-bib report.

### Consent form:

We ask that you complete a consent form detailing your participation in this interview. Please read it over, ask me any questions you might have, and sign it before we begin. Also, we would like to videotape this session so that we can confirm our notes and observations. These videos will be used for design assessment and possibly as part of a report presentation. If you agree to this, please sign the records release consent form.

### Interview format:

During this interview, I will both ask you about your experience with the Bio-Bib report, as well as observe you performing some tasks related to completing it. This will broaden our understanding of how professors prepare and complete the report. The interview will last no longer than one hour, but please let me know now if you need the interview to end at an earlier time so that we can accommodate you.

1. Demographic information		
a.	Formal title	
b.	Department	
c.	Years at Cal (equivalent to quantity of Bio-bibs?)	



d.	Complete every year? Why or why not?	
<b>2. Logistics</b>		
a.	What date you begin completing your Bio-Bib?	
b.	Can you walk me through the process step-by-step? <ul style="list-style-type: none"> <li>- Notification</li> <li>- Obtaining the form</li> <li>- Where do you get data that you input in the report (and how do you know what to keep)?</li> <li>- Who do you submit it to?</li> <li>- By when?</li> </ul>	
c.	Can you estimate how much time you spend preparing and completing the report?	Preparation: Completion:
<b>3. Experience/Satisfaction</b>		
a.	Last time you filled out the Bio-Bib did it adequately reflect your efforts and achievements? <ul style="list-style-type: none"> <li>- Why?</li> <li>- What did you like?</li> <li>- What didn't you like?</li> <li>- What is missing?</li> </ul>	
b.	Can you describe a problem you had completing the Bio-Bib? <ul style="list-style-type: none"> <li>- What did you do to resolve it?</li> </ul>	
c.	From your experience, what are the 3 most problematic things about completing this report (i.e. pain-points)?	
d.	What do you consider the most time-consuming tasks?	
<b>4. Goals and usefulness</b>		

a.	When you are writing this report, who do you see as your intended audience?	
b.	Officially, when you submit the Bio-Bib, it becomes a public document. Would you personally post this online or to your website? - Why or why not?	
c.	Have you ever worked at a different institution where you had to fill out a similar report? - If so, did you have a similar experience?	

## FAST Task Analysis

<b>Task #1: Teaching</b>	
How would you go about completing the courses for Fall 2006? Please input the information for one course that you taught.	
If you didn't have all of the information you needed, how would you go about obtaining it (i.e. number of enrolled students)?	

<b>Task #2: Mentorship</b>	
Show me how you would go about completing the information for one student you have advised.	
If you didn't know something (like thesis title), how would you go about obtaining this information?	

<b>Task #3: Publications</b>	
Please input a publication or creative work	<i>Note to Interviewer: Do they format? Copy and paste?</i>
Can you show me where you keep your comprehensive list of publications?	

<b>Task #4: Professional Service</b>	
Please input a society or committee that you serve on.	<i>Note to Interviewer: Do they format? Copy and paste?</i>

## Statement of Informed Consent

A group of graduate students in the School of Information Management and Systems at UC Berkeley are conducting studies to assess the effectiveness of an online version of the faculty Bio-Bibliography form.

If you volunteer to participate in this study, you will be asked to answer some questions and use a computer to conduct three to five short and simple tasks using current and/or future versions of the bio-bibliography form. Questions may be asked before, during and after completion of the tasks. With your written permission, your interactions with the computer and form will be recorded on video, audio and/or with still photographs.

There are no benefits to you for participating, other than what may be an educational experience in using some new faculty advancement support technologies. We hope that the research will benefit faculty by shortening the form completion time by improving satisfaction of the overall process. This research poses no risks to you other than those normally encountered in daily life. All of the information from your session will be kept confidential and be referred to by an ID number. The correspondence between your name and ID number will be kept confidential and treated with the same care as our own confidential information. We will not name you if and when we discuss your behavior in research publications. After the research is completed, we may save the notes for future use by ourselves or others. However, this same confidentiality guarantees given here will apply to future storage and use of the materials.

