



Overview

The Open Knowledge Initiative (O.K.I.) defines an open and extensible architecture for general purpose infrastructure with a specific focus on learning technology targeted to the higher education community. O.K.I. provides detailed specifications for interfaces among components of a learning management or other environment, and open source examples of how these interfaces work. The O.K.I. architecture is intended for both commercial product vendors and higher education product developers. It provides a stable, scalable base that supports the flexibility needed by higher education, as learning technology is increasingly integrated into the education process.

O.K.I. defines an architecture that precisely specifies how the components communicate with each other and with other systems. The architecture offers a standardized basis for development with proven, scalable technologies, thereby reducing development effort and encouraging the development of specialized components that integrate into larger systems. By clearly defining points of interoperability, the architecture allows integrating independently developed and updated components into complex learning environments. Learning technology and content, shared more easily among schools and departments, provides a catalyst for cooperative and commercial development.

At the core of O.K.I. is a set of service interface definitions (SIDs) that realize the O.K.I. architecture. O.K.I. is providing Java versions of these APIs for use in Java-based systems and also as models for other object-oriented and service-based implementations. O.K.I.'s partners and developer community are providing open source examples and reference implementations that use the APIs.

There are several benefits that flow from an API approach. The most important benefit is that the work of building an application can take place independently of the services it will require from the API. Another benefit is that more than one implementation of a service is possible without requiring the application program to change. So long as an implementation of a service maintains the API, implementations can vary without requiring any changes in an application using the API.

By defining APIs that are not bound to any one implementation of a particular service, O.K.I. provides a layer buffering application from infrastructure that is localized or might go through changes that would otherwise require major re-writes of application-level. The services themselves are modular, bound together loosely through shared objects and interfaces. O.K.I. architecture offers APIs that occupy a variety of layers, from the basic infrastructure through application domains.

The goal is to facilitate development and sharing of applications, which O.K.I. commonly calls "Tools", through a rich set of services. These allow developers to concentrate on the real pedagogical aspects of design rather than basics such as how to authenticate a user or where to store documents and metadata. Sharing is facilitated through the abstraction provided by APIs, allowing an application built at one institution, using a particular collection of infrastructure services, to be easily transported to another.