

2009 Sakai Development Process

Sakai Board of Directors Recommendations

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SUMMARY

This document describes the recommendations of the Sakai Board of Directors arising from the Sakai Board Retreat in February 2009.

Executive Summary

In response to demand from the community for more formalized development processes and a roadmap for Sakai development, the Sakai Foundation will use its resources to encourage the creation of:

- (a) Formal, structured development projects to deliver functionality prioritized by end-users;
- (b) A product council to set the bar for the inclusion of functionality as part of the Sakai product and to accept the transfer of responsibility to the 'maintenance group'; and
- (c) A 'maintenance' group within the Sakai community that ensures stability in production, performance, bug fixing, etcetera.

Not all of the elements are fully developed and this document focuses mainly on the overall process and the product council, but work is ongoing to develop the full scheme. We want to publicize this 'manifesto' to gather comments and gauge support. Comments that help improve the plan are extremely important, but we are beginning to implement this approach as we seek suggestions for improvement.

Background – Sakai Product Definition

The recommendations here are best understood in the context of a common vision of what Sakai, as a product, aims to accomplish. We therefore offer the following draft Sakai product definition.

1. Sakai is an enterprise friendly, service-oriented platform that enables the web-based support for various groups in educational institutions.
2. Sakai implements open standards wherever possible and releases open source software with a liberal, commercial-friendly license. It supports open courseware and open educational resources.
3. There is a strong Teaching and Learning community within Sakai that seeks to ensure sector-leading CMS/LMS/VLE features are available on the platform.
 - 3.a. Distance Learning is specifically supported
 - 3.b. Face-to-Face teaching is specifically supported
 - 3.c. Portfolio use cases are specifically supported
4. There is a strong Research community within Sakai that seeks to ensure sector-leading VRE features are available on the platform. This includes inter-institutional research collaboration features
5. There is also a strong community with interest in Content Management and Collaboration features for other education-related activities, such as Clubs, Societies and Administrative groups.
6. Not all campuses will necessarily deploy all features, nevertheless:
 - 6.a. There is a desire for both a consistent user experience throughout the range of features and an open platform that allows ready integration of best of breed 3rd party applications. We recognize that this creates a challenging dilemma for user experience.

- 6.b. There is a desire to create solutions with market-leading accessibility and usability

We welcome elaborations, clarifications and polishing of this definition.

Background - Development Model

The thinking behind the proposed approach uses a fairly conventional product lifecycle with the following stages:

- **Research and Development.** This stage is where new ideas are generated and new technologies are tried. Many “contrib” projects in Sakai are essentially in this phase of the cycle for the purposes of this model. Other contrib projects are certainly much too mature to be considered R&D—they just choose to be independent of the Sakai release. The new model will allow this same sort of “independent” project.
- **Incubation.** This stage is for projects that intend to end up in a Sakai release. The goal in the incubation stage is to prove the desirability to the community, formalize project requirements, assemble a cross-institutional development team that includes functional expertise, build a project & maintenance plan and reduce development risks.
- **Product Development.** Incubation should prove that a project is both desirable and feasible. The product development phase is essentially executing on that plan. It ends when the project becomes part of the Sakai release. We expect formal structures to ensure the reliable allocation of resources and that the operational decisions during the project are driven by end-user priorities.
- **Maintenance.** This phase is for bug fixes and feature enhancements to released product.
- **End of Life.** Sooner or later things need to be taken out of the product. Or a new version needs to be built.

Sakai, unlike some other open-source initiatives, has distinct user and developer groups. Rarely do you see a student, a professor, or a researcher write the lines of code necessary to make the product better. This particular challenge makes us wish to be more methodic and creative in the way we manage the development of the platform. At the same time, the notion of a centralized organization controlling most aspects of Sakai development is also not appropriate for the Sakai community at this time.

The degree of process formality differs with each stage. In Research & Development, for example, a distributed model is best—one that doesn’t require approval or decision-making from a central authority. We call this way of working “organic”. As ideas emerge from R&D that appear to have merit, it is crucial to increase communication about the project and begin to put together a more formal development team and plan. We call this “coordinated”—the idea is to bring together people who might want to work together to create a significant new capability in the Sakai release. And once such a group of people is identified and their objectives clarified, a more traditional and formal project structure is beneficial. We call this “managed”.

We also know that different institutions and individuals in Sakai will respond differently to each of these ways of getting work done. So the proposed model uses a different organizational strategy at each phase of development and therefore allows for different ways to engage in Sakai. While it keeps the ownership of Sakai’s capabilities in the community, we believe it brings more oversight into the officially released product.

