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Web-Based Youth Forum Application(WBYFA)

Mostafa Ahmed Alksher, Entesar M.eljali
Computer Department, Higher Institute for Qualifying Trainers - Zliten
Abdulkarim B. Shalool, Naser A. Abourawe
Corresponding Author: Mostafa Ahmed Alksher

ABSTRACT:*Web-based forum is an application through the internet to facilitate the process of discussions and exchange of ideas. It is also referred to as online forums, message boards, discussion groups, and discussion forums. Youth can play a role in shaping their societies of immense diversity through the means of communication and participation, and sharing ideas. Therefore, this study leads to develop a web-based forum application to help young people express themselves and their needs, and desires. The requirements of the web-based application were identified from the students in UUM who are in the similar age group, design the application, and a prototype to implement the design.*

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I. INTRODUCTION

Young people (youth) are often the leading innovators in the use and spread of information and communications technologies (Global Knowledge, 2003). They adapt quickly and are generally quite hungry for great quantities of information, locally and globally, that can be provided through emerging information and communication technologies (World Youth Report, 2005). The National Youth Development Policy of Malaysia defines youth as people aged between 15 and 40 years. It stipulates further that the main focus of youth development programmes and activities in the country should be young people aged 18 to 25 years (Kim, 2002). According to The Ministry of Energy, Water and Communications (MEWC) (2007) Youth particularly in rural, is one of priority that the Malaysian government is seeking to improve their abilities and educational level within strive in its initiatives of bridging the digital divide. Malaysia recognizes youth as the agents of change who are supposed to be receptive to new ideas, adoption of technologies and are willing to make changes (Othman, 2005).

Since the late 1990s, the deployment of ICT in various rural areas has shown their positive impact on the lives of millions of rural residents. Using both traditional and modern media, such ICT fitting rural communities with information and communication tools that enable them to receive, collect, expanded document exchange and transfer knowledge and launch applications, which will lead to social, cultural and the economic empowerment of rural society (Garai & Shadrach, 2006). Malaysian government has identified Information and Communication Technology (ICT) as key to achieving developed nation status by the year 2020 and considerable efforts in the field of education has been conducted (Rozhan & Hanafi, 2004).

Oxford dictionary (1984) defines a forum as a place of public discussion. The Web-based Forum Application will serve as a venue for discussion of the internet issues on the Information Society. It would also provide a means to respond to new and emerging issues (Milton & John, 2006). Ahmed (2005) highlighted that the Web-based Forum will provide an opportunity for young people to express their views and interests, and communicate with civil societies and stakeholders in the various areas.

1.1 Problem Statement

Many youth in rural areas are unable to reach their potential because of the lack of opportunities widely available in the city, and the ability to obtain knowledge. Their presence in rural areas, may be remote, caused often by the lack of access to facilities e.g. universities, schools and internet. Thus, there is a need to get youth to have access to information as well as exchanging ideas that can help them to improve knowledge and confidence.

Lack of access to information and communication technologies has remained a major challenge to youth. Special efforts must be made for youth in rural areas to establish connectivity, given that rapid developments in the technology have made it possible to overcome the physical impediments of distance and topography, at a reasonable cost, that for long have limited the development in rural areas (Garai & Shadrach, 2006).

Thus, this study proposes a Web-base Youth Forum to help develop a local application for young people. This Web-based forum will enable all young people, especially rural youth access to e-books, references and information as well as provide mediums to communicate and change ideas.

1.2 Projects Objectives

The main objective of this study is to design a Web-based information system to help youth access to their needs of information. Specifically, the objectives of this study are:-

- To identify requirements of the needs of youth in rural.
- To design a web-based Youth Forum application (WBYFA).
- To develop a prototype for the Web-based Forum Application for youth.

1.3 Scope and Limitation

This study proposes a web-based application that aims to provide local medium for exchange of ideas for youth, particularly in the rural.

This study will target UUM students to identify requirements as they are young people who have similar requirements.

II. LITERATURE REVIEW

Information Communication Technologies (ICTs) provide an opportunity to meet the growing needs of rural areas. Many of the key features of ICT can be used to provide information and the requirements of young people in rural areas. In the literature review, definition of terms will be given, technologies and related studies that apply for rural development and other applications will be discussed.

