ICE-RS at the Systemic Infrastructure Initiative 2007 roadshow

About this document

This document outlines and demonstrates the progress of the ICE for Research and Scholarship project for the USQ Systemic Infrastructure Initiative (SII) 2007 Roadshow. The document is to be presented by Daniel de Byl in Melbourne on the 16th of August and by Dr Peter Sefton on the 20th of August at Adelaide, and on the 22nd of August at Perth.

Presentation overview

- Overview of why you would use ICE
- Overview the ICE-RS project
- Features identified for ICE-RS
- Improving word processor work flow
- Bibliographic software integration
- Publishing to institutional repositories

Overview of the ICE application

The Integrated Content Environment (ICE) is a word processor based system that allows authors to work individually or collaboratively on material for the Web, CD and print. Developed at the University of Southern Queensland as an open source project, it builds on using standards and more sustainable methods of authoring using different word processors across multiple platforms.

What is ICE?

- A word processor based publishing system
- Built on standards
- Allows individual or collaborative authoring
- Publishes to print, CD, and Web
  - Learning management systems
  - Institutional repositories

Reasons for using ICE

- Reduces handling of content
  - Content is formatted during the authoring stage
  - Authoring occurs in a standard word processor
  - Instant feedback of different renditions
- Can be used to produce material for Print, Web and CD delivery for course material, papers, theses etc.

- All content revisions are kept and easily retrievable
- Runs on multiple platforms (Windows, Mac, Linux)
- Authoring can occur either on-line or off-line
- Corporate branding can be easily changed

The initial development of ICE was primarily for courseware at USQ however, its flexibility means it can be used to manage all word processor based authoring that requires output to the Web and or print.

How ICE has been used at USQ

- Approximately 40 courses in 2006, now 100+ courses in 2007 at USQ
- Open Courseware at USQ
- Project Intranets
- Public websites

  http://ice.usq.edu.au, http://rubric.usq.edu.au, and some secure sites
- Newsletters
- e-Journal

