Aggie Experts–Integrate, Find, Reuse

Project leader(s)

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Team members

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Project summary

Aggie Experts showcases the breadth and depth of UC Davis scholarship. Exploring Aggie Experts sparks new ideas and connects scientists and scholars across fields of expertise to work together on novel interdisciplinary research. Aggie Experts is a work-reducer–it integrates data from multiple silos and makes them available in easy-to-reuse formats, freeing time that would otherwise be spent on the drudgery of duplicative, error-prone, manual data entry in multiple locations.

Problem Statement

Aggie Experts addresses two seemingly different key problems: the need for manual re-entry of scholarship information and discovery of expertise at the university. UC Davis is a major research university with a broad scholarship portfolio. It also has well-recognized unique areas of research and teaching, such as the agricultural sciences, a highly-regarded viticulture and enology program, and a world-class veterinary school, among others. Portraying the breadth and depth of the vibrant academic work happening at UC Davis is a challenge.

Another, seemingly disparate problem, is redundant data entry work. Faculty are asked to input their grants, publications and other contributions to their fields–all of which are considered public data–on their departmental, institute and center websites, into MyInfoVault (MIV) for promotion and tenure reviews, and for new initiatives and programs. Given that today it takes a single click to share a blog post or a video on numerous platforms, faculty still having to manually move

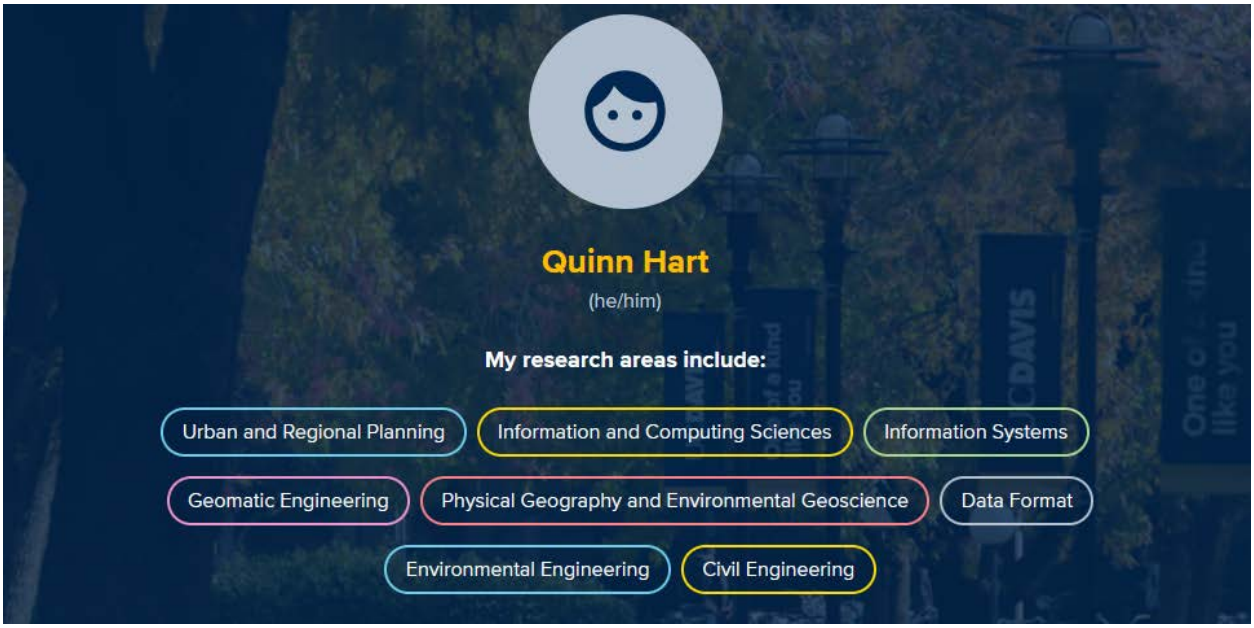
their scholarship record around is outdated, especially when those data are public, and already exist in university databases.

