CHAPTER 8

STUDENT AND STAFF PORTALS AS SUPPORT CHANNELS FOR THE FIRST-YEAR ACADEMY

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Introduction

Using technology to support student learning is well accepted, but using technology to support systemic initiatives is a less well-known approach. This paper discusses some of the issues that should be taken into account when designing portals and shares some of the innovative approaches adopted at Stellenbosch University (SU) in order to support the First-year Academy (FYA) initiative.

In 2002, SU initiated the Portal Project, an ambitious drive to develop and establish web portals as key infrastructure and tools for campus communities. Since then, three web portals have been developed and rolled out; namely, a student portal (www.mymaties.com), an alumni portal (www.matiesalumni.net) and a staff portal (my.sun.ac.za). The FYA is an academic initiative focused on the success of all first-year students and was officially launched at the beginning of 2007. One of the specific aims identified by the coordinating committee of this initiative was to investigate the use of portals as communication channels to students, lecturers and parents or the persons responsible for the specific first-year student's account. Timeous and targeted communication with these stakeholder groups on the progress of this group of students is of utmost importance to enhance the students' chances to achieve success. The coordinating committee felt that the portals, as 'user-centric' communication channels, would be ideally suited to fulfil this role (First-year Academy Coordinating Committee, 2006:10).

This chapter will firstly provide some background as to how Stellenbosch University identifies a portal. It will then show how the portals specifically add value to the FYA initiative. The chapter will also show how the portals strive to provide student-

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centric and staff-centric places of work, integrating many useful functions, services and information feeds into a common interface. We will share useful lessons learnt, as well as what we consider to be critical success factors for institutional portals. Finally, we will provide a glimpse of future plans.

Background

... portal initiatives, by definition require across-the-institution agreements on approach and design that are hard to achieve in loosely coupled organisations like academic institutions. (Katz, 2002)

The Portal Project at SU was one of the key projects in the University's broader six-year e-Campus Initiative (2002-2007). This was an organised and coordinated effort, not only to further the integration of information and communications technology (ICT) into all the University's activities, but to create a 'networked' university.

The management of the Portal Project was a cross-institutional management process which was quite complex due to the different divisions involved in the deployment of the portals. A high-level steering committee governed the project and a mid-level executive committee managed the sub-projects. Each portal was defined as a sub-project in its own right with its own owner, project manager and project team. Since the formal development phases of the project have terminated, a cross-institutional project committee now coordinates their governance, refinement and further deployment. ICT consultants, Gartner, in reviewing the success and failure of enterprise/institutional portal projects globally, confirms that sound portal governance is the most critical success factor (Phifer, 2008).

SU defines a portal with respect to its scope and audience. The scope could be, for example, an enterprise, an institution, the government, an industry group, an interest group or a community. With regard to audience, it could be, for example, the institution's employees, alumni, students, partners or prospects.

According to a Gartner research report, a portal can be defined as: 'Access to and interaction with relevant information, applications and business processes by select, targeted audiences in a highly personalised manner' (Bell, Chin, Drakos, Driver, Gilbert, Gootzit, Knox, Lundy, Natis, Phifer, Shegda & Valdes, 2006).

Portals are defined in terms of audiences. We contend that it makes no sense to refer to a portals as a 'Library portal', or a 'Faculty of Engineering portal', or an 'HR portal'. These constructs merely perpetuate the traditional website approach where the site mirrors the organisational structure. Our portals must be user-centric; they must bring services, applications and information to the user that are relevant to the user both in time and in context, and this use must be evident to the users.

Consequently, we have defined and introduced the following institutional web portals – each with its own goals, ownership, appearance and branding:

1. *Student portal* (www.mymaties.com): This portal contributes to a student-centred campus and e-learning experience, and creates a single point for personalised academic campus life and social information and services.

