

A Comprehensive Methodology for Campus Portal Development

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INTRODUCTION

A campus portal is an exciting recent phenomenon forming part of the new generation of online services for all stakeholders in institutions of higher education. Conceptually, the general notion of a portal should be to be distinguished from that of other Web-based applications and the traditional Intranet of the institution. The literature review in the first phase of this research indicates that the major distinguishing characteristics of a campus portal are (1) personalisation, by which end-users are only able to access information and online services pertinent to their activities, and (2) customisation, by which end-users are able to select their preferred information channels and optional online services.

The major objective of this research is to propose a development methodology specifically suitable for campus portal projects. While there are many accepted development methodologies for traditional and Web-based information systems, no clear body of knowledge on the development of campus portals has yet been recognised. Additionally, as this is a new area, the definitions, terms, concepts, and important issues agreed to by academic researchers and practitioners are still evolving. This research, therefore, needs to clarify and identify some important issues regarding campus portals and their development, prior to composing the development methodology. In the second and third phases of the research, two studies were carried out, a preliminary study and a case study. These generated more understanding of the issues and extended the body of knowledge on campus portals, especially concerning their development.

The preliminary study explored and investigated the online services and campus portals of 40 higher education institutions' sites in Australia, New Zealand, the USA, the UK, and Canada. The findings of the preliminary study show that there are no standard patterns in the function of personalisation and customisation in campus portals. A set of research questions were then put forward to drive further investigation into design and implementation issues regarding the personalisation and customisation functions of campus portals.

The case study was conducted in an Australian university among the major stakeholder groups, namely, the development

team and the end-users (students and academic staff). For the study of the development team, interviews were used to gather information on their current practices and their vision for the future direction of the campus portal. Students were the primary focus of the end-user study, from which data was collected using a survey to build up usage patterns of their online activities. In addition, a group of academic staff was interviewed to obtain data from their perspective to identify and clarify some important issues.

In the final phase of the research, the review of existing development methodologies continued filtering them through a set of identified criteria based on the findings of the two studies. Finally, the most appropriate development methodology was selected and modified in order to support the requirements identified in this research as critical for the development of a campus portal. The result was proposed as a campus portal development methodology (CPDM) fulfilling the main objective of the research. Due to the limitation of the length of this article, the major focus is to present a brief finding in which it is summarised from the study of the research. Thereafter, the proposed framework for the campus portals development can be additionally followed in the article entitled "A Framework for Development: A Campus Portal Accommodating End-Users' Online Activities."

UNIQUE CHARACTERISTICS OF CAMPUS PORTALS

From this review of the literature, it is suggested that the characteristics of personalisation and customisation, which were implemented in the majority of the descriptions of campus portals, are the most common characteristics that distinguish them from other kind of Web-based systems and applications. It is inferred that it is these two characteristics, personalisation and customisation, that give a campus portal a unique nature and place it among the mature generation of portals. The users of the campus portal can be directly provided with the personalised information and online services through personalisation features, whereas the users will also be enabled to select their preferred contents and optional online services by the customisation functionality.

CLARIFICATION OF PERSONALISATION AND CUSTOMISATION CHARACTERISTICS AND ROLES

Bringing together the literature reviews and the findings of the preliminary study and the case study, the characteristics of personalisation and customisation can be clarified as follows (see also Figure 1).

- **Personalisation:** The function that allows users to personally receive the information, contents, and online services specific to their needs and roles through the campus portal. The information, contents, and online services will be pre-defined and assigned the appropriate level of priority by the authorising university division (i.e., the academic registrar, faculty, lecturer, and so forth). This personalised information, with content and online services, normally relate to standard or compulsory activities.
- **Customisation:** The function that allows users to select their preferred information, contents, and online services as well as mode of interaction. The customised information, content, and online services will normally be classified as optional activities.

Additionally, the personalisation and customisation functionality can be viewed from another perspective when

the development team need to design and manage these functionalities on the campus portal.

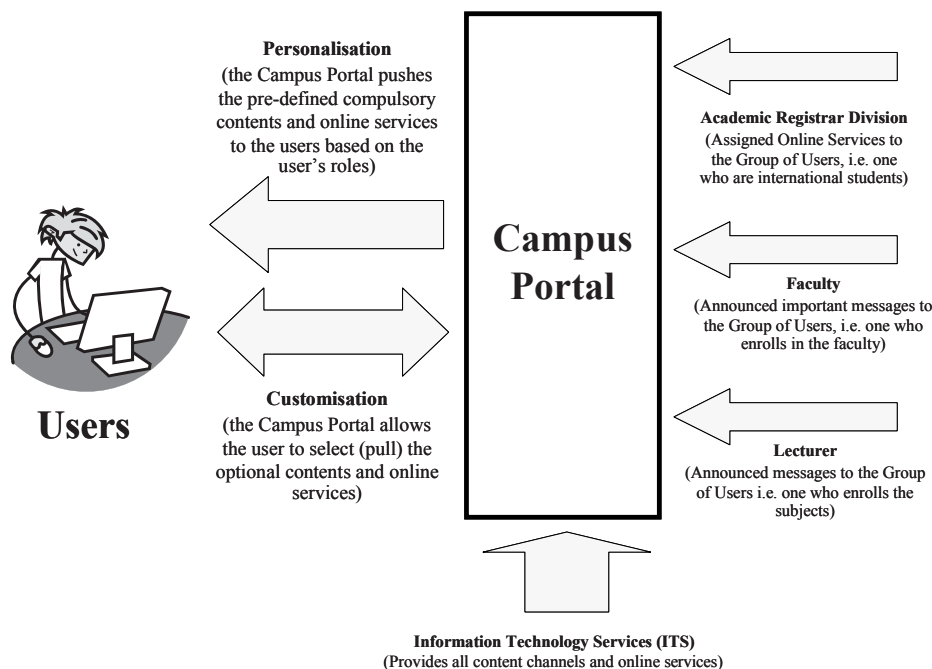
- Personalisation can be viewed and designed as a push system, which enables the faculty, institution, and authorised groups to communicate directly to the users.
- Conversely, customisation can be viewed and designed as a pull system that enables the users to be able to select their favourite types of channels, contents, and online services as well as adding their own links.

POSITION OF CAMPUS PORTAL IN SYSTEM DEVELOPMENT

The campus portal (CP) is considered to be the next generation of Web technology and may be able to profit a business to have more competitive advantage. There are many disciplines that are related to the campus portal across the area of system development. Based on the definition of a campus portal proposed in this research:

Campus portal is a user-centric campus-wide Web-based information systems that incorporates all types of enterprise and third-party information, activities, and services for providing its stakeholders with a secured personalised and

Figure 1. Personalisation (push) and customisation (pull)



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