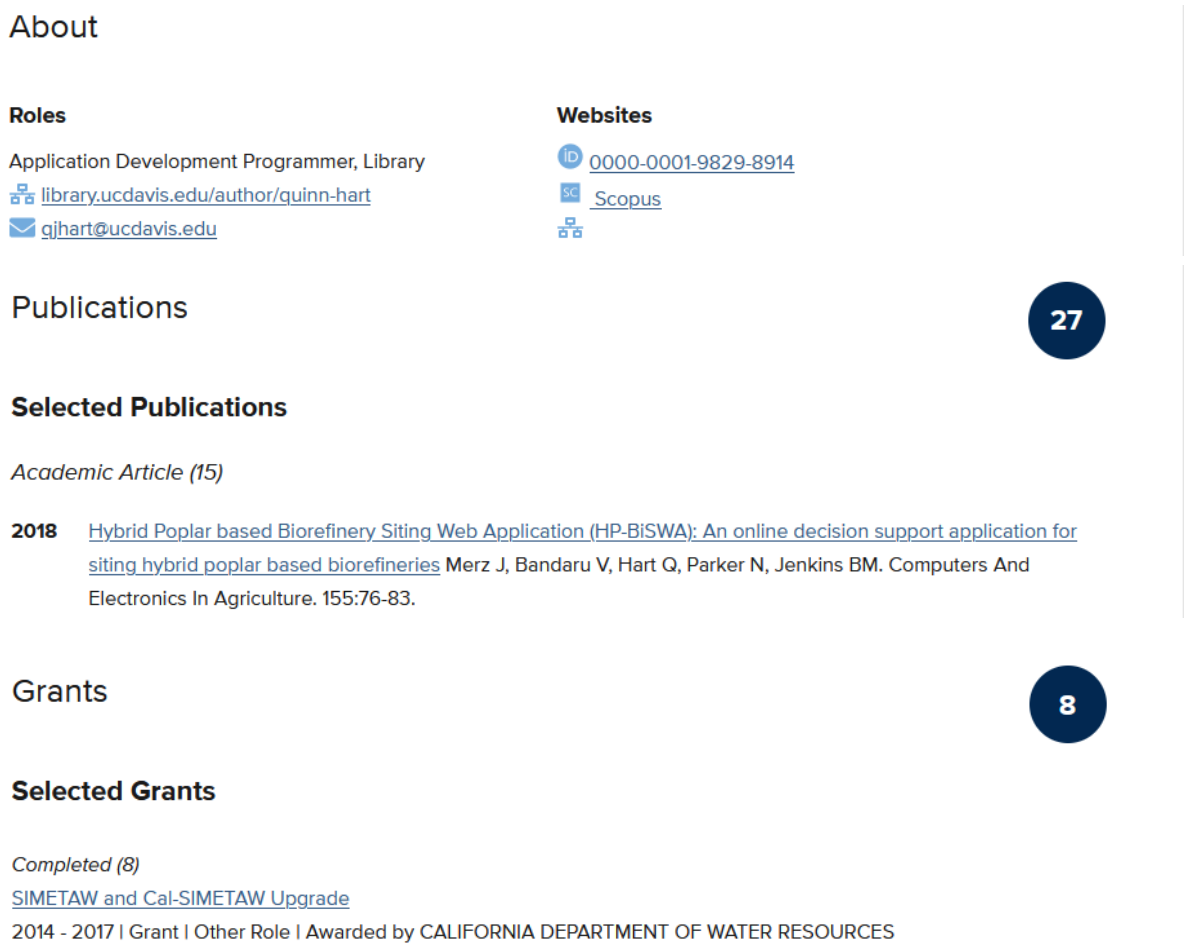
Solution

The two problems have a single solution. The University has a large variety of siloed sources to describe the research and scholarship happening on campus, and a number of initiatives to showcase and promote it. Our approach was to normalize and integrate those sources into a single platform and make the data reusable. This way Aggie Experts provides sustainable stewardship of information about university scholarship, and reduces administrative workload on faculty and their assistants. The platform also supports the university's research mission by enabling expertise discovery for collaborations.

To create the faculty profiles we ingested name and affiliation data from IAM, publication data from the UC Publication Management System and grant data from the UC Davis financial system. We reformat the publication data, so that they are available for export in a widely-used RIS file format. We prepared the grant data, so that the MIV team can create an import workflow for them.

The figure below displays the different sections of an Aggie Experts user profile. Quinn Hart's profile features research areas based on his publications, his title, affiliation and websites associated with his work, and an example of how publications and grants appear on his profile. Aggie Experts is accessible online, but at the current time requires UC Davis authentication.





About

Roles

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Websites

0000-0001-9829-8914
Scopus

Publications 27

Selected Publications

Academic Article (15)

2018 Hybrid Poplar based Biorefinery Siting Web Application (HP-BiSWA): An online decision support application for siting hybrid poplar based biorefineries Merz J, Bandaru V, Hart Q, Parker N, Jenkins BM. Computers And Electronics In Agriculture. 155:76-83.

Grants 8

Selected Grants

Completed (8)
SIMETAW and Cal-SIMETAW Upgrade
2014 - 2017 | Grant | Other Role | Awarded by CALIFORNIA DEPARTMENT OF WATER RESOURCES

Collaboration

We would like to acknowledge two teams that have been amazing partners. We have been working closely with Alainna Wrigley and Mahjabeen Yucekul at the California Digital Library (CDL), benefitting from their deep understanding of the UC Publication Management System. They also provided support with the programmatic access to the data in their system and consulted with us on additional features that would be helpful in our work. The CDL team is interested in increasing the reuse of the publication data that they steward in support of the UC-wide Open Access policy. Their interest is closely aligned with our goal to reduce administrative loads and our commitment as a Library to support Open Access activities and practices.