2.1 Definition of terms

2.1.1 Definition of youth

According to the United Nations Reviews of human resources development statues of youth in the "Asia and Pacific Region" (2000), "youth" are people aged between 15 and 25, a group constituting about 18 percent of the world's population. However, Malaysia's national definition of youth is those between the ages of 15 – 40 years old. This age cohort comprises 42.3% of the population in Malaysia. Nevertheless in the national youth policy which was formulated in 1985 and revised in 1995, the main target group for youth development programs and activities were those in the 15-25 years age bracket. In the year 2000, the youth population in this bracket constituted 18.8% of the population.

2.1.2 Web-based application

Kurtz (2004) defined a web-based application as a computer program that operates and runs in a browser. A web-based application usually has a simple navigation mechanism that allows users to switch between views. Web based applications are the ultimate way to take advantage of today's technology to enhance organizations productivity & efficiency. Web based application gives an opportunity to access the information from anywhere in the world at anytime. It also facilitates to save time & money and improve the interactivity with people. It is easy to use and can be implemented without interrupting an existing work process.

2.1.3 Definition of Forum

Takhteyev (2007) defined the forum as a searchable collection of questions and answers free from conversational context, which is appreciated in a youth society. It is a space for open discussion provides an opportunity for users working in the area of dependable computing to present and discuss their research objectives, approaches and preliminary results (Jahanian, 2007).

2.2.4 Web-based Forum System

A Web-based forum is one way of facilitating the youth interaction (Patel and Aghayere, 2006). According to Bodzin & Park (2000), the Web-based forums provide a means in which users can continue to support youth as a cohort. Web-based forum permitting the user to read, browse, or add to multiple discussions at the user convenience. The Web-based Forum will provide an opportunity for young people to express their views and interests, and communicate with the societies and others (Ahmed, 2005).

2.2 Youth and ICT for development

Youth are capable of using ICT in diverse and novel ways. The Youth use ICT to obtain information and assistance in areas ranging from music and sports to medical and psychological issues. Young people often use ICT for identity development, for example, establish, maintain or join fan clubs on the Internet. The

constantly expanding field of online gaming is an important aspect of young people's use of ICT (World youth report, 2005).

"Young people should be at the forefront of global change and innovation. Empowered, they can be key agents for development and peace. If, however, they are left on society's margins, all of us will be impoverished. Let us ensure that all young people have every opportunity to participate fully in the lives of their societies." – Kofi Annan, United Nations Secretary-General (Sutton, 2007).

2.3 Rural Development and ICT

Rural development can be enhanced considerably by the use of ICT. Developing countries, such as Malaysia, have made efforts to understand the great opportunities and potential that exists in using its resources to support the social and economic growth, especially through rural development activities. Three-quarters of the world's poor, 900 million people, live in rural areas, depending on agriculture and other livelihood activities, but these areas are targeted for development (Bage, 2004).

Information Communication Technologies (ICTs) contribute significantly to promoting rural development supporting ICT projects in rural areas, despite the challenges and obstacles facing these projects (Pade et al., 2006). Heeks (1999) has shown that information and communication technology can promote and support the process of rural development through assistance in the exchange of information and knowledge among rural communities and the more developed regions. ICT has also been interpreted mainly computers, telecommunications and the Internet (Roger, 2007).

2.4 Rural Youth

According to Shingi et al. (2003), the majority of the population lives in the rural areas. It is obvious that majority of this youth population comes from the rural areas. Most of the young person lived in villages, that means about 80 per cent of the total youth were rural youths. Statistics from the last population census conducted in Malaysia in 1999 provide a breakdown of the youth population by sex, area, and ethnicity. The majority of youth aged 15 to 24 years old and 25 to 40 years old lived in urban areas at 53.5 per cent and 56.5 per cent respectively. There were equal proportions of males and females in both age groups in rural and urban areas (DOS, 1999).

Young people in rural areas face major concerns with the standard of living in their small communities' besieged physical barriers that prevent them from receiving the adequate care, services or resources that is necessary for the development of health and education (Kim, 2002). Nancy et al., (2005) indicate that the rural youth may have access to the technology at school, and the possibility for them having access at home is less. This may compromise their ability to learn the current technology and technological applications.

