

## COMBINING AND IMPLEMENTING SAKAI CLE/OAE

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**Abstract:** *Sakai OAE (Open Academy Environment), former Sakai 3, is the second generation of Sakai Collaboration and Learning Environment. It was developed with new vision for academic collaboration (collaboration in education and research). They moved from name Sakai 3 because the community thinks this is completely new product category just like Sakai CLE distinguished itself from other LMS. Sakai OAE is not jet another LMS. It has LMS functionality, but it allows community to expand boundaries of one university. This paper explains how to combine, and how to implement Sakai CLE and Sakai OLE. Content creation and use, Creating documents, Course creation, is demonstrated here in this paper.*

**Keywords:** *Learning environment, Content creation, Content profile*

### 1. INTRODUCTION

The Sakai Project (named after Iron Chef Hiroyuki Sakai) started as partnership between four universities Indiana University, University of Michigan, Stanford University and Massachusetts Institute of Technology and two well established higher education projects in the Open Knowledge Initiative (OKI) and uPortal activity. The purpose of the project was to produce open source Collaboration and Learning Environment (CLE) software. The Sakai Project was described in the proposal: The products of this project will include an Enterprise Services-based Portal, a complete Course Management System with sophisticated assessment tools, a Research Support Collaboration System, a Workflow Engine, and a Tool Portability Profile, i.e., clear standard for writing future tools that can extend this core set of educational applications [1].

The Sakai Project was announced at EDUCAUSE in November 2003 and development began in January 2004 [2]. Sakai 1.0 was released in June 2004 at the first Sakai Conference. Early deliverables were made possible because they were working from University of Michigan CHEF code base. The software development work was done by staff of the four universities [3]. Sakai currently has two products: Sakai CLE (Collaboration and Learning Environment) and second generation of Sakai - Sakai OAE (Open Academic Environment).

#### **Sakai CLE:**

The Sakai CLE represents the values and requirements of the community of educators that have contributed to the software:

- Academic collaboration
- Research collaboration
- Portfolios
- Enterprise reliability
- Open pedagogy
- Open standards

Latest release of Sakai CLE, version 2.8, was released on 11. April 2012.

#### **Sakai OAE:**

A completely new system currently under development that incorporates all of the values of the Sakai CLE, and reimagines a new vision for academic collaboration. Sakai OAE development shifts the standard approach to academic collaboration to become:

- Permeable
- Personal
- Social
- Remixable

Development of Sakai OAE doesn't mean that Sakai CLE will stop with developing releases. There are hundreds of institutions running Sakai CLE and, according to Ian Boston (Chief Sakai Architect) there will be releases as long as there are institutions wanting releases. Sakai OAE and Sakai CLE address different needs with some overlap. Those two products will be developed in a parallel.

Sakai OAE (Open Academy Environment), former Sakai 3, is the second generation of Sakai Collaboration and Learning Environment. It was developed with new vision for academic collaboration (collaboration in education and research). They moved from name Sakai 3 because the community thinks this is completely new product category just like Sakai CLE distinguished itself from other LMS. Sakai OAE is not jet another LMS. It has LMS functionality, but it allows community to expand boundaries of one university. Sakai OAE Releases:

Version 1.2 was released 25 April 2012

Version 1.1 was released 15 December 2011

Version 1.0 was released 8 September 2011

This paper explains how to combine, and how to implement Sakai CLE and Sakai OLE. Content is of primary interest in Sakai OAE. Content creation and use, Creating documents, Course creation, is demonstrated here in this paper.

## 2. COMBINING SAKAI CLE AND SAKAI OAE

Sakai CLE and Sakai OAE are seen as complementary platforms because they target different lenses in the Sakai Learning Capabilities Design Lenses.

