The Value of a Common Foundation: The Case for Apereo

Jasig-Sakai Joint Working Group
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Introduction

Over the last ten years, open source solutions have become a major force in helping to address a range of challenges facing higher education. Yet open source initiatives in education remain fragmented, with not-for-profit entities proliferating to serve a diverse range of communities and solutions. Recognition of diversity is essential. It has emerged as a key value of the proposed Jasig-Sakai merger. There is clearly no one "correct" solution to the governance of software communities operating in a wide variety of contexts, at varying positions in their lifecycles, and which serve different layers of the software stack. Yet recognition of diversity does not mean that rationality should not also drive an examination of the continued formation of new not-for-profit organizations. Does the level of duplication inherent in the current organizational fragmentation serve higher education best? Could the resource we might free by a measure of consolidation and increased coordination make a significant difference to the overall health of our software communities? Are there ways we can reflect and celebrate necessary diversity, while achieving a more rational organizational approach? Will the merger of Jasig and Sakai under a common foundation encompassing a range of projects provide more opportunities to develop interoperability throughout the software stack?

With these questions in mind, two organizations that evolved from some of the earliest open and community source initiatives in education, Jasig and The Sakai Foundation, chartered the Jasig-Sakai Joint Working Group (JWG). In 2010, this group was tasked with an initial evaluation of the benefits and feasibility of bringing the two organizations together. Following a positive initial investigation, the Working Group began to develop this document as a means to describe the value we expect to realize from the merger of the two organizations. Subsequent versions of the document ran in parallel with work to conduct a detailed assessment of financial viability, to create common bylaws, and to articulate a governance structure that accepts diversity of communities and projects.   This is the third public release of this document.

The document is divided into three sections. The first two deal with some of the unifying and underlying forces that have brought Jasig and Sakai together. Section one deals with the success and variety of open source approaches to software development; section two, the application of those approaches to software supporting higher education. The third section deals with the value of a common organization. During the course of discussion around earlier iterations of this document, the inclusion of the first two sections was questioned, on the basis that they rather state the obvious. The purpose of these sections is two-fold.

The first two sections, to an extent, have been internal to the two communities engaged in the merger process. By developing an extended series of summary perspectives on the value of open source software[1], and its application to higher education, we have explored and tested the level of agreement, common understanding, and congruity between the two communities. This has facilitated dialog, and helped to shape an emerging common vision. It has made explicit issues that may otherwise have remain implicit, and hidden.

The second purpose is rather more public. The issues we explore are imperfectly understood, and far from universally accepted in higher education globally. The perspectives elaborated early in this document, then, establish that Jasig and Sakai do indeed share common values. More than that, this articulation also reflects those values outwards, with the intention of engaging in dialog with those who do not necessarily share our perspectives. We believe that the merger of Jasig and Sakai will create a stronger voice for "open" in higher education globally. Engaging those who do not agree with us – and engaging them appropriately – is an essential part of this process.

If you feel that you are familiar with open source and community source software and its benefits, both in a general sense, and in an educational context, you may always skip ahead to the third section. We urge you, however, to read, consider, and contribute your perspectives to the discussion on the first two.

This document reflects the current stage in articulating the value of the merger of Jasig and Sakai, rather than providing a final word on the matter. It will remain a work in progress, which will guide the proposed common organization beyond the initial merger, and become something of a working value statement for the common organization we propose; the Apereo Foundation. We submit this third iteration to our own communities, and the broader educational community, in that light.

Those interested in further conversations about the merger should join the Jasig-Sakai discussion list at

https://groups.google.com/group/jasig-sakai-collaboration

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[1] It is important to recognize the distinction between open source software, which we define as software released under an OSI approved license, and the organizational approach taken to the production of such software. Organizational approaches range from models which have been described as "benevolent dictatorship", where a single person, typically a software developer, controls contribution and release process, either personally or through subordinates, to more collectively controlled approaches associated with the Apache Foundation, or consortium based models associated with Community Source initiatives in education.

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1: The value of open source

The last decade and a half has seen open source software move from the periphery to the mainstream of the information technology landscape. Thousands of open source projects exist. Some serve relatively small groups of individuals. Others support the activities of organizations operating at significant scale, or underpin web-delivered services for millions of end-users. Governments increasingly advocate or mandate either the consideration or use of open source software in a wide range of contexts within the public sector. Within the private sector, open source software has grown to underpin the activity of thousands of businesses around the world, including those as diverse as the London Stock Exchange and Netflix.

