

PPS Web Application Development – Standards and Guidelines

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The following guidelines should be considered when developing web applications that use PPS web services.

Security & Performance Coding Standards

It is recommended that any new development follow standards laid out by the Open Web Application Security Project

The Open Web Application Security Project (OWASP) is a 501c3 not-for-profit worldwide charitable organization focused on improving the security of application software. Their mission is to make application security visible, so that people and organizations can make informed decisions about true application security risks. For more information visit the link below:

http://www.owasp.org/index.php/Top_10_2010-Main

Design and Architecture Standards

Third Party Web Service Framework Tools

We recommend the use of a third-party web service framework tool that allows auto-generation of low-level client code required to consume these services. This frees the development team from dealing with repetitive and tedious XML document processing.

Façade Pattern

The web services should be presented to the web app as a service façade. In a facade pattern an object is created to provide a simplified interface to a larger body of code, such as a class library, or in this case a web service collection. Advantages to this pattern include:

- Decoupling the web application from the service layer
- make a software library easier to use and understand and test
- make code that uses the library more readable,
- reduce dependencies of outside code on the inner workings of a library,

Performance Testing

Since any web service effort involves the mainframe, significant loads may have an impact on other campus mission-critical processes or applications. It is strongly recommended that a stress test be executed prior to production release. It is up to campuses to determine the appropriate load tolerances and response times and validate these with the web services governing body as laid out in this document and all system stakeholders. IR&C has had success with cloud-based services like BrowserMob.

Documentation for Developers

Design documentation for PPS web services were included with other release documentation for IR&C's EDB Update application. This documentation can be found by following the link below:

<http://www.ucop.edu/payroll/REL2010/R1923/>

In the future, a documentation repository will be established to house all relevant documentation for developers.