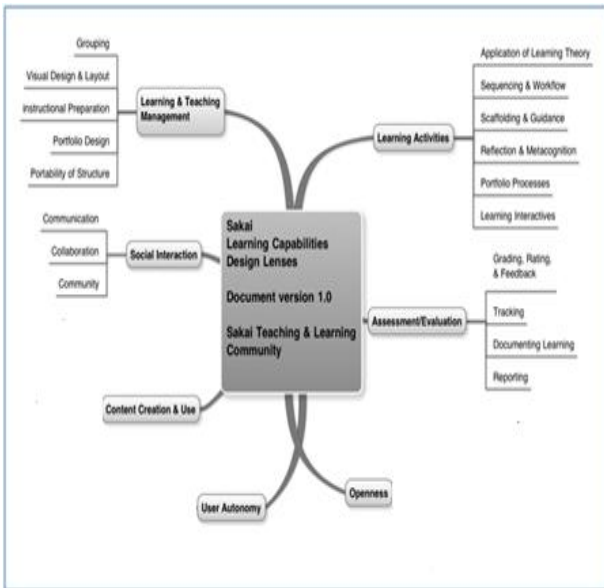


Fig.1: Strength and Focus of Sakai CLE

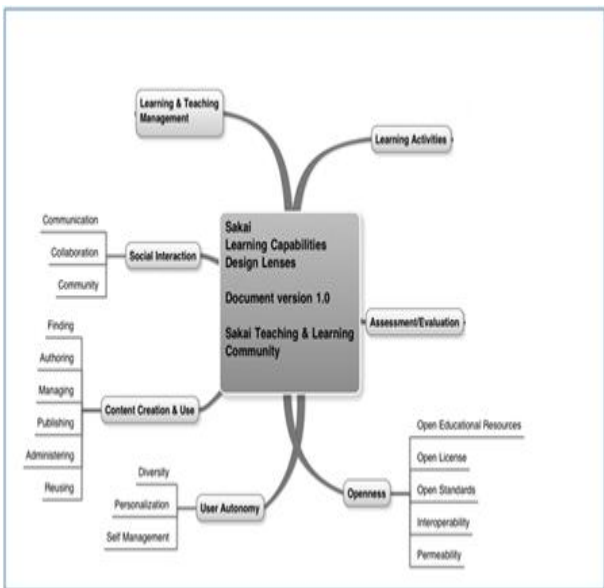


Fig.2: Strength and Focus of Sakai OAE

If you join both of them almost all of the teaching lenses are covered. So, Hybrid Sakai is obtained as:  
 Hybrid Sakai = Sakai CLE instance + glue code + Sakai OAE instance

Example of inserting a Sakai CLE widget into Sakai OAE document, picture below. All of new functionalities that are implemented in Sakai CLE are designed to fit into Sakai OAE UI (user interface). They can be joined so that Sakai CLE tool is placed into Sakai OAE Page. Because Sakai OAE doesn't have all of LMS functionalities idea is to use it from Sakai CLE until all of them are covered in a Sakai OAE. Sakai OAE portal will be used to connect to Sakai CLE.

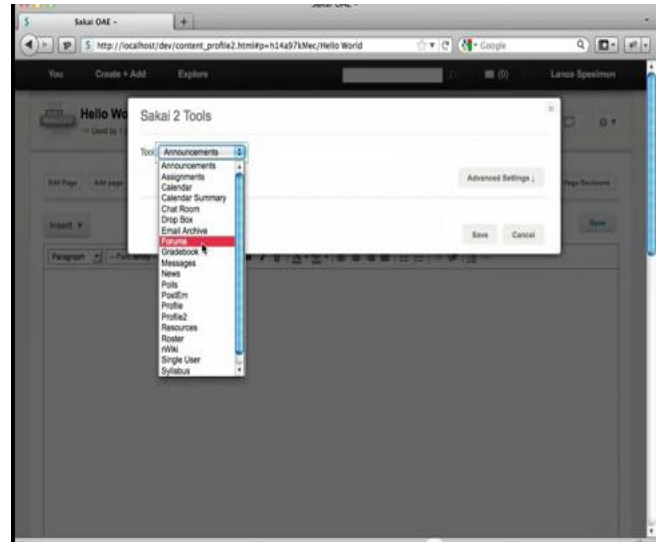


Fig. 3: Sakai OAE portal (Picture taken from Sakai 2011 Conference, Hybrid State of the Union Lance Speelman)