The key driver for this growth might at first appear obvious: who could turn down an apparent "free lunch"? The cost of licensing is, however, only one factor driving the increased use of open source software. The examples of Linux and Apache speak not only to the cost of software consumption, but also to the success of extended and highly distributed development communities collaborating to realize software innovation at scale. This is one reason why major corporations, such as IBM, make such significant investments in open source software.

Software licensing – whether open source or proprietary – is, of course, a guarantee neither of quality nor sustainability. It is manifestly the case, however, that a significant number of open source licensed projects now produce software that is equal to, or better than, their commercial-proprietary counterparts in terms of quality and performance. Such software often has a considerable lineage. Sustainability is an issue that is never "done", but a range of open source software has now proved itself at least as sustainable as commercial counterparts.

Open source software offers several distinct advantages beyond freedom from licensing costs. These advantages are intimately connected with both choice and innovation. Organizations adopting open source software can choose to support it with internal resources, with external contractors, with the support of open source software communities, or with a combination of the three. In these scenarios, then, software *licensing* can therefore be decoupled more readily from software *support services*. The forced march of upgrades or migrations to maintain "officially supported versions" of software can be avoided, or at least the risks associated with them more readily mitigated or controlled.

Those who adopt open source software are free to choose to contribute their own improvements and innovations back into a common community pool, and take advantage of the innovative contributions of others. A strong community returns many times the value of the individual contributions of individual participants. Indeed, there is a strong economic imperative to collaborate: past a certain point, a local adaptation of open source software becomes in effect, a "fork". The cost of maintaining such a fork is no longer shared by those maintaining the pool, but becomes a matter of in-house support.

2: The value of open-source in education

A recent report surveying the emerging global context within which higher education operates[2] noted that, "Higher education is under pressure to meet greater expectations, whether for student numbers, educational preparation, workforce needs, or economic development. Meanwhile, the resources available are likely to decline". In short, higher education faces an increased and increasing range of financial, policy and structural challenges. The intersection of these challenges with the growing licensing and deployment costs associated with proprietary software, at a point when budgets have rarely been more constrained, magnifies them considerably. Freedom to choose commercial closed solutions is often limited; as the 'Courant Report[3]' noted "the relatively small size of higher education may also make it especially vulnerable to monopolization." There is growing recognition from higher education IT leadership that standard, closed and proprietary "business" software is often a poor fit for the academic enterprise; that it frequently does not serve often unique processes supporting our institutions; and that, critically, it may act to stifle innovation at precisely the economic and educational inflexion points where innovation is most required.

It is entirely appropriate, in this context, that urgency surrounding resource constraint and *cost* drives education to consider open source software more thoroughly. Such considerations, however, should be comprehensive and rounded, and go beyond the simple cost of *adoption* of open source software. It should begin to factor in the longer-term perspective of the relationship between *collaboration*, *open source software*, and *sustainable innovation* serving education. It should consider that adoption is only part of the equation, and that *contribution* – which is not limited to contributing *software* and *technical resources* - is vital for the future health of our emergent open source software communities.

It is appropriate, also, then, that in a period of declining available resource for higher education, and a matching decline in institutional IT budgets, that due consideration is given to how those budgets are spent. It is increasingly obvious that the cost of information and communication technologies supporting administrative purposes is disproportionate, when considered against the costs of technologies deployed to support the core mission areas of learning, teaching and research. This is in part, at least, an artifact of the frequently excessive licensing costs associated with "business" software transposed into an academic environment noted by the Courant Report'. The efforts of our colleagues and co-workers in the Kuali Foundation to reduce these costs, and produce administrative software fit for higher education purpose should be both applauded and supported.