2. *Alumni portal* (www.matiesalumni.net): This portal facilitates the management of alumni relationships by the Alumni Office and helps to create a virtual community of alumni around their affinity to SU, thereby encouraging support, both intellectually and financially, for the University.
3. *Staff portal* (my.sun.ac.za): This portal creates a secure, personalised environment (intranet) for staff to access management information, academic processes, applications and documents, irrespective of time and place. It is aimed at supporting and simplifying a staff member's daily tasks.

Tentatively introduced during mid-2004, the mymaties.com student portal experienced initial load and performance problems but has been fully operational since January 2006. It is now an essential service for students and the number of applications and services deployed through the portal is increasing regularly. The portal framework is accepted as the official user interface for deploying applications and services targeted at students. It is a continuing challenge to ensure that the portal infrastructure can meet the load demands placed upon it.

The staff portal, my.sun.ac.za, started an incremental, 'soft' rollout midway through the second quarter of 2006. During interactive sessions, in which the portal was introduced to faculty members as a prototype, it became clear that building the portal 'around the user' made intuitive sense to them and was indeed welcomed.

Bringing the university to the user: Services via the portal focused on the First-year Academy initiative

As mentioned in the introduction, SU made a strategic decision to plan a FYA initiative at the beginning of 2006 to improve the success rates of all first-year students. The focus is not only on the students who are struggling. The initiative is also aimed at effectively supporting all students to reach their full potential. It is further important to note that although the success rates of the students are vital, the initiative focuses on quality student learning and not only on student throughput.

The student and staff portals can be effectively used as user-centric communication channels to:

- ▣ aid in the recruitment of students with potential to succeed;
- ▣ implement the model to predict student success; and
- ▣ implement the early assessment system with feedback to both students and lecturers.

Many of the first-year students only realise after the first exam at the end of the first semester (when it is already too late) that they are not coping. The ideal is that all first-year students receive timely and relevant information on their progress in a customisable student portal environment (First-year Academy Coordinating Committee, 2006:9-10).

To provide these targeted personalised services, the portal should recognise a user as a first-year student and target that student with the assistance, information and services

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that the FYA deems necessary. In order to do this, the Academy has defined who is deemed a ‘first-year’ and the necessary user auto-provisioning is under development so that the portal managers can ensure that a first-year student experiences a portal tailored to his or her needs.

Recruitment and career selection

The FYA Coordinating Committee identified the right career choice as one of the factors that could ensure the success of a first-year student. It is furthermore important that the University recruits students with potential and advises them in the best possible manner. Prior to the existence of the student portal, mymaties.com, the official website for current students was named maties.com. Its role was to prepare students for a less stodgy branding of their online environment in the institution, but it was still essentially a ‘one size fits all’ website that could not be customised or personalised.

With the advent of the portals, the concept of a ‘campus pipeline’ (Figure 8.1) was developed.

The website maties.com has become the recruitment website for SU. Prospective students obtain career advice here and are able to apply online. Upon successful application they move smoothly into the personalisable mymaties.com portal environment, but with the role of prospective student, so that relevant content and services are targeted at them. The portal environment requires them to log on so that their identity and role are known to the system.

Figure 8.1 The ‘campus pipeline’ model

Prediction models for academic success

One of the working groups of the FYA Coordinating Committee was tasked to look at the different variables one could include as part of a model to predict academic success. The university gathers a significant amount of data about first-year students even before they write their first test. The challenge remains to effectively integrate all of these data sources into a model to predict student success. These data sources include:

- ▣ school marks and access tests marks;
- ▣ qualitative data from the Alpha Baseline Questionnaire that all first-year students complete within their first week at university. This questionnaire is based on various self-reporting questions that include, for example, students' perceptions of how they rate their chance of academic, emotional and social wellness; and
- ▣ biographical data, including information such as school attended and their gender.