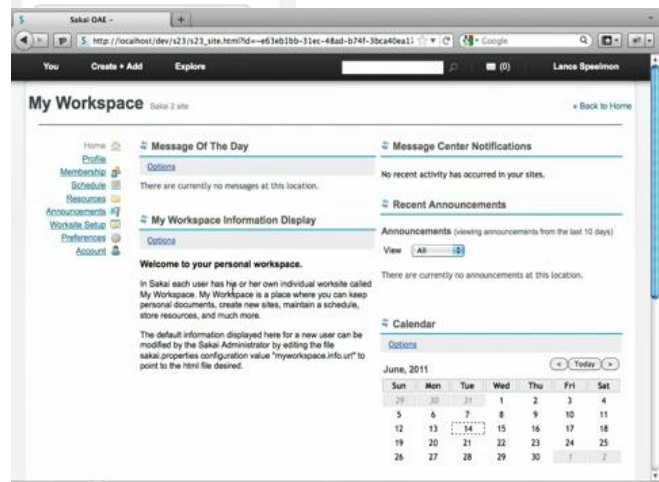
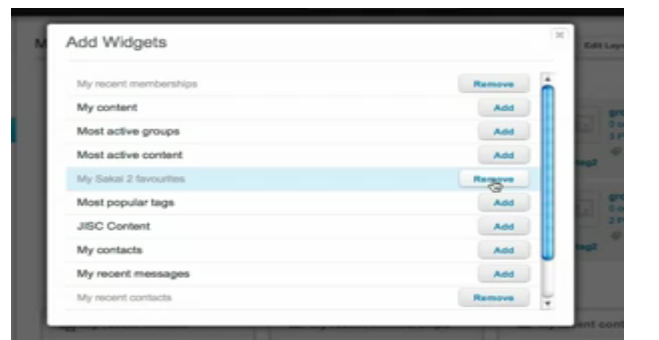


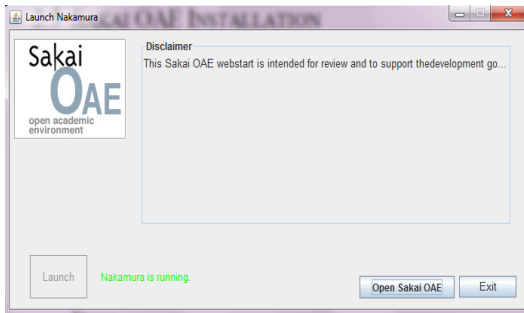
Fig.4: Combining Sakai CLE and Sakai OAE

## 3. SAKAI OAE INSTALLATION

For simply running and experimenting with the latest Sakai OAE release on local machine it is necessary only to download one-click installer. This will not allow changing any of the Sakai OAE code and it will be a

completely new setup, with no content and no other users.  
Steps:

1. Check prerequisites (Java JDK version 1.5 or higher (JDK, not the JRE))
2. Click on a link that point to a .jnlp (Java Web Start File) file.  
<http://source.sakaiproject.org/release/oa/1.2.0/w ebstart/sakaioae.jnlp>
3. Download .jnlp file and start it.



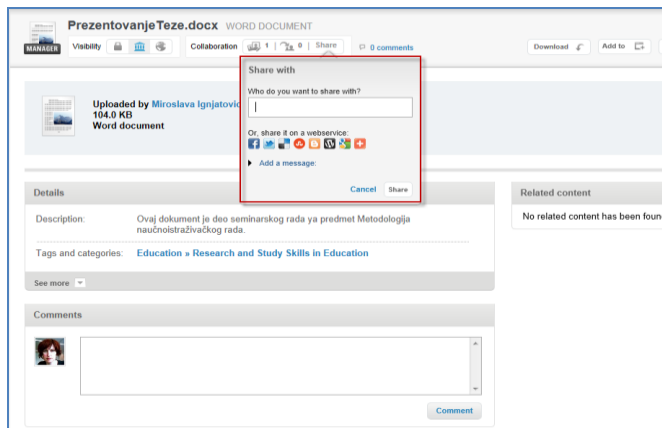
**Fig.5:** Installing Sakai OAE

4. Click on a Launch and wait until you get the message Nakamura is running
5. Click on Open Sakai OAE or go to:  
<http://localhost:8080>

#### 4. IMPLEMENTING SAKAI OAE

##### Content Creation and Use: Content Profile:

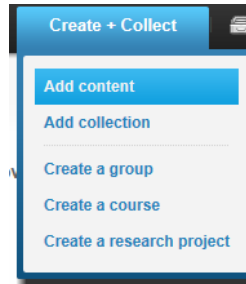
Content is of primary interest in Sakai OAE. Main difference, comparing to content in other systems, is that content has its Profile, like people, like group.