Licensing cost, however, is not the only factor. We should remind ourselves that supporting and enabling learning, teaching and research with digital technology are relatively new phenomena. While certain areas are better understood than others, education, including higher education, is at the start of a transformative journey in this respect. Inclusive collaboration within education to produce software, collaboration that draws on lessons from highly distributed open source software development, can enable the early realization of innovation far more readily than more circuitous commercial-proprietary routes. This *disintermediation* of innovation, closing the loop between the practitioner capable of identifying needs, and developer capable of creating software

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[2] The report – 'The Future of Higher Education: Beyond the Campus' was produced by Educause, CAUDIT, SURF and JISC http://www.educause.edu/Resources/TheFutureofHigherEducationBeyo/194985

[3] Software and Collaboration in Higher Education: A Study of Open Source Software Paul Courant and Rebecca J. Griffiths http://www.ithaka.org/ithaka-s-r/strategyold/oss/OOSS_Report_FINAL.pdf

to realize solutions to meet them, is arguably the central objective of educational software development. Methods associated with open source software do not necessarily close this loop automatically - but **make the loop far easier to close by making its elements more visible and transparent**.

The broad direction we advocate is sometimes portrayed as anti-commercial. The opposite is true. Licensed appropriately, open source software creates conditions for commercial opportunity, and such commercial opportunity is an essential component of the development of a healthy software ecosystem *serving* innovation in education, rather than acting to *restrain* it. Both Jasig and Sakai have developed global commercial partnership programs over the last decade. Continuing to nurture those programs, and engage with a variety of commercial partners is a vital part of ensuring choice and flexibility for educational institutions into our joint future. We remain committed to developing commercial engagement in our support ecosystem. Strong and inclusive communities, with strong organizations to serve them, are the best guarantee both *against* monopolization and *for* innovation.

3: The value of a common foundation

Jasig and Sakai share a common origin as projects funded by the Andrew W Mellon Foundation Research in Information Technology Program, which operated for most of the last decade. The communities which grew up around these projects organized around principles of openness, and aimed to create collegial governance structures appropriate to the sector they sought to serve and represent. Both Jasig and Sakai have evolved into not-for-profit organizations, registered in the United States but with broad international participation, which span multiple projects. Both operate in areas directly supporting academic mission delivery, ranging from important identity management and privacy implementation and educational records security, to providing a collaborative teaching, learning, and research environment under a common framework. As a consequence of the relative jurisdictional neutrality of their areas of work, both organizations have developed very much as international communities. The time has come to build on the collective strength this experience represents, pool resources to improve the services provided by both organizations now, and create fresh opportunities for future development of quality educational environments.

i Economies of Scale
Many of the activities of the new foundation will benefit from the larger scale of a combined organization. Opportunities exist for bringing new and consolidated resources to bear on issues such as quality assurance, management of intellectual property, and licensing. In the short-term, we anticipate efficiency gains from:

a) More Efficient Deployment of Staff Resources - A combined organization will allow us to better allocate our deliberately limited staff resources towards key foundation roles such as coordination, communication, and quality assurance.
b) Holding a Combined Annual Conference - A combined annual conference will provide cost savings for both organizers and participants through economies of scale. It will also help to promote cross project collaboration and synergy.
c) Consolidating "Back Office" Operations - By centralizing our accounting, billing and administrative functions we will be able to reduce expenditure on a range of operational costs.
d) Consolidating our Technology Infrastructure - We expect to see cost savings and increased synergies from moving towards a common suite of centrally hosted communication and coordination tools.
e) *Shared Leadership and Vision* – A single board of directors, along with a single executive director, will help to integrate community support structures, grow synergies between projects, and act as advocates for educational software and support communities from a strategic systems perspective instead of a single product perspective.

ii Strategic Imperatives
For over a decade, software developers in the educational community who are active in the Jasig and Sakai communities have sought, wherever practicable, to re-use code shared by other open source software initiatives. As other open source software communities have addressed areas we once needed to develop ourselves, we have become more able to replace large sections of our code bases with best of breed implementations. Portlet support from Apache Pluto in both uPortal and Sakai CLE; distributed cache components across all Jasig and Sakai projects from Terracotta;

component managers in the form of Spring and Apache Felix are just a few examples of the open source libraries we re-use over many of our projects.

This re-use is healthy, enabling software developers employed by educational institutions to focus their attention on adding value in support of objectives related to education instead of reinventing core infrastructure. Re-use, however, brings with it a range of dependencies and attendant risks. In order to mitigate those risks, software developers in educational institutions need to network more effectively, sharing experiences, learning, and acting to influence open source communities outside an educational setting. Apereo will form a key element of such a network by aggregating resource and experience, and by developing a stronger and more effective voice to represent education in broader open and community source software communities.