One of the issues raised in preliminary discussions was whether to display the results of this model to the students at all. Some feel that if it is clear from a specific student's profile generated by the model that the student has a very poor chance of success, the student will immediately give up. Conversely, the 'bad' profile could inspire a student to work very hard to defy the odds and to achieve success. Similarly, a student with a 'good' profile might think that he/she does not need to study. No final decisions have been reached in this regard, and whereas it might be technically easy to display each first year student's profile within the student portal, the advantages and disadvantages will have to be weighed up very carefully.

This prediction model can also be used to predict what the chances of a student with a specific profile are of achieving success in a specific course, by taking the performance of other students with similar profiles into account. Again, as we have discussed, this could be quite problematic to display within the portal environment. Although the student's profile will only be visible to him/herself, it could act to demotivate rather than to motivate.

Similarly, if these student profiles were displayed to lecturers, serious questions would have to be asked as to whether the data from the Alpha baseline questionnaire should be included. The main purpose of this questionnaire is to identify the specific needs of individual students in order to refer them to the appropriate support services. This data could be very personal in nature and students might not want their lecturers to have access to this type of information.

Early assessment, tracking systems and feedback

The earlier that we identify first-year students who are struggling, the better their chances of getting timeous feedback and assistance, which could greatly improve their chances of success. The focus at SU is, therefore, to design an early assessment system with the appropriate feedback channels to students, lecturers, relevant committees that look at first-year success, and even parents or the person(s) responsible for paying the student accounts.

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One of the most successful initiatives of the FYA is the FYA Monitoring System, which was launched in 2007. According to this initiative, a mark for every module of every first-year student needs to be loaded in the Student Information System (SIS). These are loaded after the first six weeks (early assessment) and after the exams. This type of early assessment helps to identify those students who are struggling. (For more detail on the initiative, see Van Schalkwyk, in press). The real challenge was to design an information system that would display the results so that it would provide:

- ▣ the students with their results (student view);
- ▣ the lecturers and academic support personnel with a picture of a specific student's overall progress (lecturer view); and
- ▣ academic management (for example, deans and programme coordinators) with summative information on programme and comparative data (management view).

The staff portal delivers a perspective of a student's academic performance or perhaps a profile of a problematic subject module to a lecturer or an academic support professional. The student portal gives a student a different but relevant perspective of his or her own performance or an indication of the type of challenge a particular module will present. In short, the idea is that the respective portals deliver an individualised perspective of the information contained in or produced by a tracking system to their respective audiences. The objective is that both students and staff will be placed in positions of being able to take action or intervene timeously.

Student view

A very popular function amongst students is the marks portlet (including early assessment and examination results), which consumes a live feed from the SIS. As soon as early assessment and examination marks are uploaded to the SIS, they are available to students within mymatics.com. There are no delays because of manual interventions. With time it is envisaged that test marks will also be delivered through a similar portlet. The marks function does, however, cause major peak loads on the portal infrastructure and the 'pushing' of information to mobile devices is being considered to mitigate the effect.

It must be emphasised, however, that notification of achievement alone is not enough. Feedback to students accompanied by relevant assistance is of vital importance. Here, the student portal can be a very powerful tool to not only 'push' information to the student on his/her progress, but to also recommend what types of assistance are available and, if possible and applicable, track whether the particular student actually made use of the assistance provided.

Lecturer and academic support personnel view

If lecturers could also have access to the complete academic profiles of the students in their modules (obviously not confidential data, such as whether a student visited the Student Counselling Services), they would get a better idea of which students are not

only struggling in their module, but also perhaps in their whole academic programme. In this regard, the staff portal provides a very important communication channel.

Figure 8.2 shows the information student portlet. This portlet delivers an individual student's profile from the central SIS and allows a staff member, with the necessary access rights, to query biographic and academic information about a particular student. The portlet is the vehicle through which additional, relevant information about students is delivered to authorised staff; it gives a view of the 'whole' student. A collection of similar portlets will combine and integrate information from various systems into a single and coherent user interface.

