INDIANA UNIVERSITY

70a – IT Research – Community Source

Action Item Template Response

General Action Item Information

Lead Division/Office: Enterprise Software
Acton tem Number: 70a
Action Item Short Name: IT Research - Community Source
Dependencies with other EP Action Items:
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I.   DESCRIBE YOUR PLANS FOR IMPLEMENTING THIS ACTION.

Empowering People speaks of seeking "a few specific opportunities where focused investment from IU could help accelerate existing strengths to more quickly advance them than through natural evolution," and focusing on "a few highly promising opportunities for which it has skills, knowledge, and reputational advantage to push the frontiers of IT-enabled research and scholarship."

Indiana University has skills, accomplishments, a base of existing grant funds, and tremendous reputational advantage in the area of community source software development – so great, in fact, that VP Brad Wheeler received funding support from the NSF to hold a workshop attended by national and international leaders in software development to identify strategies in software sustainability. The idea to convene such a workshop at IU was specifically based on IU's strength in community source software. IU also played a pivotal role in informing the US Patent Office prior to their reversal of a patent awarded to Blackboard Systems, Inc., in which Blackboard Systems attempted to patent ideas that IU had developed, implemented, and talked about as part of the educational IT research community years before Blackboard filed a patent application on these topics.

This plan calls for expanded support for research, development, and deployment of a suite of community source software that will continue to advance IU's strength and leadership in community source software, and as a result may revolutionize several areas of critical software technology and practice widely used in the US and internationally.

Specific areas of focus include:

Area	Project	Value
Research Administration	Kuali Coeus	KC is based on MIT's Coeus system, which is one of the first and only "cradle-to-grave" research administration systems. KC aims to provide the same ERP-like functionality to research administration functions on a new and fully open source technical implementation.
Financial System	Kuali Financial System Development & Support	KFS is based on IU's FIS system, a robust financials package for all Carnegie Class higher education institutions.
Human Resources & Payroll	Kuali HR Payroll	Kuali HR Payroll is a community source project leveraging existing HR and Payroll solutions as the functional basis for an enterprise HR Payroll solution that will be available as open source.
Timekeeping	USC & IU Timekeeping Initiative	The University of Southern California and Indiana University are partnering to re-engineer IU's Timekeeping system to adhere to Kuali architecture. The resulting software will be made available as open source to higher education institutions seeking a robust and scalable time and attendance system.
Travel Management Systems	Kuali Travel System	There has been a lot of interest in a collaborative project among Kuali investors around a travel management system. IU has recently implemented a J2EE-based travel system that could serve as a basis for the Kuali Travel System functionality. Travel operations provides another opportunity to serve higher education in an area that is lacking in adequate vended solutions.
Learning Management	Sakai Course Management System	IU is a founding member of the Sakai community source project. We are active on the Board as well as the Product Council and are a core contributor to this development effort. As such we devote development hours each year to maintenance and enhancement to further the development of this system to meet the needs of IU as well as the community at large.
Library Systems	Open Library Environment	The Kuali Foundation, Inc., announced the approval of the Kuali Open Library Environment (OLE) to develop software created specifically for the complex business management and workflow operations of academic and research libraries. This represents another important community source project by higher education, for higher education. This initiative will enable libraries worldwide to join a community dedicated to pioneering library capabilities to manage their increasingly digital resources and collections.

Kuali Coeus

Kuali Coeus (KC) is being developed by multiple partner schools, including IU. IU has been a core partner since project inception in 2007. KC development is being overseen by the Kuali Foundation. The Kuali Coeus project plan is split into four distinct releases focusing on major aspects of a research administration system. KC is based on MIT's Coeus system, which is one of the first and only "'cradle-to-grave" research administration systems. KC aims to provide the same ERP-like functionality to research administration functions as Coeus has provided on a new and fully open source technical implementation.

The KC development project's four releases include additional high-level milestones, among them a release to attain complete functional equivalence with the existing Coeus functionality. IU's contribution to the project of developers, lead developers, and development managers, depending on the phase and deliverable, makes IU one of the most active partners in development.

Kuali Financial System

IU contributes development hours each year as part of IU's sustaining partner contribution for ongoing development and support of the Kuali Financial System.

Kuali HR Payroll

The mission of this project is to collaborate with higher education institutions to develop and sustain a Kuali system for enterprise-wide Human Resources/Payroll for higher education. This system will be developed adhering to the Kuali licensing guidelines, and use the Kuali middleware, infrastructure, tools and processes.

Key Objectives

1. Develop and deliver a system that delivers the following functionality:

Phase 1
- PayCalc Engine. This is the core rules-based engine that calculates payrolls, taxes, etc., for all types of employees, faculty, student workers, and so on.
- Business Processes (transactions). These processes feed the HR/Payroll biographic and organization data required to run payroll. It is expected that Indiana will contribute its "e-docs" as a basis for this component.
- Position Management. These processes are required to do basic position management that most institutions need.
- Time and Attendance. These processes record synchronous and asynchronous timekeeping for all types of employees. It is expected that the system being developed by USC and Indiana will serve as the basis for this component.
- Benefits Administration for Payroll Processing. This focuses on the components of benefits administration required to run payroll.
- Additional Financial Component. This will allow financial transaction changes currently embedded in many payroll systems that may not be available to an implementing institution within their financial system.
- Rice Technology Components. This system would use the current and future Rice middleware technologies of Kuali. This includes Kuali Enterprise Workflow, Kuali Service Bus, Kuali Identity Management, Kuali Enterprise Notification, and Kuali Nervous System. This system would also take advantage of all the tools and infrastructure that currently exist with Kuali Rice.
- Employee Self-Service and Distributed Transactions. The system will deliver employee self-service components and the ability for payroll processing to occur in a distributed environment.