**Fig. 6:** Profile of one document with possibility to push it into the cloud

From the profile, it is possible to find out who is using this document (person or a group). Profile makes content searchable. With tags, you define key words that define this document. It is possible to control who and how is using this document.

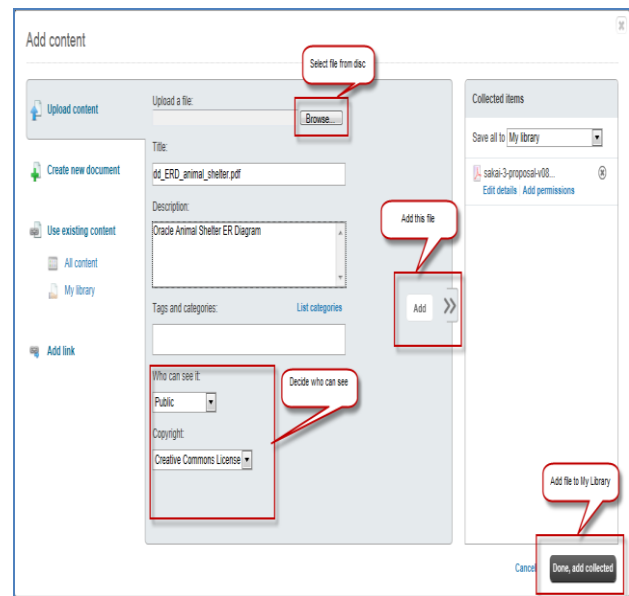
##### Add content:



**Fig.7:** Add content

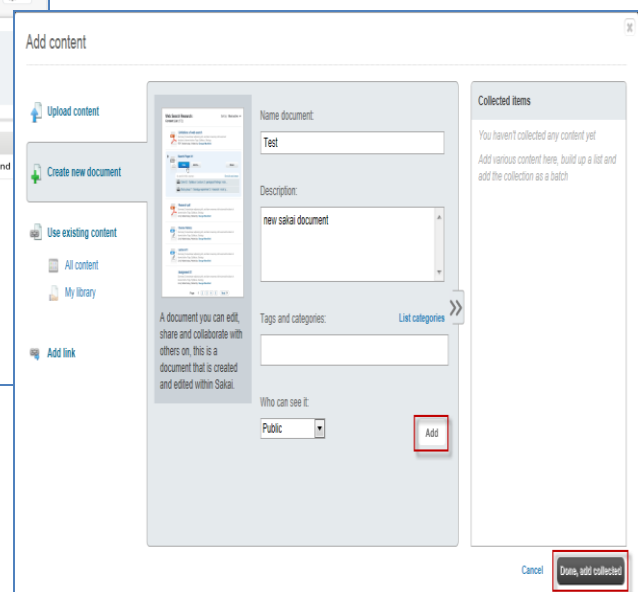
##### Add File from disk:

It is possible to add file from local disk into My Library.