2.5 The Web-based Information System Application

John & Micheal (1999) introduced a research about the Applications that appeared on the Internet network can be referred as Web-based Information Systems. However, Web-based Information Systems must be distinguished from a standard WWW application by the type and nature of the information that is available to the user. Takahashi & Liang (1997) defined the Web-based information system as an application not only to disseminate information, but also interacts with the user to help them in their task and then present information to the user.

Over the years, the focus of the information technology industry has moved in the direction of development for the use of the Internet. Information systems using Internet technology are now deployed around the world. They use the Web-based application as a business strategy, and support their existing operations or provide a low-cost solution for the submission of a new product, as well as to spread awareness and information for all (John & Micheal, 1999).

MEWC (2007) commented that the internet connectivity in rural areas were addressed through initiatives that include the Ministry of Energy, Water and Communications (MEWC), the ministry of rural Internet centers (RIC), and Universal Service Provision (USP). Launched on April 3, 2000, RIC programme is one of the earliest rural Internet initiatives launched in Malaysia. This Programme has designed to ensure access to the Internet in rural areas by addressing the needs of infrastructure, capacity building, as well as content development. Rozhan & Hanafi (2004) presented number of pilot programs using the portal site implemented by the Malaysian government. They include a program for elderly people living in rural areas and another for people with hearing difficulties. The government is trying to create a system in which all Malaysian people have access to lifelong education through e-learning, irrespective of age, gender, place or time.

2.6 Related Works

a) Manitoba creates website for rural youth

Most of the countries focused on the improvement of youth programmes in the urban neglect of young people in remote areas. The government of Manitoba has addressed this problem by sponsoring a "Youth Corner" website (located at www.ruralstress.ca/youth) as a part of its general stress line. The website invites all young people who live in the country to make contact with it. The intent is to give rural youth something that is uniquely theirs, something that will address issues and concerns puzzling young people live in the country, and something that is available and accessible to all of them (Jacklin (2006).

b) Thailand RuralNet

Thailand in its initiative for young has launched and designed a portal site provides the opportunity for students and youth to apply their skills in the area of interest. RuralNet used youth and students to find effective means using information and communication technology to enable rural communities to integrate and to engage in the world of technology. This project aims to generate social awareness among youth groups to be able to develop rural areas and strengthen their abilities and talents by using information and communication technology. The project contributed to increase confidence and skill among young people in the rural community and to be capable in strategic thinking to plan and implement their own projects (Rinalia, 2003).

c) The Global Forum for youth

The global Forum on Youth and information and communication technology is designed for development and highlighting creativity in young people in the exploration and exploitation of information and communications technology to their advantage and to local communities. The Forum will provide an ideal platform to introduce initiatives led by young people, such as "for young people, youth," and also to create a space for strengthening cooperation between adults and young people for generations to encourage the transfer of skills and resources. This will also be an opportunity for young people to exchange ideas and learn from their peers who have succeeded in using ICT as a tool to promote their economic development and social progress (Ahmed, 2005).

III. METHODOLOGY

In order to achieve the major aims and the main objectives of this study, the general methodology of design research, described by Vaishnavi and Kuechler (2004) will be taken into account. This methodology consists of five stages; the general methodology can be described in (Figure 3.1).

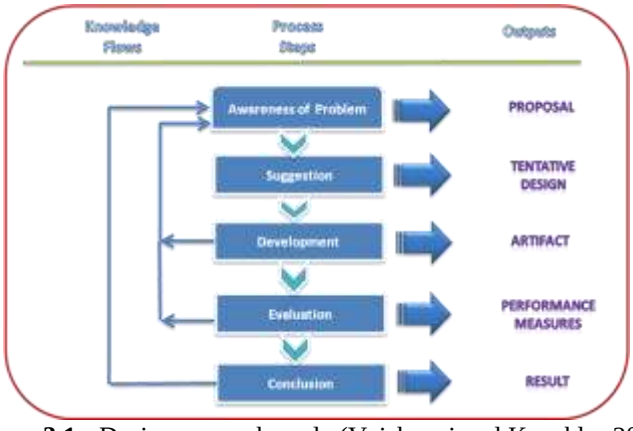

Figure 3.1: Design research cycle (Vaishnavi and Kuechler 2004)

3.1 Research Analysis

3.1.1 Awareness of Problem

Collecting and analyzing data in this stage will help to identify the problems youth face with lack of information and knowledge especially in the rural areas. During this phase, UUM students were given questionnaire to identify their information needs. An online survey is also designed to help get more opinion and information from those who answered. Demographic information will be collected as well to identify the youth requirements.