Finally, the Sakai Foundation’s role in each of these phases will be different. The following table provides a summary of the style of work, the role of the foundation and the entry criteria for each stage.

Phase	Work Style	Foundation Role	Entry Criteria
Research and Development	Organic	Infrastructure (svn, jira, confluence), communication and encouragement.	None. Anyone can have an R&D project.
Incubation	Coordinated	Infrastructure, communication & potential direct support from foundation resources; particularly in matchmaking institutional resources and communicating requirements of later stages.	Low. Anyone can declare that they would like their project to enter incubation. Foundation resources will not be able to support every project & a method will need to be established for any such prioritization.
Product Development	Managed	Infrastructure, communication & potential direct support from foundation resources. Facilitation of the decision to include project outputs in a release.	Moderate: A strong plan & adequate resources. Transition to next phase has high barriers, so plan to attain those criteria is important.
Release			
Maintenance	Managed or Coordinated (TBD)	Infrastructure, communication & potential support from foundation resources. Possible management of a <i>centralized maintenance team</i> .	Product Council. A small group that will decide if a project is ready be in the release. See below for details.
End of Life	Coordinated or Managed	Infrastructure, communication & potential support from foundation resources.	Product Council decision.

We feel strongly that this model is achievable by the Sakai community and will lead to the desired outcomes of an end-user driven set of development priorities, a more predictable and efficient development process and a useful roadmap of Sakai development. However, it will only work with the enthusiastic engagement of the community – we need your help.

The product council will act primarily as a gatekeeper around the Sakai release and the maintenance phase (entry and exit), but will also offer coaching and guidance at other stages. Gate-keeping decisions by the product council will be transparent. That means criteria will be public and open to community development and decisions will be explained openly.

The Sakai Foundation will facilitate the work of the Product Council and will try to help projects with communication, resource recruiting and a variety of other things. But Foundation staff resources are limited and the projects themselves have a responsibility to provide documentation, updated schedules and other information.

The Product Development Phase

The Product Development Phase is a crucial phase in the new process and, so, we are giving it a bit more attention in this document. For project outputs to exit this phase and be incorporated into the release they will need to meet the community criteria and fit well with the existing product. The Product Council will make the formal decision. (The existing provisional/core criteria represent a starting point for these criteria).

We expect successful projects will have formal management arrangements. While the Sakai Foundation is not dictating to the community how projects in this phase must be organized, we are encouraging the formation of development teams that:

- Is strongly influenced by functional experts
- Have a source of user experience, accessibility and internationalization expertise
- Have a project plan with scheduled milestones, opportunities for community input & contingency plans for major risks. This probably, but not necessarily, implies a project manager.
- Have a plan for maintenance & support
- Have a cross-institutional project team

Not every project will need the same resources, of course. But overall we are looking for projects to adopt more formal organizational structures (become “managed”) as they move from R&D to the release.

Conclusion & Next Steps

We look forward to working with the Sakai Community to refine this development process. Michael Korcuska, Sakai Foundation Executive Director, will be conducting webinars for the community and is available for phone meetings for anyone who wishes to discuss the proposal. You can also send feedback on this document to mkorcuska@sakaifoundation.org or to the public list management@collab.sakaiproject.org.

More information is provided below in three appendices. Appendix A provides additional detail on many of the ideas mentioned above. Appendix B explains the “Sakai 3” work in relation to this process. Appendix C describes the process that led to this document’s creation.

Appendix A: Additional Information

A few of items mentioned in this document warrant more explanation, including the following:

- The role of the Product Council
- The formation of the Product Council
- The potential support from foundation resources
- The centralized maintenance team
- Independent projects

The Role of the Product Council

The formation of the Product Council is a significant addition to the Sakai development process. Without some oversight of what goes into the Sakai CLE, we feel that the coherence of the release is at risk.

The ultimate role of the product council is to determine which projects are incorporated into the formal product release. That is their only formal authority. The product council will use a transparent process for decision-making. Where possible, decisions will be evaluated against defined and objective criteria. Certain decisions will require more subjective standards and, in these cases, the reasons for any decisions will be clearly and openly communicated. The product council will also seek expert review from persons not on the council.

We anticipate that projects will want some indication from the product council that their project is a good candidate for the release. Therefore, even though its only formal authority is to evaluate a projects readiness for release, we believe it will need to advise incubation projects about their readiness to enter the product development phase.

Note that while the Product Council may be consulted for advice during the project, the product council will not direct project resources or tell projects how to conduct their business. They will tell them if the work itself is ready for release.