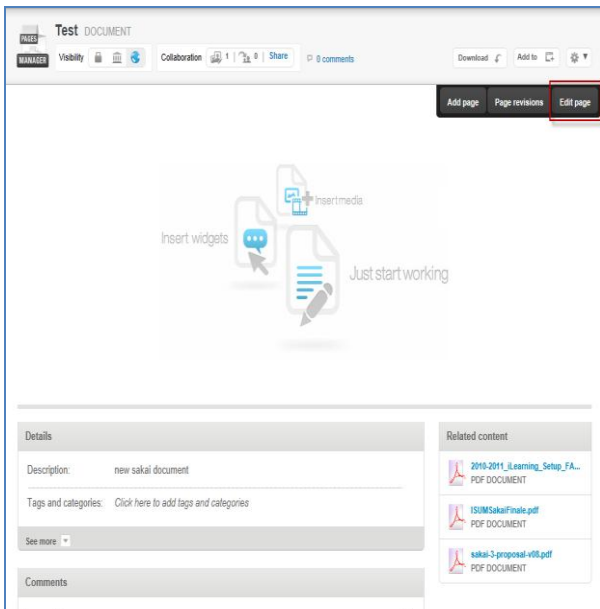


**Fig.8:** Add File

**Create new document:** To create new document user has to add it to My Library first, and then open it from there.

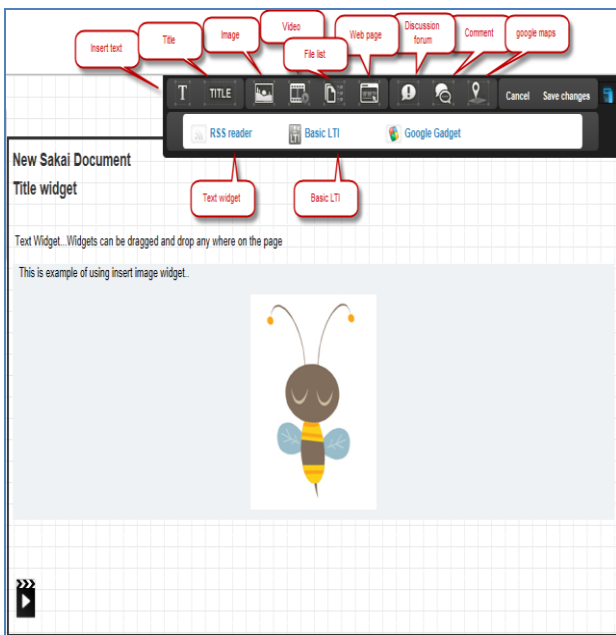


**Fig.9:** Create new document



**Fig.10: Edit page**

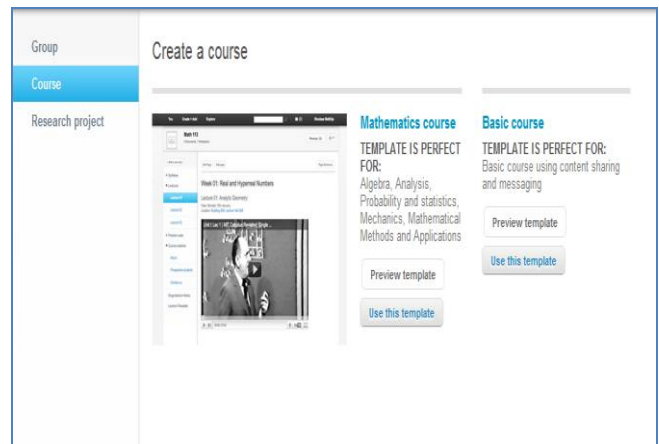
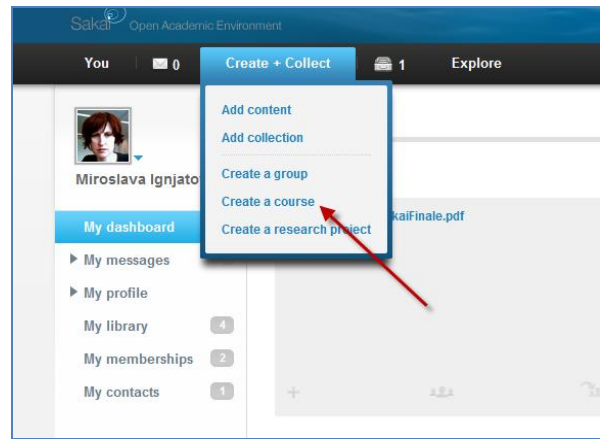
User has to select Edit page. Basic LTI provide possibility to use external tool and to embed it into the page (Basic LTI is a standard way for externally provided tools to integrate with an learning management system or portal.).



