

EDUCAUSE 2010 - EdUnify Presentation

Discovering and Using Web Services for Higher Education with PESC EdUnify

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Format:

Campus Perspective Presentation

Level:

Introductory

Suggested Audience:

Chief information/technology officers, IT directors and managers, Frontline practitioners

Topic Area 1:

Integration Solutions, Service Oriented Architecture, and Web Services

Topic Area 2:

Middleware and Integration Services

Topic Area 3:

Strategic Alliances, Collaborations, and Partnerships

Presentation Abstract:

Because data interchange standards are not consistently implemented, it is hard to access data across higher education. PESC and thirty universities, vendors, and government agencies have created EdUnify, a web service registry, index, and ontology service to help users discover and harmonize web services to build integrations across higher education.

Presentation Content 1. Statement of the problem or issue:

Presently it is hard to access data across higher education. Data interchange standards are not widely implemented by vendors, academic institutions, and government agencies. Where standards are implemented they are not registered or documented in an infrastructure that allows them to be readily used by people building integrations and looking for data. EdUnify infrastructure allow vendors, academic institutions, and government agencies to register their data interchange specifications and implementations and map them to standard terminology for interoperability.

Users of EdUnify will be able to use these registry, index, and vocabulary services to build integrations, inventory services, and access data across higher education. The Postsecondary Electronic Standards Council (PESC) is the right organization to undertake this effort, because it is a neutral party with a track record of success in developing and implementing standards for higher education.

Presentation Content 2. Description of activity, project, or solution:

In December 2009, the Postsecondary Electronic Standards Council (PESC) convened the EdUnify Task Force comprised of forty-five people from thirty organizations to consider questions of system interoperability across higher education. These organizations included universities, application vendors, web-based service providers, and government agencies. The group determined that in general the effectiveness of data and information technologies is severely limited by access methods, differing protocols, non-standard payloads, varying data definitions, and the inability to trust disparate applications which are isolated by proprietary design.

Billions of dollars are spent annually trying to move data across components employed by stakeholder computer systems. The current state of automation, with all its redundancy, unnecessary aggregation and inaccuracy render a tremendous burden on the educational investment society as a whole is making. Policy, governance, research, teaching, administration, funding, and learning are all impacted. The unintended consequence of metered design without considering the external interchanges which contribute to additional obstacles and costs is avoidable. The accurate, authoritative and secure transmission of data spanning components and stakeholders would respect and reinforce autonomy and roles, by connection, rather than push the work around mentality that has been fostered by the industry fearful of data access, use and security.

The education industry spends approximately 4% of operating expenses on IT which is approximately \$50 Billion annually. Of that, approximately 50% or \$25 Billion is spent supporting connections and movement of data across disparate applications inside and outside the institution poorly. Even with that much money spent to keep things band-aided together where funding has been applied, the ineffective use of technology is wasting away the capacity of tools and the investment in automation. Without addressing the challenge of integrating systems and bridging standards, true success in efficiency and innovation will remain elusive. Automation can empower and serve the industry with innovation and unity in purpose.

To begin to address these challenges, the task force called for the creation of web service registry, index, ontology, feedback, and search services to provide a solid foundation on which to build higher order services for integration and interoperability in the future. These services will enable both human users and automated applications to search, find, and interoperate with other applications on the web using semantic web technologies. This approach acknowledges and attempts to address two key problems: first, there is presently no effective method for searching for web services relevant to the higher education; second, the web services available today conform to a variety of standards or no standard and require some mapping or "cross-walking" in order to be useful across organizational boundaries.

The task force convened a business work group to develop a plan to implement these EdUnify services, drive adoption, and achieve sustainability. A second work group with technical expertise developed formal use cases, studied research in distributed and federated directories and semantic web technology and consulted with additional experts to propose candidate designs for the core services and reference applications that will use them. The task force will perform proof-of-concept implementations with task force participants throughout 2010 and publish and release its work in fall 2010.

Presentation Content 3. Outcome:

The PESC EdUnify Task Force has developed a proof-of-concept distributed directory, ontology, and search service to implement the use cases defined by the process. Using examples like the OpenEAI academic history web service, SunGard Banner web services, and PeopleSoft web services, we can demonstrate how the discovery, mapping, and invocation of web services could work across higher education. For example, we will demonstrate how universities looking to build integrations with their student information systems like SunGard Higher Education's Banner and PeopleSoft's Campus Solutions. Additionally, we can demonstrate how online service providers, such as course transfer articulation web applications can search for web services to allow application users to import their academic histories into the online application. These use cases and more demonstrate how EdUnify infrastructure expedites integration across higher education.

Presentation Content 4. Importance or relevance to other institutions:

Today, these activities of discovering, mapping, and invoking web services to build integrations between an institution's own systems and trading partners is a central activity of integration work for all institutions.

Reducing the time and cost of discovering and effectively using web services goes right to the bottom line. It saves organizations money and allows them to focus on serving the higher-level business processes and their users.