The value of the merger of Jasig and Sakai is not limited to resource aggregation and increased organizational efficiency. Each community brings with it specific strengths in a variety of areas - user engagement, release management, incubation processes, and so on. Apereo will draw on these strengths; the collective experience of the two communities will be used to help nurture new projects, mentoring them as they proceed along the path from project to sustainable software community. The emphasis throughout will be on dialog and development, with a profound recognition that there is no universal template to which every project must fit in order to succeed. Communities may exist on a continuum from single, organic, small product single use case development to large managed project enterprise-wide development processes. The community and the project deliverable mandates determined by the contributing partners will govern the appropriate approaches in each lifecycle. This openness to divergent approaches forms a critical element of a strategy that aims to develop an ecology of sustainable innovation in service of the academic mission.

iii Benefits of a Global Community
The international nature of both current organizations brings with it specific cultural and organizational challenges, but is a critical element in developing sustainability, and a global perspective is a fundamental aspect of the value proposition of the new foundation. An international organization serving higher and tertiary education suffers less from transitory changes in funding arrangements in any single part of the world, and can potentially draw on significantly greater resources from its distributed constituents.

iv Software Communities and Branding
Bringing together the Jasig and Sakai Foundations will not dissolve or merge their respective software communities and projects, but will provide better conditions in which to nurture them.

Each of the founding Software Communities in Apereo, has a distinct 'brand'. These brands are known and understood, to a significant extent, amongst the natural constituencies they serve. Apereo will not seek to supplant or dilute that brand equity, but will seek instead to augment it. The Sakai Collaboration and Learning Environment will still be promoted and maintained as the Sakai CLE, the Sakai Open Academic Environment will still be promoted as Sakai OAE, Jasig uPortal as uPortal, Jasig CAS as CAS, and so on.

Apereo will build on the successes of the past in extending their brand recognition in three distinct ways.

First, Apereo will encourage information sharing and cross-fertilization between software communities and the projects they support. This will act to increase awareness of products and their capabilities across the broader joined community.

Second, Apereo will act as an advocate of product brands to potential adopters looking at strategic system approaches for combining capabilities into a single suite (e.g., identity management that performs services linking SIS with Sakai.)

Third, instead of developing an Apereo product brand, Apereo will slowly and organically become known as a foundational entity that mentors quality and success of the Software Communities and projects it supports, through good stewardship of common resources and practices. It is hoped that, over time, association with Apereo will give such communities additional stature, and the association with the foundation will become a mark of quality that contributes to the overall product brand equity of affiliated projects. It is not anticipated, however, that substantial resources will be focused on building the new foundation's brand outside these organic processes.

v Addressing Common Challenges

Over time, the new Foundation will encourage the exploration of better connections between the software products we support, new models for collaboration, and new areas of product development to address the challenging environment ahead. The new foundation will be better positioned to tackle the following five challenges.

1. *Funding models* - Developing long-term sustainable funding/membership models for open software Higher Education initiatives.
2. *Inter-project collaboration* - Understanding how resources can be leveraged across independent projects to address common needs (e.g. areas of quality assurance, accessibility, internationalization).
3. *Closing the innovation "gap"* - Finding new ways to further bridge the "gap" between end users, designers and developers.
4. *Governance models* - Understanding which governance models work best within the context of different independent projects, and the stages that those projects pass through - from initial formation to maturity.
5. *Development models* - Understanding the development spectrum from "organic" to "managed" across the lifecycle of an innovation, and recognizing an approach that is appropriate for each circumstance or context.
6. *Advocacy* – increasing the awareness of open source solutions as a viable choice

Conclusion: Our Mutual Core Values

Apereo will build on the core values embedded in the approaches of its predecessors. As we work to bring our two organizations together we will not lose sight of the core values that have come to define our communities. These include:

● Openness and transparency in all aspects of our communities work.
● An organizational philosophy based on the concepts of collegiality and meritocracy.
● A global community that values international participation.

We believe firmly that other synergies will be created by the merger of Jasig and Sakai to form Apereo that remain, in part, to be explored. The fact remains that the clear benefits identified

above *alone* make proceeding with the merger of the two organizations a significant priority. We are confident that we will be able to address problems - old and new - in more innovative ways as Apereo than we could as separate entities.