Open Academic Environment

Vision Statement 2017

Building the next generation ecosystem

Academic life consists of both teaching (or, if you are the student, learning) and research. The Open Academic Environment has been created by some of the world's leading universities to support both. This document explains how OAE fits into current debates about the kind of technology ecosystem required to support both activities in the future.

OAE Vision 2017

Introduction

Despite its very significant and widespread use in higher education, more and more educators are voicing frustration with the Learning Management System. There is a palpable sense that the LMS is better at administering learning than enabling it; that it is inflexible, and not well suited to newer approaches to learning and teaching that reach beyond the course- and instructor-centred perspectives of the past. Those offering this criticism cannot be dismissed as isolated voices: in the last two years, mainstream organisations such as the Educause Learning Initiative in the US, and the SURF Foundation in the Netherlands have begun to articulate alternatives to the LMS. In general, the solutions suggested are described as more component-based, providing a greater degree of flexibility together with the potential for a more discipline-centred focus.

We agree with much of what has been written. And for the last six years, a group of Apereo Foundation members have been working towards an alternative.

The Open Academic Environment is open source software that can be made available as a cloud-based service. It is capable of supporting tens or thousands of institutions from a single deployment. OAE provides key components of the new, flexible landscape supporting academic practice imagined by educational thinkers. Its role is to be both a great place to collaborate and to provide the collaborative infrastructure for a wider ecosystem of applications.

To those familiar with the course-based LMS, talk of collaboration can seem remote. However, the abstraction is not a weakness but a strength. Courses are not the only way students learn. But, as the LMS has demonstrated, once you make the course the basic element of your software it is difficult or impossible to support the flipped classroom, informal learning and all the other ways today's students learn. To support all forms of learning in a coherent, easy-to-use way you have to go deeper.

Collaboration is that deeper. Today the word "school" denotes a place where you learn but also a group, and its origins in Ancient Greek are looser still. It began as a word for leisure and then started to denote a favorite pastime - discussion, debate, inquiry - and eventually the place where this activity happens. This kind of open discussion, or collaboration, is the fundamental form of academia and the purpose of OAE is to enable it online and at scale. Courses are one expression of it. Research is another. And by being built on this more fundamental paradigm rather than courses, OAE finally makes it possible to provide academics and students with a seamless online experience that meets all their scholarly needs.

Rather than the Next Generation Digital Learning Environment that has been the focus of much recent discussion we envisage a Next Generation Digital Learning And Research Environment or, more simply, a New Academic Environment. We are developing OAE to support it.

Venue for collaboration
OAE can be seen as a mash-up of DropBox, Slack and Google Docs with an academic flavour. You can share files. You can form groups and work together. You can draft and edit documents. Most importantly, you can do all this in a coherent, simple interface that reflects the needs - and respects the norms - of academia.

OAE recognises that academic life involves work both within an institution and across institutions. Not to mention work with people outside any institution. Enabling these different scenarios to be handled naturally by users is part of OAE's DNA.

File sharing and collaboration are day-to-day needs where many academics and students feel abandoned by their institution and turn to consumer services. They surrender control of the confidentiality of their work, their privacy, personal data, social network and even ownership of their materials in return for convenience. OAE has been designed to return sovereignty over all data to academics, students and their host institutions.

The academic environment creates a wide range of non-functional requirements for universities including accessibility, reliability and security. Just as OAE's feature set is tailored to academia, so are the non-functional aspects thanks in part to it being exceptionally well engineered on a modern stack. It scales to support real-time collaboration between millions of users.

Collaborative infrastructure
The collaborative experience provided by OAE is fundamental to academia. There is no part of learning or research that does not involve file sharing, discussion and groups. The role of OAE then is to be a broker between users and institutions on the one hand and applications on the other.

This issue of how such infrastructure should be provided is not just a technical question. OAE is open source and committed to supporting open standards. In addition, OAE resides in the cloud and naturally supports collaboration across many institutions. It is designed to be a player in an ecosystem, not a monolith. This modern and open technical approach in turn raises novel "soft" issues of trust and governance and the capability of the cloud provider.

On one side of the brokerage, OAE builds on the established academic infrastructure for authentication and identity by integrating with Shibboleth and national access management federations. However, large swathes

of academia exist outside this realm and will continue to do so for the foreseeable future. So OAE also supports a wide variety of other authentication strategies, including the Google and Microsoft approaches.