The lecturers have both a module and programme context view of early assessment results. Although lecturers have a good idea how specific students are performing in their individual modules, it is often difficult to ascertain how a specific student is performing in his/her programme. The programme view places a student's performance into programme context and also supplies useful information regarding the student's Grade 12 and access test marks.

It is notable that this view also indicates to the lecturer what percentage of the modules within a specific programme the student has passed. It automatically groups the students in increments according to the categories – 0% passed to 100% passed – and also colour codes the respective categories from red to green. A lecturer, therefore, has a visual overview of the students who might be experiencing difficulty in all their modules, and the lecturer can then, in collaboration with other lecturers, plan an appropriate intervention.

Academic management view

It is also useful to provide the early assessment data to relevant committees within faculties to enable them to suggest and recommend interventions at faculty level if appropriate. From a management perspective, deans also require information at a more aggregated level to compare programmes and specific modules within faculty context as well as to benchmark their faculties against other faculties. The academic management view of the early assessment results, therefore, includes additional spreadsheets and graphs that display summaries per programme, per faculty and per module. The portal also provides a list of modules where the pass rate is below 65%.

The portal as student-centric and staff-centric spaces

A degree of user-centricity has been demonstrated in the previous sections. The screenshots of the student and staff portals, shown in Figures 8.3 and 8.4, demonstrate how menu structures are designed around an individual's information needs, for example, in the case of students: My Profile, My Studies and My Finances. In addition, these menu structures are designed around sets of tasks that users typically perform, for example, in the case of lecturers: Manage (my) Modules and Manage (my) Students. In the latter case the horizontal top menu is organised around the core functions of academic staff, namely, teaching and learning, research, community interaction and management (for academic managers).

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my.sun.ac.za
Stellenbosch University Staff Portal

Logout Almanac Help

November 2, 2009

TEACHING AND LEARNING RESEARCH COMMUNITY INTERACTION FOR MANAGEMENT

Student information

IMPORTANT
This information is confidential and may only be used for internal purposes. It may not under any circumstances be disclosed to any other student or an unauthorised person. Disciplinary steps will be taken in the event where confidential information is disclosed in an unauthorised manner.

Student name:

Student number:

Student Photo

Biography

Parents

Address/Telephone/Accomm

School

Admission tests

Tertiary academic record

Study record

Early Assessment

Senate decisions

Next Student

1989/02

Yr/Mth	Code	Crđ	Module	PM	CM	AM	Comment
1989/06	12882122		Philosophy	*	*	80	PASS WITH DISTINCTION
1909/06	13145114		French	*	*	03	PASS WITH DISTINCTION
1989/06	44687112		Political science	*	*	75	PASS WITH DISTINCTION
1989/06	44687122		Political science	*	*	81	PASS WITH DISTINCTION
1989/11	12718178		English	*	*	66	PASS
1989/11	12882142		Philosophy	*	*	80	PASS WITH DISTINCTION
1989/11	12882174		Philosophy	*	*	80	PASS WITH DISTINCTION
1989/11	13145144		French	*	*	72	PASS
1989/11	18414178		Psychology	*	*	72	PASS
1989/11	26107178		German	*	*	81	PASS WITH DISTINCTION
1989/11	44687142		Political science	*	*	64	PASS
1989/11	44687152		Political science	*	*	71	PASS

1990/02

Yr/Mth	Code	Crđ	Module	PM	CM	AM	Comment
1990/06	12882222	2	Philosophy	*	*	80	PASS WITH DISTINCTION
1990/06	12882232	2	Philosophy	*	*	75	PASS WITH DISTINCTION
1990/06	13145212	2	French	*	*	51	PASS
1990/06	13145222	2	French	*	*	72	PASS
1990/11	12718278	8	English	*	*	63	PASS
1990/11	12882252	2	Philosophy	*	*	80	PASS WITH DISTINCTION
1990/11	12882262	2	Philosophy	*	*	77	PASS WITH DISTINCTION
1990/11	13145242	2	French	*	*	72	PASS
1990/11	13145252	2	French	*	*	70	PASS
1990/11	26107278	8	German	*	*	82	PASS WITH DISTINCTION