Your participation in this research is voluntary, and you are free to refuse to participate or quit the experiment at any time. Whether or not you chose to participate will have no bearing in relation to your standing in any department of UC Berkeley. If you have questions about the research, you may contact Professor Marti Hearst at 510-642-1464, or by electronic mail [hearst@sims.berkeley.edu](mailto:hearst@sims.berkeley.edu). You may keep a copy of this form for reference.

If you accept these terms, please sign below:

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Records Release Consent Form

As part of a research project on Faculty Advancement Support Technologies, which is developing an online version of the bio-bibliography form, we are making a photographic and/or video or audio recording of the operations you perform with one or more interfaces to computer systems. We would like you to indicate below what uses of these records you are willing to consent to. This is completely up to you. We will only use the records in ways that you agree to. In any use of these records, your name will not be identified.

Please initial all those statements that you agree to.

The records can be studied by the research team for use in research reports. \_\_\_\_\_

The records can be shown to subjects in other experiments. \_\_\_\_\_

The records can be used in scientific publications. \_\_\_\_\_

The records can be shown at meetings of scientists interested in the study of human-computer interaction and information access. \_\_\_\_\_

The records can be shown in public presentations to nonscientific groups. \_\_\_\_\_

I have read the description and give my consent for the use of the records as indicated above.

Name (printed): \_\_\_\_\_

Signature: \_\_\_\_\_ Date \_\_\_\_\_

## **FAST Paper Prototype Schedule**

### **Introduction:**

- The name of our project is the Faculty Advancement Support Technology, or FAST. With the support of the Office of the CIO for UC Berkeley, we are working to improve the current paper report entitled the Annual Supplement to the Bio-Bibliography (or Bio-Bib). Currently, you are required to submit an extensive paper report documenting your efforts and achievements for each academic year. Our goal is to build an electronic interface that could reduce the effort and cost of this process. In order to best serve the needs of the faculty, we are interviewing professors in several different departments in order to gain an understanding of the experiences, expectations, and needs associated with producing this Bio-bib report.

### **What we will ask you to do:**

- During this interview, we would like to ask you to complete 5 tasks using a paper prototype of our Bio-Bib interface. We will present you with a task and a scenario, and then ask you to walk us through how you would go about completing a specific task. Since we are using paper prototypes, you can just indicate what you WOULD do if this were online, and we will act as the computer by showing you what would appear next on the screen.
- We want to emphasize that it is our interface that we are testing, NOT you. There are no incorrect answers. If you don't know how to do something, this is important feedback for us because it is likely that many other people will have similar problems. We would like your honest and open feedback, since this is just a first draft and that we are not married to any specific design implementations.
- Additionally, we ask that during all the tasks, you do your best to "think out loud." This helps us to understand what you are thinking about as you are using our system, and also helps us see where flaws in our system lie.

### **Consent Forms:**

- We ask that you complete a consent form detailing your participation in this prototype test. Please read it over, ask us any questions you might have, and sign it before we begin. Also, we would like to videotape this session. If you agree to this, please sign the records release consent form.

### **Pre-test questions:**

1. What is your name and function? Within which department do you work?
2. Can you briefly describe the nature of your work?
3. Have you ever filled out the Bio-bib form? If so, how many times?

### **Task 1:**

Imagine that you are a Professor of Law at Boalt named Alison Randall. You published 3 articles in the 3 years, and would like to enter this information into your Bio-Bib form for your upcoming review. Start by using the information below to enter information into the Bio-Bib form. Note that you are the primary author of the article, and your colleague Mark Lund is the secondary author.

Randall, A. & Lund, M. (2005). Trademark Law in the 18<sup>th</sup> Century, *Harvard Law Review*, 23(3), 150-164.