On the other side of the brokering, OAE Project is committed to supporting the widest possible range of apps. To this end, OAE aims to support the principle interoperability standards of both the educational and non-educational technology worlds. We have a way to go to realize this objective, but the promise of standards such as Digital Object Identifiers, IMSGlobal LTI and open widget standards are entirely aligned with OAE's objective of supporting learning, research and academic practice.

Both the back and front ends are exposed via public APIs. Early integrations have been designed for deep integration, for example video hangouts via Big Blue Button or JITSI.

An important area of integration is in learning analytics. OAE already supports the Tin Can API and Apereo is spearheading the development of the worlds first open source learning analytics software stack. Elements of this stack are being used at national scale in the UK's Jisc analytics service, are in use in institutional and statewide initiatives in the United States, and are about to begin a national pilot in France. OAE provides an xAPI activity stream which can be consumed and analyzed by standards-conformant

learning analytics components, such as the Apereo Open Analytics Stack. OAE will continue to support secure disclosure of open learning data, and, explore the utility of other emerging specifications such as IMS Global Caliper as they develop.

Conclusion
OAE is a flexible, connected and permeable environment, robustly engineered for real-time interactions at scale and demonstrably capable of becoming a major component of a next generation digital environment for learning, teaching and research - the New Academic Environment we are working towards. Think of OAE as the connected back-plane of that environment, capable of extension and adaptation to a rich variety of needs.

OAE is an open source software, made available under the Educational Community License 2.0 license (a form of the Apache 2 licence modified by the Open Source Initiative to deal with some issues specific to academia). This brings with it the established advantages of open source in encouraging innovation and guaranteeing open standards.

Open source software has demonstrably helped drive the development of interoperability standards such as IMSGlobal LTI. As we as a community turn to advance interoperability, resolve the LMS into a more flexible set of components, and develop and extend services to enhance academic collaboration, the question has to be asked: what inter-

est to the commercial-proprietary vendors of the monolithic LMS have in deconstructing those monoliths? Open source software is bound by no such interests, and helps to keep the market honest. We're determined to reach for the next generation of academic practice online. Why not get involved?

http://oaeproject.org/
https://apereo-oae.slack.com/
https://github.com/oaeproject/

Two OAE use cases: *Unity and ESUP-Portail

Case Study 1
*Unity: A new approach to the cloud

The OAE's potential to change to the scholarly technology environment is demonstrated in *Unity, the OAE Project's global hosting partner.

*Unity has over 20,000 tenancies covering the entire range of universities and research institutes around the world. About half of these are connected to *Unity with Single Sign On, via the access management federations and the Research and Scholarship tag wherever possible. It is already by far the easiest way for academics and students anywhere to collaborate with each other with the protection and support of their institution and

without sacrificing control of their identity, personal data and materials to a third party.

The governance issues are tackled in part by the open source approach and commitment to open standards, in part through a Partnership Agreement between the OAE Project and *Unity's provider, *Research.

Trust and capability is supported by *Research's membership of many access management federations and its reputation after providing services to hundreds of institutions in academia for more than 20 years.

Home http://unity.ac/
User Group https://research.unity.ac/group/rr/BJTVEvQ-e

Case Study 2
ESUP-Portail: Ever more popular

ESUP-Portail is a French Consortium promoting and developing open-source solutions for higher education. With more than 70 members, this community of higher education and research institutions has been working for more than 15 years in the field of digital services for students, staff and teachers.

A convention was signed in September 2013 to formalize the involvement of the ESUP-Portail in the OAE Project. In order to comply to the French and European laws regarding data security and privacy, the Consortium decided to deploy its own instance in 2010 and its use has been growing ever since. Nowadays, OAE is being used in many different contexts and levels.

OAE is a great asset for team work in an educational context. It is used between students for everyday activity such as sharing course notes or working on a common presentation. It also helps students and teachers interact in a wide variety of projects.

The Consortium has also identified several use cases involving national and international collaboration, including with the French Ministry of Higher Education and Research. The platform is used for specific inter-institutional strategic groups, but also for working groups within an institution, like IT governance or routine management discussion.

With now more than 2400 groups and 10,000 users, OAE has become an increasingly popular tool for collaboration in the French higher education landscape.

https://www.esup-portail.org/