

Client

The Curriculum Council is responsible for the development and implementation of a Curriculum Framework for kindergarten to year 12 schooling in Western Australia.

Project	Student Records System
Project Duration	May 2003 to Current
Outcome	The detailed design was performed and completed on time and within budget. The development and implementation project is now complete, with the project being delivered on time and budget despite significant political and media attention.
Key Points	<ul style="list-style-type: none"> - Full Project Development Lifecycle - Extensive system analysis and design documentation - Business process mapping - Project planning - Object Orientated Approach - N Tiered .Net Application using SQL Server database

The Need

The legacy Student Records System (SRS) was developed in 1983, and operated under an outdated programming language and database that is becoming increasingly difficult to support and maintain. More importantly, the implementation of the Curriculum Framework, the expansion of Vocational Education and Training (VET) in schools and the recent Post-Compulsory Review (PCR) will place new demands for information processing which cannot be delivered with the current system.

This has serious consequences for the Council's key stakeholders: the government, students, schools, education sectors, government departments, universities, and other private research groups. The Council needs a replacement Student Information Records System (SIRS) to ensure its information systems meet these new requirements.

The Solution

The detailed design phase was undertaken using an Object Oriented Analysis and Design approach. The Enterprise Architect CASE tool was used to develop the class model. A direct representation of the Council's business processes and information needs was created by the Class Model.

The major activities undertaken during the project are:

- A Unified Modelling Language (UML) based model was defined to articulate the detailed design of the system.
- Providing implementation analysis and assistance as required
- Ongoing implementation from the specified design documentation.

Due to the size of the system, the development and implementation of the new Student Information Record System was divided up into four phased approach. The timeframes set for new system were extremely challenging, due to the implementation of the new education curriculum in starting from 2005.

Ross used many innovative approaches to ensure that the application would be delivered by the required timeframes. This included:

- Using an n-tier architecture to separate the presentation, business and data tiers.
- Writing custom controls with enhanced features that inherited standard functionality from Microsoft's controls that would be used throughout the application
- Utilising a tool called LLBLGen Pro, which is an Object Relational mapper and data access tier generator for .Net that generates a complete data access tier for the project in minutes.

- Developing a custom business tier model, using object orientated methodologies that enforced a structured and consistent approach in the implementation of the business rules within the application.
- Using a variety of open source tools such as CodeSmith, N-Doc and N-Unit to assist in the development of application, documentation of the application and testing of the application.

The screenshot shows the Curriculum Council web application interface. The top navigation bar includes links for Courses, Providers, Offerings, Enrolments, Moderation, Student Achievement, Contacts, Reports, Security, Administration, and Marks Book. The user is logged in as Boyd, Raymond (boydr). The main content area is titled "Enrolments: Students: Student Maintenance" and contains several tabs: Student Summary, Student Contact, Program Of Study, Record Of Achievement, Course Of Study Report, and Check WACE Eligibility. The "Student Details" section shows fields for Student Name (Dent, Stu), Student No. (11000637), Date of Birth (8/01/1995), Sex (Male), Student Status (Current), and Main Provider (1154: WESLEY COLLEGE). The "Course of Study Enrolments: Year 12, 2005" section contains a table with columns for Enrolled, Course Name, VET, Provider Name, and External Assessment. Below the table is an "Add Course of Study Enrolment" button. The "COS Unit Enrolments: AVN: Aviation enrolled with 1154: WESLEY COLLEGE" section is also visible. At the bottom, there are "Save", "Cancel", and "Close" buttons, along with a footer containing the copyright notice "© 2004 Curriculum Council - Copyright" and the date "Tuesday, 20 September 2005".

Enrolled	Course Name	VET	Provider Name	External Assessment
<input checked="" type="checkbox"/>	AVN: Aviation		1154: WESLEY COLLEGE	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	AVN: Aviation	<input checked="" type="checkbox"/>	1154: WESLEY COLLEGE	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	MEPA: Media Production and Analysis	<input checked="" type="checkbox"/>	1154: WESLEY COLLEGE	<input checked="" type="checkbox"/>

Ross also employed strict Project Management methodologies to ensure the smooth running of the project. This included:

- Scheduled meetings with stakeholders and the steering committee to discuss and resolve project related issues
- Fortnightly Project Status Reporting
- Formalised Testing approach, where Unit Testing and System Testing are completed and results recorded for each module before being released for User Acceptance Testing.
- Strict Configuration Management procedures required due to the Phased approach of the application.

Curriculum Council Logged In As: [Boyd, Raymond \(boydr\)](#)

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Courses: Course Details

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Course of Study

Year Offered : Offered From Year: To Year:

Course of Study Code :

Course Title :

Status :

Effective Date :

Curriculum Council Resolution Number :

Has VET Course of Study :

Moderation Style :

School Department :

Education Officer : ... X

Exam Types :

Essential Content :

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The Result

The Analysis and Design phase of the project was completed successfully on time and on budget in January 2004. After an extensive tender process, Ross was selected to develop the application as specified on the delivered design documentation.

The Development and Implementation phase of the project started in October 2004 and has now completed. Some additional development work will be undertaken to implement new requirements and enhancements and Ross will continue to support the application.