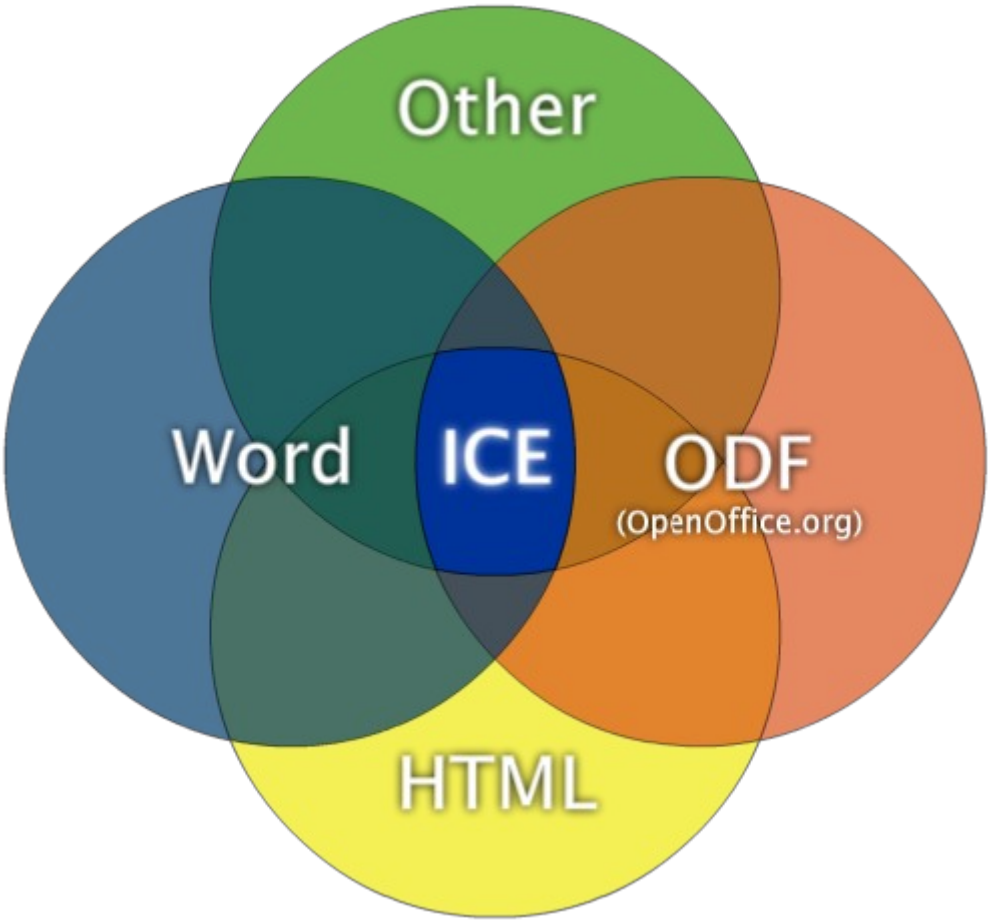
  http://www.usq.edu.au/e-jist/

How ICE works

Word processor common ground

ICE works by finding common ground between the word processors and HTML in the form of styles. By using the common ground not only between the word processor and HTML but also between the different word processors the conversion process is much more reliable.

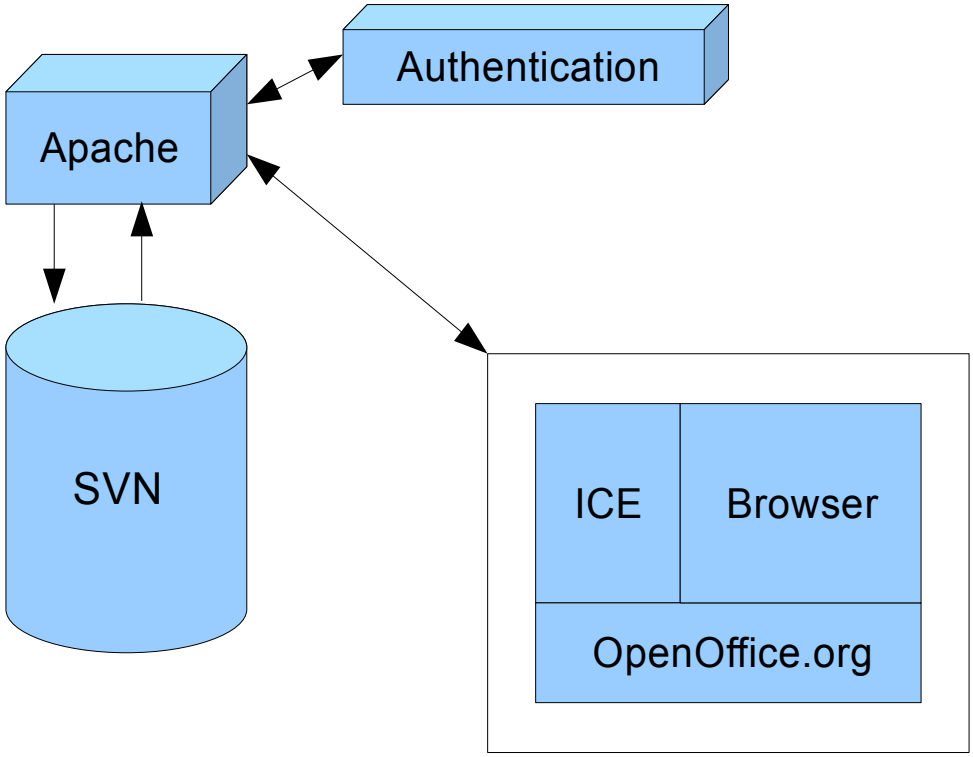
It works by finding common ground – stay neutral in the document format wars



Integration with other web services

The ICE application manages and renders documents on the clients system. The storage of the files for version control and distribution are looked after by Subversion and Apache. The distributing of the files is handled using an Apache web server with authentication taken care of by an authentication system of choice, such as LDAP.

