

Customer Case Study

University of the Western Cape

Industry: Higher Education

Location: Cape Town

Technology Deployed:

- Microsoft .Net 3.5
- Microsoft ASP.Net MVC
- Microsoft Enterprise Blocks
- Microsoft SQL Server
- Microsoft IIS and Windows Server 2003

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Ulandi Greyling (Programme Manager, SEMS)

Client Overview

Among academic institutions, the University of the Western Cape (UWC) has been in the vanguard of South Africa's historic change, playing a distinctive academic role in helping to build an equitable and dynamic nation. UWC's key concerns with access, equity and quality in higher education arise from extensive practical engagement in helping the historically marginalised participate fully in the life of the nation.

UWC has been ranked as one of South Africa's top universities, recognised for its excellent undergraduate programmes and it is establishing itself as a significant research centre, leading the nation in an increasing number of fields.

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Executive Summary

The University of the Western Cape’s legacy system for the capture of marks across all assignments, tests and exams was developed in isolation to the vision of an integrated student administration system. It was difficult to enhance and maintain due to the unstructured and unstandardised codebase. Airborne was contracted to redevelop the solution for undergraduate studies in order to enhance the reliability and maintainability of the system and to form part of the new integrated environment.

Challenge

UWC’s custom-built Student Administration Systems did not support their goal of an integrated solution that would enable the institution to provide excellent service to their students. Integration between these systems was performed in a point to point manner with little governance and the systems had unclear data ownership, resulting in poor quality data and little accountability. The institution needed a focussed, best practice architecture approach to their hybrid environment.

Airborne’s solution

In order to increase the productivity of ongoing development, as well as the quality of solutions, a number of development best practises as well as standardised tooling and development platforms were adopted. An integration strategy was adopted to utilise a service bus for all communications between systems, and architectural principles were adopted to ensure that accountability and ownership of data was addressed.

Airborne developed a new Marks Administration System for undergraduate marks and Financial Aid Administration System using a common technical solution architecture, built upon a

standardised set of componentry. These systems are built using an object oriented approach with full regression testing capabilities, with both comprehensive unit testing and automated user testing suits.

The systems developed utilised Microsoft’s MVC to the fullest, having started with pre-release versions of this framework. This allowed Airborne to make full use of Microsoft Test to build and run regression tests in the form of both unit tests and UI automation tests. The integration platform was also developed on the latest version of Biztalk Server (2008) using the very new ESB Guidance from Microsoft. Both of these were used in their pre-release guises to develop the integration bus, and then the final solution was released on the release version of the products.

At the same time Airborne successfully implanted an integration bus utilising Biztalk Server 2008, with Enterprise Service Bus Guidance to integrate the plethora of systems that UWC has for student, marks and program administration.

Satisfied Customer

Says Ulandi Greyling (Programme Manager, SEMS), “UWC and Airborne have a long-standing relationship, and they have become a trusted partner on this program. Together we have identified areas of inefficiencies and identified strategies to address these through the implementation of best practice in software development, and focused delivery which is predictable and gives real business value.”

Benefits of the Airborne solution include:

- Fast development cycle
- Fast turnaround times for new features and enhancements
- Quality assurance in the solutions
- Reduced complexity in the integration space

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Looking ahead

Although not yet implemented, UWC and Airborne have realised that there are opportunities to greatly improve the collaborative capabilities of various institutional bodies. This will be achieved in the development and sharing of committee decisions which largely govern the workings of UWC, through the implementation of collaborative meeting work spaces, decision recording, task allocation and process governance through workflow..

Underpinning UWC's future ability to achieve its goals of increasing efficiency is a sound physical information technology architecture and this is to be addressed as the first step in the process, by performing physical architecture analysis and deriving recommendations through an "infrastructure optimisation" process which will lead to the implementation of Active Directory and Exchange. Airborne has implemented a strategic platform for the integration of information across all systems in the form of Enterprise and Biztalk ESB.

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