Brian Darnell, Stephen Paulsen and Kristin Kazamaki from the MyInfoVault team have been valuable strategic collaborators in the efforts for data reuse. They have incorporated an upload workflow for RIS files, so publication data from Aggie Experts can be reused further. They also have also been working with us on a grant data uptake into MIV from Aggie Experts.

Governance

The Aggie Experts roadmap is driven by stakeholder needs. The project Faculty Advisor Board consists of faculty from different units on campus. A number of the faculty on the board also hold administrative positions and are able to convey priorities for both. When we were deciding on the functionalities to develop at the beginning of the project, our Board prioritized the import of data into MIV. As we developed the platform further, we consulted the faculty in different departments on usability, data field and functionality preferences, and incorporated their feedback into our decision-making process.

We also have an internal council that consists of representatives from units from the library involved in scholarly communications, researcher support and cataloging, and from the Office of Research.

Success Measures

Aggie Experts is designed to solve two problems, and the success measures we chose measure stages of progress towards achieving those goals. To decrease the administrative burden of repetitive data entry, Aggie Experts' data need to be accessible and reused. Therefore, we measure the integrations we have with different systems to repurpose the data stored by the application. In other words, we measure types of data going in and types of data going out.

The goal of facilitating collaboration will be measured by the number of new collaborations started or searches aided through the platform. The prerequisites for more collaboration discoveries are including more users with more comprehensive profiles (i.e. increasing amount of data and data types in the system) and increasing traffic in search.

Impact

The application is designed to advance the research mission of the university through enabling collaboration discovery, and through reducing administrative burden of researchers so they can dedicate more time to their scholarship. At this stage of the project we measure impact through the number of profiles we have created in the system, number of incorporated data sources and number of data reuse options created through Aggie Experts. Each integration and export option represents the potential reduction of an administrative burden. At this time Aggie Experts hosts 352 profiles, containing a total of 15919 publications and 3669 grants. It incorporates data from three university systems: the UC Davis Identity and Access Management, the UC Davis Financial System, and the Publication Management System at CDL. Publications can be exported through a RIS file and imported into either MIV or into a citation manager such as EndNote or Zotero. The MIV team is implementing the import of grants.

Once we incorporate faculty scholarship from another school into the platform, we will start measuring collaboration impact. After removal of CAS, it will make sense for us to start monitoring page visits.

Innovation

Aggie Experts is the first service on the UC Davis campus that is created to reuse scholarship data, addressing two problems at once–redundant data entry required of faculty, and expertise discovery for collaboration. It is also a research information management platform intended for the entire campus, and this goal guides our design and product requirements.

As everyone, we are benefitting from the work of others. We would like to acknowledge that IAM is used as a data source in multiple university systems. In Aggie Experts we are taking this example further as a template for all data we import. We are learning from comparable projects in this space–particularly from Scholars at Duke University, as well as Opus at UCLA and Profiles at UCSF. We have added to this work by creating an application with a novel, user-friendly interface, a focus on repurposing existing resources, and integration of local data, while deliberately thinking through data reuse, visibility controls and user experience. Aggie Experts' purposeful synthesis of open source and system- and campus-wide licensed products demonstrates our commitment to resource stewardship and sustainability. The development work we do is intended for reuse, and our code is available on the UC Davis Library GitHub.

Technology

All data are transformed into linked data and stored in an open source graph database (Fuseki Jena). We employ linked data because it enables complex queries of our data structures and the ability to expand the data types as the project grows. ElasticSearch is used for indexing and data discovery. We use the open VIVO schema to model the data, with the intent that eventually instances of researcher profiles at other institutions utilizing VIVO can be accessed via federated search.

Timeframe of Deployment

Aggie Experts development started in 2020, and we just completed the pilot phase with the College of Engineering. The platform requires CAS authentication, and can be accessed and searched by UC Davis affiliates.

We have communicated that the platform is intended to be publicly accessible. We are in the process of introducing visibility controls over grant data. After they are implemented, we will communicate with our users about our intended public release date, leaving sufficient time for them to adjust their visibility settings.

In the fall we will proceed with adding the next School/College to the platform, and expand the system to include patents. We are fully aware that most scholarship data do not reflect work done in the arts and humanities, and our roadmap includes investigating pathways to ensure faculty in those fields are adequately represented. Full inclusion of the entire campus will take more time, and the platform will continue to evolve over the next couple of years. Nonetheless, the pilot phase has been completed, and we consider Aggie Experts to be in production.