Web services integration



A quick ICE demonstration

This is a demonstration of the basics that ICE does, the demonstration includes:

1. Starting up ICE
2. Creating a new document
3. Adding content (Title, paragraphs, headings, lists, an image)
4. Display the document as HTML and PDF.
5. Show the document in a Subversion repository

View demonstration....

Overview of ICE-RS

Purpose of ICE for Research and Scholarship (ICE-RS)

Extend the features in ICE to improve the process of conducting and reporting on research, with benefits in improved efficiency, greater usability of research outputs, and publication to research repositories for sustainability.

Overview of requirements for ICE

- Implement functionality for rendering papers, books and journals for Web and print
- Bibliographic software to complement ICE
- Institutional repository ingest directly from ICE (Fez / Dspace / Vital)
- Annotation system for collaborative authoring and review processes
- “Dashboard” proof of concept to report on the state of research held in ICE
- Integrate with the Meta-Access Management System (MAMS)

New features and improvements

Additional requirements and their implementation priorities for ICE over the course of the project to date have stemmed from various sources. These included cycle meetings, talks with pilot users and from users looking into using ICE.

Key features and improvements already implemented

- A more efficient rendering method for papers, books etc.
- Process for creating ICE templates for authors
- Improve efficiency in the word processor for applying styles and structure
- Inter-operable implementation of bibliographic software for OpenOffice.org and Word to complement ICE
- 'Proof of concept' for uploading content into Fedora directly from ICE

Improving word processor work flow

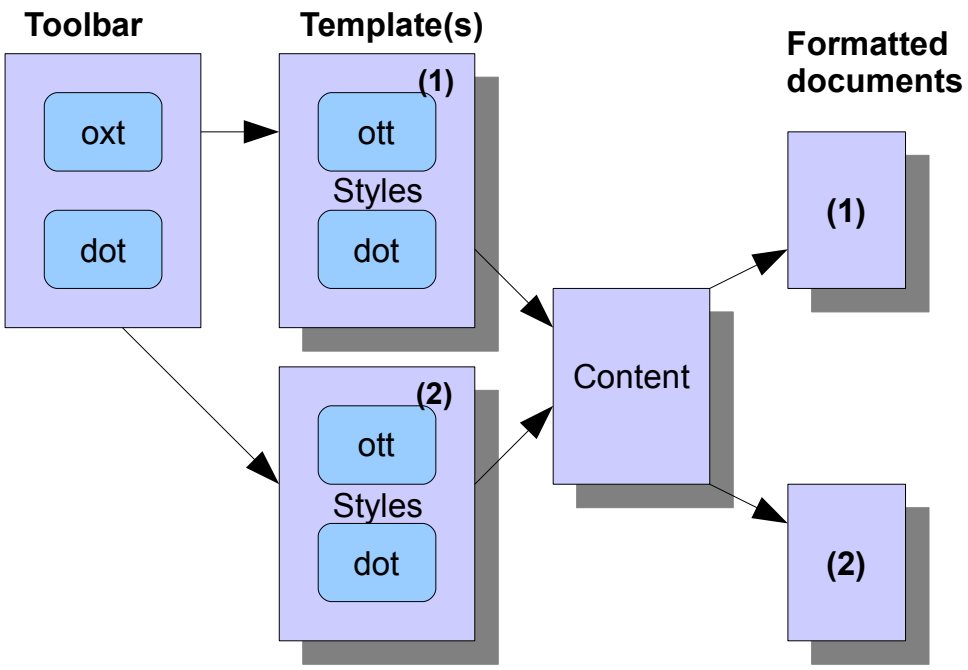
The ICE toolbar has been developed as an OpenOffice.org extension and a Microsoft Word Add-in. The purpose of the toolbar is to apply the ICE styles quicker and easier, this has been achieved by the creation of a toolbar that not only uses identical icons in OpenOffice.org and Word but also uses the same short cuts on all operating systems and word processors. The functionality of the toolbar also includes some “smarts” to assist with the creation of more structurally correct content.