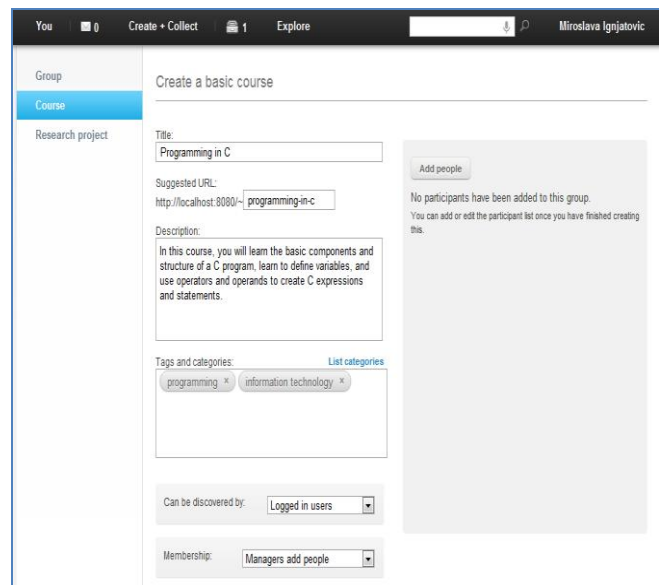
**Fig.11: Basic LTI**

**Course Creation:**

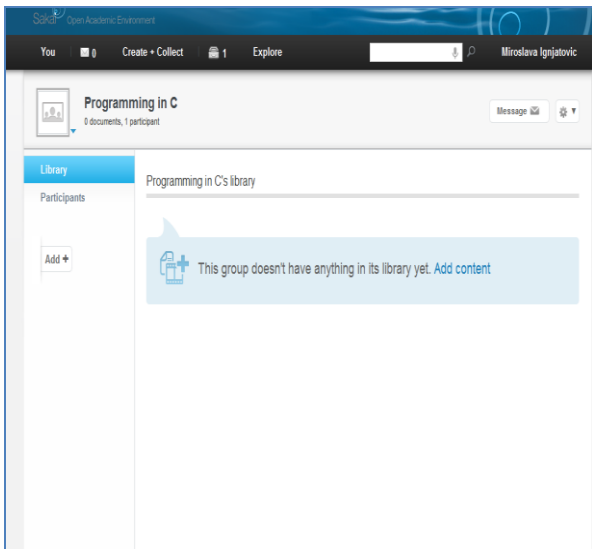
From Creat + Collect drop down list, select Create a course. User can choose from, currently, two templates: mathematics course and Basic course. It is possible for University to create its own template.



**Fig.12: Create a course**



**Fig.13: Creating a new basic course**



**Fig.14:** Course space

## 5. CONCLUSION

Sakai OAE is a platform for a new vision of e-learning. It embraces the ideals of open collaboration and community within teaching, learning, and research. It still doesn't have some core LMS functionality like assessment, grading, test tools, but offers great support for collaboration. This limitation can partly be overcome with launching external tool using Basic LTI.

Currently, there are over 350 Sakai CLE instances [4-6]. And, there are 6 Sakai OAE pilot instances (University of California, Berkeley, Charles Sturt University, New York University, Georgia Institute of Technology, Stanford University, University of California Online Education). New York University is planning to move completely from Blackboard to Sakai OAE in 2013. This shows that Sakai OAE is not mature enough to be instantly adopted. For institutions planning Sakai implementation, the best path is to install Sakai Hybrid which will enable using Sakai OAE portal with embedding necessary tools from the Sakai CLE.

Example: current pilot, University of California , Berkeley [7]:

-Student Experience - students will be able to use Sakai OAE to retrieve and act on tasks, manage important links, create a personalized profile, create & share content, and create groups for collaboration.

-Student Groups - student organizations will be able to create groups to manage their memberships and share content with their members and the public.

-Department Groups - staff in departments will be able to organize and share content with students, faculty, and staff within their department.

-Courses - we will be consulting with faculty during the fall semester to deliver a limited number of courses via Sakai OAE in Spring 2012

-We will also be deploying Hybrid-mode against Sakai 2.7 to provide students a view into their existing Sakai sites.

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## ACKNOWLEDGMENT

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## LITERATURE

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