**Task 2:**

After you finish entering the information for your Harvard Law Review article, you realize that you accidentally misspelled your own name! Add a letter "l" to your name in order to correct the spelling to "Allison," and resubmit the article to your Bio-Bib.

**Task 3:**

Assume that you have already entered your three articles into the Bio-Bib, and you would now like to enter a different type of publication. Last year, you wrote a chapter titled "From Racine to Beaumarchais: Following the Barber," for a book titled "European Dramaturgy in the Eighteenth Century." The co-editors of the book are Paul Norman and Janet Jewell. This book has been accepted for publication by the Yale University Press in New Haven, Connecticut, but is currently in press. Please enter this publication information into the Bio-Bib.

**Task 4:**

Last year, you served as an expert witness for a judicial hearing on employment discrimination. Please enter this information into the Bio-Bib.

**Post-Test Questions**

1. What were your general feelings about the interface?
2. If you had the choice of using the current Bio-Bib form or this software, which would you pick? Why?
3. Let's revisit the journal entry page for a moment. Was it confusing to have the author field first, or would you have preferred it to come later?
4. Do the names of the tabs seem clear to you? If we were to provide tips or examples, where would you want those to be?

Thank you very much!

## **FAST Pilot Usability Schedule**

Eunice Chang, Rich Meyer, and Dondrea Thompson

### **Interviewer checklist:**

- Consent release forms
- Copy of current Bio-Bib form used by interviewee's department.
- Usability Test Script
- Task Sheets

### **Purpose of Usability Test:**

The name of our project is the Faculty Advancement Support Technology, or FAST. With the support of the Office of the CIO for UC Berkeley, we are working to improve the current paper report entitled the Annual Supplement to the Bio-Bibliography (or Bio-Bib). Currently, you are required to submit an extensive paper report documenting your efforts and achievements for each academic year. Our goal is to build an electronic interface that could reduce the effort and cost of this process. We are testing out a version of the online Bio-Bib system that we have developed, in order to see where we need to make further improvements.

### **Consent form:**

We ask that you complete a consent form detailing your participation in this interview. Please read it over, ask me any questions you might have, and sign it before we begin. Also, we would like to videotape this session so that we can go back and check our notes, and possibly share some of the interview with others. If you agree to this, please sign the records release consent form.

### **Usability test format:**

During this informal usability test, I will ask you to complete a set of tasks using an online version of the Bio-Bib that is currently under development. I will simply observe you performing these tasks, and then follow up with some questions about how you felt using the online system. This session should last no longer than one hour, but please let me know now if you need the interview to end at an earlier time so that we can accommodate you.



## Background Information

a.	Formal title	
b.	Department	
c.	Years at Cal (equivalent to quantity of Bio-bibs?)	
d.	Complete Bio-Bib every year? Why or why not?	
g.	How many years as a professor?	

## Task Analysis

<b>Task #1: Starting a New Bio-Bib</b>	
<p>Imagine that you have just been asked by the chair of your department to complete your Bio-Bib for the 2005-2006 reporting period. You decide to complete the form online this year, using the new online Bio-Bib system you have heard about.</p> <p>You open the email from the department secretary that contains website address to the online system, and click on the link. This is the page that you first see.</p> <p>Please complete the task of starting a new Bio-Bib.</p>	<p><i>What is their reaction when first seeing the online Bio-Bib system?</i></p> <p><i>Do they make any errors in creating a new Bio-Bib?</i></p> <p><i>Do they seem confused by the structure of the system?</i></p>

<b>Task #2: Entering a new publication</b>	
<p>Please add one of your own publications into this Bio-Bib, and ensure that it is accurately recorded.</p>	<p><i>What do they use to store their bibliographic data (e.g. electronic CV, Bib-tech file)?</i></p> <p><i>Do they cut and paste from their bibliographic data file, or do they re-type the information?</i></p> <p><i>How long it take to enter the publication into the required format, and save?</i></p> <p><i>Do they preview/not preview before submitting changes?</i></p> <p><i>Are any of the entry fields confusing to them?</i></p> <p><i>Do they make any errors?</i></p>

**Task #3: Entering a 2nd publication**

Now, please add a second publication into this Bio-Bib, and ensure that it is accurately recorded.