The ICE toolbar requirements

The ICE template up until recently was a basic drop down menu of styles. The work flow in word processors for structuring content, applying and creating styles needed to be more efficient. This has been achieved by creating an OpenOffice.org extension and Word Add-In which contains:

- The same base code with compiler directives to reduce maintenance
- A set of functions with 'smarts' to work out what style to apply
- Common interface for all word processors for these features
- Matching set of short cuts in all word processors

How the ICE toolbar and templates work



oxt - OpenOffice.org extension
ott - OpenOffice.org template
dot - MSWord template

View demonstration...

Bibliographic software for ICE

A requirement of the ICE for Research and Scholarships is to identify the potential to enhance bibliographic software to complement ICE. Zotero was identified as having such potential and is also an open source application. The main requirements identified were to develop an OpenOffice.org extension and Word add-on that uses an inter-operable method of inserting citations and bibliographies.

Zotero as a complementary bibliographic solution for ICE

ICE needed an inter-operable and cross platform method of inserting citations and bibliographies, we found that Zotero had the most potential.

> “Zotero [zoh-TAIR-oh] is a free, easy-to-use Firefox extension to help you collect, manage, and cite your research sources. It lives right where you do your work — in the web browser itself.” (http://www.zotero.org)

Inter-operable Zotero template solution

- Same base code using compiler directives in OpenOffice.org and Word
- Bookmarks used for citations instead of fields as it was proven to be the most inter-operable method

- Document description field was used instead of custom document fields

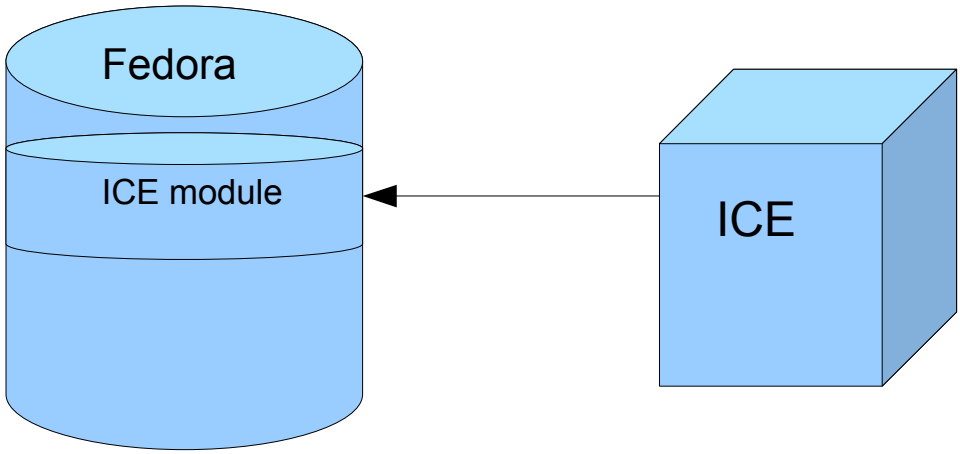
View demonstration....

Repository integration

A major requirement for ICE-RS to be able to publish directly from ICE into an Institutional repository such as Fedora.

Repository integration - Fedora

Proof of concept has been developed for publishing to Fedora directly from ICE.



View demonstration...

Note: This need for method will be made redundant by SWORD (explained later)

Future work

Future work – Server side version of ICE

A server side version of ICE is currently being developed and will include:

- Full text indexing for the generation of dynamic content and searching
- Comment annotations for authoring and reviewers etc.
- Document status reporting – How many papers has my department published?
- Remove the need for ICE to be installed for proofing and minor content edits
- Incorporate the use of identifiers such as handles

Future work – Repository integration

Repository integration from ICE is to be handled using SWORD (scheduled for completion in August 2007).

> "SWORD (Simple Web-service Offering Repository Deposit) will take forward the Deposit protocol developed by a small working group as part of the JISC Digital Repositories Programme by implementing it as a lightweight web-service in four major repository software platforms: EPrints, DSpace, Fedora and IntraLibrary." (http://www.ukoln.ac.uk/repositories/digirep/index/SWORD)

Start using ICE

Interested in using ICE?

You can get in contact with us in numerous ways.

- Anonymously via the contact us page
- Start up a discussion on the mailing lists
- Contact us directly