The Open Knowledge Initiative™

General Information

Abstract

The Open Knowledge Initiative (OKI) is defining an architecture that precisely specifies how the components of a learning technology environment communicate with each other and with other campus systems. By clearly defining points of interoperability, the architecture allows the components of a complex learning environment to be developed and updated independently of each other. This leads to a number of important benefits:

> Learning technologies appropriate for **a range of teaching and learning requirements** can be integrated together into a common environment. The needs of the Math department are not those of the English department, and tools that work well for new users may not be adequate for seasoned users.

> Learning technology and content can be more **easily shared among schools and departments**. This provides a catalyst for cooperative and commercial development.

> There is a **lower long term cost of software ownership** because single components can be replaced or upgraded without requiring all other components to be modified.

> Modularity makes learning technology **more stable, more reliable, and able to grow with increased usage,** and allows components to be updated without destabilizing other parts of the environment. OKI is based on technologies that have proven to be scalable and dependable in large scale enterprise computing environments

> The architecture offers a **standardized basis for learning technology software development**. This reduces development effort and encourages the development of specialized components that integrate into larger systems.

At the core of OKI is a set of application programming interfaces (APIs) that realize the OKI architecture. OKI is providing Java versions of these APIs. These Java APIs are provided for use in Java-based systems and also as models for other object-oriented and service-based implementations. OKI's partners and developer community are providing open source examples and reference implementations of learning technologies that make use of the APIs.

Higher education leaders recognize that learning environments are a core component of their information technology infrastructure. These environments must successfully support faculty and students, and they must be flexible enough to adapt to a range of instructional requirements and styles. The technologies must be robust and must scale up to support an ever-increasing demand.

OKI is being developed by and for higher education. OKI was started with Mellon Foundation funding and has grown as partners have received additional funding for specific OKI-related projects and activities. Institutions of higher education can take concrete steps to move OKI forward. These include making OKI part of procurement and product definition cycles and participating in the OKI development community. This will help direct the efforts of the vendor community and will help campuses move more quickly to a stable and scalable learning technology infrastructure that effectively supports their educational processes.

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Project Information

Funding
The generous support of the Andrew W. Mellon Foundation provides start-up funds for an initial two-year period. The OKI project is designed to evolve into an ongoing community effort.

Project Leadership
Vijay Kumar: Principal Investigator, MIT
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Core Collaborators
The following institutions are core collaborators to the Open Knowledge Initiative, contributing resources and expertise to the OKI project.

Cambridge University
Dartmouth College
Massachusetts Institute of Technology
North Carolina State University
Stanford University
University of Michigan
University of Pennsylvania
University of Wisconsin, Madison

Application Developers
The following institutions are working with OKI to coordinate future development of educational applications in compliance with OKI standards.

Rice University
University of Washington
University of Massachusetts, Amherst
Johns Hopkins University
Northwestern University
Princeton University
University of California, Berkeley
Harvard University
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