*Is the system easy to learn?*

*Time how long it takes to enter second publication (was it faster than the first time around)?*

**Task #4: Deleting a previously saved publication**

After entering two publications, you realize that you have made a mistake. You remember that the first publication you entered was already entered into the last Bio-Bib that you submitted. Please delete the first publication that you entered.

*Is the confirmation page intuitive?*

*Are they able to see the “delete” link? How long does this take?*

**Task #5: Saving and editing a draft**

Please logout of the system, and log back into the system to continue working on the Bio-Bib for 2005-2006.

*Are they able to find the logout button? How long does it take?*

*Do they express concern about saving changes before logging out?*

*When they log back into the system, are they able to locate their current draft? How long does it take?*

**Task #6: Entering teaching record**

Now, please enter your teaching record for 2005-2006.

*Are they easily able to find the “teaching record” link and have the system fill their information? How long does it take?*

*What is their response to seeing their teaching record filled-in by the system?*

## FAST Follow-Up Interview

<p>On a scale of 1 to 5, with 1=very unsatisfied 2=unsatisfied 3=neutral 4=satisfied 5=very satisfied</p> <p>How would you describe your experience with the online Bio-Bib?</p>	
<p>Would you want to use this tool? Why or why not?</p>	
<p>Did you find anything particularly frustrating? If so, what?</p>	
<p>Did you find anything particularly helpful? If so, what?</p>	
<p>How do you feel about the look and feel of the system?</p>	
<p>Is this faster than how you typically complete the Bio-Bib?</p>	
<p>How do you think we could improve the design of the system?</p>	

## Brief Demographic Questions:

Completion of this questionnaire and each question within is **voluntary**.

1. What is your age?

24 - 35

36 - 49

50 - 64

65 - 74

75 - 80

2. What is your gender?

Male

Female

## **FAST Data Request Agreement**

Dear,

Your organization has requested access to data that reside in the Graduate Division database system in order to support the Faculty Advancement Support Technology (FAST) project, specifically to gain view-only access to professor committee data. So that we can provide this access, your organization must follow guidelines to ensure that the information is protected and used only for the stated purpose. The following guidelines have been excerpted from the UC Berkeley campus policy Data Management, Use and Protection (<http://datasteward.berkeley.edu>, especially the sections describing the responsibilities of "Data Integrators" and the section titled "Outsourced Data").

You are agreeing to:

- Comply with all UC Berkeley policies, procedures, standards, and guidelines related to information privacy and security, as well as applicable federal and California law.
- Enforce access and security requirements that suitably protect the sensitive data contained in the UC Berkeley file. Because the data contained in the file are restricted and confidential, the level of protection is expected to be very high and must include physical security. Once data are used in production mode, file system encryption and an audit/log system for data access must be in place.
- Protect this restricted data from unauthorized use or publication.
- Protect restricted data from inadvertent and unauthorized access during transmission or downloading.
- Upon completion/termination of the project, [either] destroy any restricted data stored by your organization [or request renewed permission to use restricted data.]
- If the data are aggregated with other data sources, perform a risk assessment to determine the sensitivity of and associated security requirements for the newly integrated data. An evaluation of the individual data elements, aggregated data, and data system security management should be included in the assessment.
- As a result of the risk assessment, institute additional access and security requirements for the integrated data as needed, meeting the minimum security requirements identified by UC Berkeley at all times.
- Obtain additional approval from the Graduate Division if you intend to distribute the data to other parties.
- Obtain additional approval from the Graduate Division if you intend to go beyond the specified scope for which the data was originally released.

Additional approvals or requests for information may be forwarded to Judi Sui (Director of Data and Financial Resources) or Chris Hoffman (Director of Information Systems).

Sincerely,