1991/02

Yr/Mth	Code	Crđ	Module	PM	CM	AM	Comment
1991/06	13145312	2	French	*	*	57	PASS
1991/06	13145322	2	French	*	*	72	PASS

Figure 8.2 The student information portlet

Figure 8.3 Student portal, mymatics.com, menu structure

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my.sun.ac.za
Stellenbosch University Staff Portal

Logout Almanac Help

October 29, 2009

TEACHING AND LEARNING RESEARCH COMMUNITY INTERACTION FOR MANAGEMENT

Welcome AD Van Der Merwe

My Webstudies

My First-year Academy Monitoring System

Internal Community

Share/manage my documents

My Learning

My Support

My Well-being

My Storage

Policies, Procedures & Access Tests

Staff Development

Staff Associations

Find

Vacancies

Card Access Management (FMS)

Staff Portal Home

University Home Page

Manage Modules

Manage Curriculum

Manage Students

Webstudies

First-year Academy Monitoring System

Exam/Test Information

Timetables

Academic Support

Centre for Teaching and Learning

University Calendar

Information Cafeteria

Access Tests

Summer School

Currency Conversion

Term and Exam dates 2009

Term and Exam dates 2010

Almanac

My Campus links

Eenheid

Koshuis

Aristeia

Upgrading the voicemail system - Read more...

Share in our social networks:

Twitter Facebook LinkedIn Flickr

Need medical assistance?

SU ARCHIVES PHOTO E-SHOP

i-Security

boschtelegram

Figure 8.4 Staff portal, *my.sun.ac.za*, menu structure

As more information about the user is automatically provisioned to the portals, information and services will become more targeted and relevant with the result that one individual's portal will be different to any other's. Some of this functionality is already in production, such as the 'Announcements' portlet, which targets important announcements at specific groups of users and thus represents an additional, official communications channel.

Building an ecosystem of users

Creating these portals has not been a process whereby the Portal Committee and the designers unilaterally foist their designs on an unsuspecting campus community, but involved interaction with user focus groups to ascertain needs and expectations, and to recruit testers of prototypes. Certain campuses that are located far from the main university campus have unique requirements and specific needs-gathering exercises were undertaken.

The 'ecosystem' takes into account that there are authors as well as service and information providers on campus. One of the stated goals of the Portal Committee is to ensure that faculties, departments and divisions internalise the portals as tools and vehicles for delivering services and information to, and interacting with, their user communities. Implicit in this goal is the elimination of 'webmaster bottleneck', meaning that ordinary people are able to create and deploy information services without the necessity for skilled intervention by a webmaster. Clearly, this drive is a far more ambitious undertaking and would have more chance of being rapidly successful were more resources available to 'evangelise', inform and train. Unfortunately, universities are seldom able to enjoy such luxuries.

Lessons learnt and critical success factors

Identity management is a key infrastructure required for user-centric systems such as portals. This requirement includes:

- ▣ effective provisioning and de-provisioning of users to and from systems;
- ▣ web 'single sign-on' (SSO) at least;
- ▣ easily manageable authorisation of users to access content to which they have rights; and
- ▣ integration to access control models embedded in institutional systems, such as human resources and financial systems.

Without these requirements, the necessities for user-centricity, such as personalisation, customisation, 'pushing' and targeting, are still-born.

It is vital to know how the portals are used so that we can understand their relevance to the daily tasks of students and staff. Metrics that reveal usage and behaviour are essential, but require enormous storage and analytical resources.

Ownership and internalisation of the portals as communications channels and tools by divisions, such as Academic Administration and Academic Support, are essential

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to the successful support of academic initiatives. The Portal Committee invested substantial time and effort in multi-disciplinary workgroups and project teams in order to facilitate this – and were largely successful. An important prerequisite is ownership of the Portal Project at Vice-Rector or Deputy Principal level, and this was achieved during the initial structuring of the project steering and management structure.