The Membership of the Product Council

The council will be made-up of a group that brings the different areas of expertise required to effectively fill the product council function. We expect our understanding of the skills required to evolve over time, but the initial view is that the following areas of expertise are required:

- User experience, including accessibility and usability
- Teaching and learning
- Research
- Software design and architectures
- Software production management

The product council will also include the Executive Director of the Sakai Foundation and a Sakai Product Manager, who will facilitate the group.

In addition to these areas of expertise, all product council members should also have the following:

- A broad understanding of the Sakai product
- The ability to advocate for the needs within his/her area of expertise and maintain a broad view of community and product needs
- Demonstrated commitment to engage with and contribute to the community
- Deep expertise in more than one aspect of the product

To form the product council, the Sakai Board will communicate the role and desired contribution of the council. The Board will be open to suggestions and nominations from the community, but will seek to quickly identify the initial product council members. The product council and the Board will together identify a process to evolve council membership over time.

Foundation Support for Incubation Projects

The Sakai Foundation will support certain projects, especially those in the incubation phase. This may be assistance with communication, help recruiting additional resources or filling specific product development roles with consultants. Our capacity to do this is not unlimited, however, so we will likely choose incubation projects to formally support. This is not meant to indicate that these projects are more official or in some way better than other incubation projects. It does indicate we think they are important, of course, but it could be that other projects simply don't need our help.

Our assistance may carry over to the product development phase, but we hope that these projects have enough community support to build an adequate team.

A Centralized Maintenance Team

We would like to explore the idea of a centralized maintenance team. This group would fix bugs in projects that have made it into the release. The existence of this team would be a strong incentive for projects to pass through the development stages listed above, because the development team would be released back to the project institutions for new development work. Note that this will not absolve institutions and individuals from supporting their work in maintenance but, rather, allow for a transition period and safety net.

More work is required to define how such a team would work. Most likely it would be directed by the Sakai Foundation rather than the Product Council.

Independent Projects

This model does not eliminate the option for projects that wish to have their own development and release cycles and appear as extensions or add-ons to the main release. This is just like contrib project today that are in wide use by the community (e.g. Melete).

Appendix B: Sakai 3 and the New Process

Sakai 3 has gotten a lot of attention lately. In the context of this new process, we would say the following:

- Cambridge has been leading a group of people working on projects that we hope will form the basis of Sakai 3.0. None of these projects are officially Sakai 3 at this point in time.
- The first of these projects is K2—a new kernel that enables several proposed goals for a new version of Sakai. At its current stage of development, this project would probably be in the incubation stage.
- The second of these projects has no official name but focuses on a new user experience for key areas of Sakai, especially those areas traditionally associated with project sites. This project has been called 3akai or Sakai 3 and, to date, has focused on the UX framework, project site functionality & content authoring. We will be asking the team to pick a code name for their effort. There is a strong desire to turn it into a managed project so it could also be thought of as being in the incubation stage.
- The Sakai Foundation is currently supporting both of these projects and expects to continue to do so actively.
- More resources are needed to turn the current K2 and User Experience projects into Sakai 3. The scope of work also needs to be expanded according to end-user priorities. It is hoped that the framework described in this document will encourage the formation of a formal project or projects to this end.
- Because the Product Council eventually determines what goes into a release and there will be a lot of moving pieces in Sakai 3, we see the council playing an important role in Sakai 3.
- It is likely that large changes to Sakai 2.x should also go through this process. Work like Assignments 2 and Gradebook 2 seem significant enough to place into this context. Smaller changes to existing features will not go through this process.

Appendix C: Why a new Process?

A variety of people in the Sakai community have been feeling that the Sakai development process was in need of a change. The current process, which is highly decentralized, has worked adequately for the incremental improvements that have characterized the recent Sakai releases. It has been too difficult, however, to initiate significant new feature development that would require cross-institutional collaboration or, like the UX initiative, would require changes across much of the code base. But even with the relatively steady state that Sakai 2.6 represents, it has been difficult to publish a meaningful roadmap in advance of code freeze. So while a large change like Sakai 3 underscores the need for change, the need has really been there all along.

Various grass-roots efforts at improving the situation had not borne fruit so, in late 2008, the Sakai Foundation determined that it should undertake a strategic planning exercise that would examine the role of the Sakai Foundation in the community's software development process. This exercise culminated in the Sakai Foundation Board Retreat that took place in February 2009. As inputs to the retreat we conducted a survey, completed by approximately 50 institutions and 150 individuals. An external facilitator (Kim Thanos) also interviewed a number of organizations around the Sakai community. The result of the 2-day retreat (and subsequent emails and phone calls) is the new model for development described in this document.