Later Phases

- Benefits Administration
- Talent Management
- Applicant Tracking
- Training Administration
- Other modules
- Additional future enhancements

2. Design the system so that the components are modular and interoperable. These modular components may then be implemented or integrated with other systems, or they can be phased in.

3. Ensure the system is sustainable over time. Compliance updates, including multi-state compliance, will be required on a regular basis. Enhancements that institutions will desire must also be considered.

USC & IU Timekeeping Initiative

Partner with the University of Southern California (USC) to implement the IU-developed TIME system at USC. Indiana University and USC will work together to make improvements and changes to the existing IU system so that it may be implemented at USC. This is the first step in making the TIME system an "open" system that can be used by multiple institutions. Through this collaboration, IU hopes to gain improvements in the current system, using the resources provided by USC. As this partnership develops, IU hopes to gain the added benefit from sharing system improvements developed by both institutions.

Kuali Travel Management System

The mission of this project is to collaborate with higher education institutions to develop and sustain a Kuali Travel Management System for enterprise-wide administration of higher education travel activities. This system will be developed adhering to the Kuali licensing guidelines, and use the Kuali middleware, infrastructure, tools and processes.

Sakai Course Management System

IU is a founding member of the Sakai community source project. We remain active on the Board as well as the Product Council and remain a core contributor to this development effort. As such we devote development hours each year to maintenance and enhancement to further the development of this system to meet the needs of IU as well as the community at large.
In addition to the ongoing maintenance and enhancement of the current code base, the Sakai community is also embarking upon a major redevelopment effort, known as Sakai 3, to revamp the kernel technology, apply web 2.0 technologies and principles to the user interface, and implement fundamental functionality redesign. The community is looking to the core schools to carry the biggest portion of this development effort. As such IU has been asked to make a significant contribution to this effort in addition to our ongoing development efforts for release 2.7 slated for release next spring.

The areas in which we hope to contribute are:

- Major enhancements to Sakai 2.7
- Assisting with Project Planning for Sakai 3.0
- Leadership for 2.x to 3.0 migration strategy and development
- Assisting with User and Group management in 3.0
- Development of Simple Course Management for 3.0

- Leadership in the Redevelopment of Assignments for 3.0
- Assisting in the Redevelopment of Gradebook for 3.0

Open Library Environment

The Kuali Foundation, Inc., announced the approval of the Kuali Open Library Environment (OLE) to develop software created specifically for the complex business management and workflow operations of academic and research libraries. This represents another important community source project by higher education, for higher education. This initiative will enable libraries worldwide to join a community dedicated to pioneering library capabilities to manage their increasingly digital resources and collections.

More than 300 libraries, educational institutions, professional organizations, and businesses participated in some phase of planning for the OLE project, which was supported by a planning grant from the Andrew W. Mellon Foundation and led by Duke University. Based on that broad input, OLE will create a next-generation library system that breaks away from print-based workflows and reflects the changing nature of library materials and new approaches to scholarly work. The project is designed to work well with other enterprise systems and to be easily modified to suit the needs of different institutions.

Kuali OLE partners include Indiana University (lead); Florida Consortium (University of Florida representing Florida International University, Florida State University, New College of Florida, Rollins College, University of Central Florida, University of Miami, University of South Florida, and the Florida Center for Library Automation); Lehigh University; Triangle Research Libraries Network, represented by Duke University and North Carolina State University; University of Chicago; University of Maryland; University of Michigan; and the University of Pennsylvania.

II. WHAT ARE THE POLICY AND PRACTICE IMPLICATIONS OF YOUR PLANS?

No policy or practice changes are required.

III. IDENTIFY STAKEHOLDERS.

Kuali Coeus

- Office of the Vice President for Research Administration
- IU schools and departments seeking external funding for research
- The Kuali community

Kuali Financial System

- Financial Management Services
- University Budget Office
- Purchasing & Accounts Payable
- All IU faculty and staff
- The Kuali community

Kuali HR Payroll

- University Human Resources
- Financial Management Services
- Dean of Faculties and Academic Affairs
- All IU faculty and staff
- The Kuali community

USC & IU Timekeeping System

- Payroll
- University biweekly staff on all IU campuses
- University of Southern California Payroll office and biweekly staff
- The Kuali community

Kuali Travel Management System

- IU faculty, staff, and students travelling on university business
- Travel Management Office
- The Kuali Community

Sakai Course Management System

- Students and faculty at Indiana University
- Other institutions that are members of the Sakai community.

Open Library Environment

- Students, faculty and librarians at Indiana University
- Other institutions that are members of the Sakai community and Higher Education Library Information Systems community.