‘Users don’t know what they want’! At face value this is a contentious statement, but it refers to the fact that until one can show a user a prototype of an abstract concept, he or she will find it difficult to visualise it. It is only when people can comment on a prototype that they are able to give meaningful feedback. Until portals become mainstream, they remain abstract concepts and prototyping is thus essential.

Establishing a functional portal infrastructure is unfortunately a major, monolithic project. But once it is established, new developments and deployments of portal applications should be small, incremental ‘quick wins’. In brief, it requires an ‘agile’ development methodology, as it is virtually guaranteed that users’ needs will change between conception and deployment. An agile methodology makes innovation possible and also creates a ‘buzz’.

Effective portals run the real risk of rapidly becoming victims of their own success in that they become indispensable. Usage, and consequently load on the infrastructure, increases exponentially. Declining and sometimes disastrous performance is easily the result and can mean that a ‘slow’ label clings to the system even once the problems have been solved. SU has only recently been partially successful in establishing effective end-to-end performance monitoring on the infrastructure, but adequate and predictive load simulation has been elusive. We see the following as being the critical success factors for the infrastructure:

- ▣ load simulation and ongoing performance monitoring that enables one to scale the infrastructure before users experience degraded performance;
- ▣ a redundant architecture so that the portal is not a single point of failure; and
- ▣ an architecture that scales relatively cheaply and easily.

It is our perception that the reason why most South African universities have as yet not launched portals is because a portal implementation is a complex and difficult project and requires intensive collaboration from divisions and faculties (besides the IT division), senior management sponsorship, a multi-disciplinary governance structure and development and integration capability within the IT division as mentioned earlier in the chapter.

Future plans

We envisage that in the near future, prospective and current students will be able to complete online questionnaires that will give them feedback about their fit with the profile of a successful student and which will propose courses of action to respond to a suggested lack of fit. Prospective students will be able to complete online career readiness questionnaires that will help the Centre for Prospective Students to advise

them better and feed into the admissions model. All students, including first-year students, will schedule and book consultations, whether these take place offline or online, with counsellors and psychologists online. In some cases, students will engage counsellors and psychologists directly using communications technologies such as instant messaging (chat) and web-chat-voice interaction. The proposed client service centre, which will feature state-of-the-art contact centre technology, will play a major role in routing and escalating calls and messages, whether they be synchronous or asynchronous, voice, e-mail, sms, chat or fax, workstation-based or mobile-based. A clear implication is that certain portal feeds and information will also be available from the students' device of choice, the cellphone.

With all of these future plans, it is clear that SU is convinced of the potential of portals as support channels and enablers of academic initiatives and is striving to realise this potential. However, the advent of Web 2.0 and social networking, such as the Facebook phenomenon, implies that the notion of an institutional portal, provided and controlled by the institution, is being questioned. In fact, it could be argued that the institution has already lost control of the communication channel and that the portal has been usurped by Facebook, iGoogle, MySpace, and the like. These 'personal start pages' are the forerunners of the truly personal portal, MyPortal. Furthermore, MyPortal will be an aggregation of feeds from other portals, websites and services, including the institutional portal and will be accessed from various devices including mobile devices (Gootzit, 2007). An obvious implication is that in order to 'bring the university to the user', the institution should deliver its services and information in the digital environment that is preferred by the user. Currently, such a preferred environment for students would surely be Facebook. The question that then arises is: Would students welcome – or tolerate – intrusion of their social world by the academic world? So the question remains: How will the utilisation of portals to support institutional initiatives such as the FYA provide for the user's preferences? Collaboration with all stakeholders within the university with regards to the services as well as the environment where it will be provided via the portals, therefore, remains a critical success factor in using portals to support institutional initiatives.

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