

Accommodating End-Users' Online Activities with a Campus Portal

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INTRODUCTION

A major objective of this article is to propose a framework for development of a campus portal accommodating the end-users' online activities, especially students who are normally considered as a major group of users for the campus portal. By summarising between the literature review in the domain of traditional information systems development methodology and Web-based information systems development methodology and the findings of the research, an appropriate model can finally be concluded and recommended, and is presented in this article. Although this article can be considered as a standalone article, it is recommended that the reader read the article entitled "The Need for a Comprehensive Methodology for Campus Portal Development." Additionally, the complete version of this research can also be obtained from the digital thesis section of the University of Wollongong Library (<http://www.library.uow.edu.au>).

BACKGROUND ON THE FINDINGS

The results substantiated the claim made in the literature review of the portal technologies that the design and implementation of the personalisation and customisation functionalities could be a substantial factor that determines the appropriate approach to the development of the campus portal.

Based on the case study, the usage pattern of student's online activities presents a clear picture of the design, development, and implementation issues of the personalisation and customisation functionality of a campus portal. On the other hand, some conflicts between the vision of the development team and the usage pattern of the students were detected which, may lead to the misunderstandings on the major concepts of the campus portal development.

In the design of the empirical study, there are three confounding variables (gender, student category, and educational level) that could influence the usage pattern of the student's online activities when using the survey questionnaire as an instrument.

A SELECTION OF THE DEVELOPMENT METHODOLOGY FOR A CAMPUS PORTAL

This research places its emphasis on the methodology for in-house development of a campus portal. The research approach will start by analysing the available information systems and Web development methodologies to find those existing development methodologies that are appropriate to the development of the campus portal. The traditional development methodologies which were studied in this research are system development life cycle (SDLC), structured systems analysis and design method (SSADM), Jackson system development (JSD), soft system methodology (SSM), effective technical and human implementation of computer-based systems (ETHICS), and multiview. Additionally, many studied Web-based information systems development methodologies are relationship management methodology (RMM), object-oriented hypertext design method (OOHDM), Web information systems development methodology (WISDM), Web site design method (WSDM), Internet commerce development methodology (ICDM), Lowe-Hall's hypermedia and Web engineering approach, Takahashi-Liang's Web-based information systems analysis and design, Howcroft-Carroll's methodology for Web development, and intranet design methodology (IDM).

Criteria for the Selection

Adapting the criteria of Murugesan, Deshpande, Hansen, and Ginige (1999) to the campus portal development, the selection of the development methodology should match the following criteria, taking into account the special characteristics of campus portals.

Multidimensionality

Previous research shows that factors influential in major failures of development projects are lack of commitment in top management and inadequate user involvement (Keil, Cule, Lyytinen, & Schmidt, 1998; Wallace & Keil, 2004). To satisfy user needs, a system must be developed accordingly and

fulfil the requirement of the users (Standing, 2002). Campus portal users are composed of many groups of stakeholders that require different needs and may have a direct or indirect relationship to each other (Pressman, 2005). Each group also performs different activities to facilitate and achieve their objectives. The development methodology, therefore, should consider the development of a campus portal with a user focus from the multiple views of stakeholders.

Flexibility

Inflexibility in the development methodology inevitably leads to problems (Avison & Fitzgerald, 2002, 2003a). A campus portal is a complex project, integrated with many Web-based information systems and other online services. Consequently, the development methodology should be flexible enough to allow the developers to adjust methods, tools, and techniques, as well as the process of the development to suit the local situation.

Supporting Critical Characteristics of the Campus Portal

As shown in the earlier phases of this research, the development methodology has to support the functions of personalisation and customisation, which have been mentioned previously as critical characteristics that define a third or fourth generation of campus portal. In the field of human-computer interaction (HCI), however, good usability is widely accepted as a critical component for Web sites and Web applications (Vidgen, 2002; Vidgen, Avison, Wood, & Wood-Harper, 2002). The development methodology for a campus portal should also consider usability as an additional critical characteristic.

Comparison of Existing Development Methodologies

Avison and Fitzgerald (2003a, pp. 555-572) provide a framework for comparing methodologies in the final article of their book. They mentioned that "comparing methodologies is a very difficult task, and the results of any such work are likely to be criticised on many counts. There are as many views as there are writers on methodologies. The views of analysts do not necessarily coincide with users, and those views are often at variance with those of the methodology authors" (Avison & Fitzgerald, 2003a, pp. 555-572).

They also mention that a number of additional elements might be appended to the framework in order to compare methodologies for a particular purpose. As most traditional information systems methodologies have been referred to by Avison and Fitzgerald (2003a), this research will also adopt their approach in order to explain the traditional development

methodologies. This will be extended to Web development methodologies in this research.

Because of the wide range of differences between the traditional information systems development methodologies and Web-based development methodologies, Avison and Fitzgerald (2003a), point out that this research will customise and use only some elements of their framework for comparing development methodologies against the campus portal's criteria, as described in the previous section. This comparison will concentrate on positive aspects, rather than on the disadvantages or pitfalls of all possible development methodologies in order to select and justify the most appropriate development methodology for the campus portal, based on the defined criteria.

Philosophy

The general philosophy of all information systems and Web development methodologies is to improve the areas of development in each respective world. An in-depth philosophy of each development methodology, however, varies and depends on many factors such as paradigm, objectives, domains, and targets (Avison & Fitzgerald, 2003a).

Paradigm

Among the traditional information systems development methodologies, SSM, ETHICS, and Multiview2 are categorised into system paradigms and SDLC, SSADM, and JSD belong to the science paradigm. The reason is that SSM, ETHICS, and Multiview2 provide a perspective for both technical and social perspectives, whereas the others emphasize the technical perspective of the information systems development.

Although Multiview2 is claimed as a framework by the authors of the development methodology (Avison & Fitzgerald, 2003a; Avison, Wood-Harper, Vidgen, & Wood, 1998), there is much confusion in specifying the exact type of Multiview2, because it can be referred to as an approach, a methodology, a framework, or metaphor (Zhu, 2002). This research views Multiview2 comparable as a development methodology for developing an information systems.

Among Web-based system development methodologies, only WISDM and ICDM can be categorised into a system paradigm, whereas RMM, OOHD, WSDM, Lowe-Hall's Approach, Takahashi-Liang's method, Howcroft-Carroll's methodology, and IDM belong to the science paradigm.

Objective

Among the traditional information systems development methodologies, SDLC, SSADM, JSD, and Multiview2 can be categorised as the development methodology for build-

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