3.1.2 Suggestion

Based on the literature, the output of this stage is to design a web-based youth forum system and the requirements. The requirements of the user that have analyzed based on the collected data must be considered to design the contents of the forum.

3.1.3 Development

A prototype of the web-based forum was developed using a selected tools/software (OOAD, Rational Rose). The evelopment consisted of the design of class hierarchies, using inheritance, and several categories were created to satisfy youth's desire.

3.1.4 Evaluation

This stage considered as one of the most important stages in this method since it is used to evaluate the partially or fully successful implementations. The evaluation will be according to the view points of the youth and this can be done by matching the forum results and functionality with the desired objectives; and by check its performance quality while performing the main operations. The view points of the youth will be taken into account by applying a simple usability testing in order to cover all the desires and to criticize the web-based forum according to the use of the forum.

Brief demonstrations were conducted to students for evolution to see whether they can use the system. The students were able to understand the system and use it. To any type of unclear or complex task, the students did not hesitate to ask the user's guide.

3.1.5 Conclusion

The conclusion will be made based on the four prior phases demonstrating the usability of the new developed youth's website.

IV. FINDINGS/RESULTS

The findings are captured in function of the objectives of the research. The findings of the research are categorized into five different subdivisions:

- Requirements of the system
- Requirements of the prototype design
- Development of the prototype
- Usability testing

The requirements of the prototype design helped to easily develop the prototype, and lastly the developed prototype of the (WBYFA) has been tested for its usability and effectiveness by UUM students (Rural Youth) whom the ages vary from 15-25 years.

4.1 Requirements of the system

The requirements of the system are obtained from the questionnaire conducted to the selected group of students in UUM. A pilot survey has been initiated in order to assess the feasibility of the irrelevant required data (Kelvin et al, 2007). In this pilot study, the questionnaire is tested to a group of students to identify requirements of the web-based youth forum application (WBYFA). The results show how the youth use the internet leading to the development of the youth forum.

The findings of the respondents help to identify the needs that suit the best features of the forum application. As a result of the findings, we found that 70.78% from the respondents answers agreed that the forum will be useful for the youth who looks for the information and educational means through the use of the forum and the internet in particular, with commendable that the Forum will provide these requirements to the youth.

4.2 Requirements of the prototype design

This section of the findings explained the stages used to design the prototype. Rational Rose case tool, UML (Unified Modeling Language) are considered to be used in term of drawing the necessary diagrams that help the development stage. This sub-part of the findings explained the steps undertaken to design the prototype of the web-based youth forum application (WBYFA) for rural population. The purpose of this development and implementation of the forum is due to the fact that rural youth lack IT facilities and limited internet access. The entities considered in this part for the prototype design are the Rational Rose Case Tool, UML (Unified Modeling Language), Use Case diagrams, Sequence Diagrams, and Class Diagrams.

V. USE CASE DIAGRAM

Use case describes set of interactions between an actor and the system that provides benefits or value to the actor, a use case shown as a labelled oval (Dennis & Wixon, 2003). Based on the user requirements and the functions that demonstrated, the main major use cases are formed to:

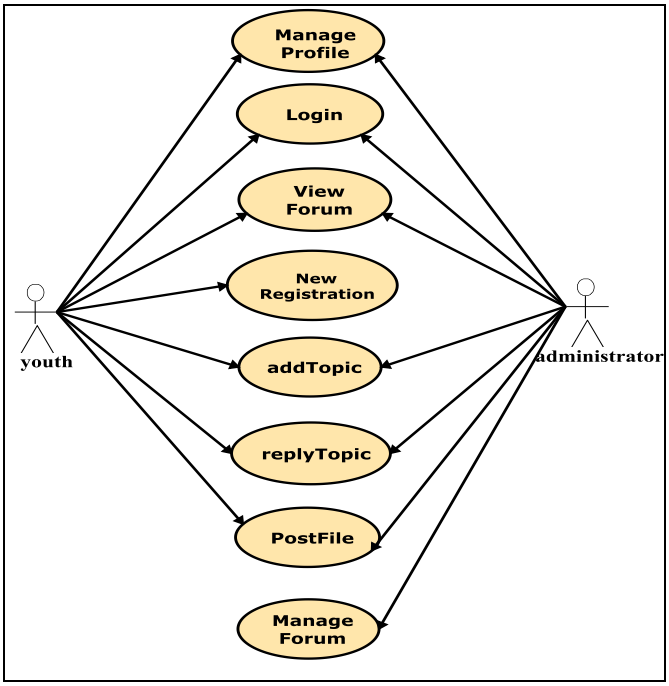

Figure 4.2: UML Use Case Diagram View

VI. SEQUENCE DIAGRAM

The system has at least eight functions, and in this project we focused on the main functions to create the sequence diagram.

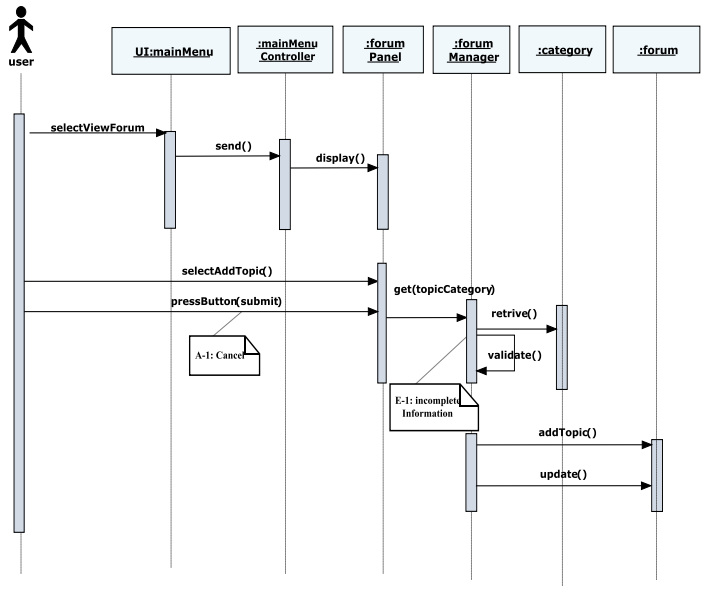

Figure 4.3: Add Topic Sequence diagram

4.3 Development of the Prototype

As the methodology stated the design of the Web-based Youth Forum Application is built through OOAD (UML). One of the goals of OOAD is to describe several major alternative methodologies for developing information system. The primary benefits of such an approach are that it leads to demonstrate the qualities, reliability, robustness, resolvability, maintainability and the reusability (O'Docherty, 2005).

The (Figure 4.4) shows the Web-based Youth Forum Application interface, including the main menu and the login form.

Figure 4.4: Youth Forum interface

The interface of the application contains the main menu which provides a fast access links including (Home, News, Links, Contacts, Search, Jobs, and the Forum). Through this interface the youth can register to be a member and join the facilities provided by the youth forum. The youth member or administrator may key-in the user name following by the password to access the system.

The main menu will be only appearing to the registered members where the youth can browse the forum by adding, replying chatting and managing profile. The administrator can enter to the control panel page and can do the same functions of adding, replying and chatting and so on.

4.4 Usability Testing

In this project, the prototype has been designed based on the selected answered provided by youth during the competition of the IT skilled awareness 2007 at the Applied Science Faculty in UUM. The participated youth are whom the ages vary from 15-25 years. Most of the participants have experience in a web-based application to examine the design of the user interface of the prototype system. The evaluation of the OOAD (UML) prototype using this type of test is to accomplish the objectives of the project. The aim was to see the level of functionality and operability of the prototype system Based on the usability testing conducted from the youth which it had been divided into three different constituents namely; convenience of the system, excellence of the content and the features of the interface. The results can be seen as in (Figure 4.5). The total numbers of respondents are 15.

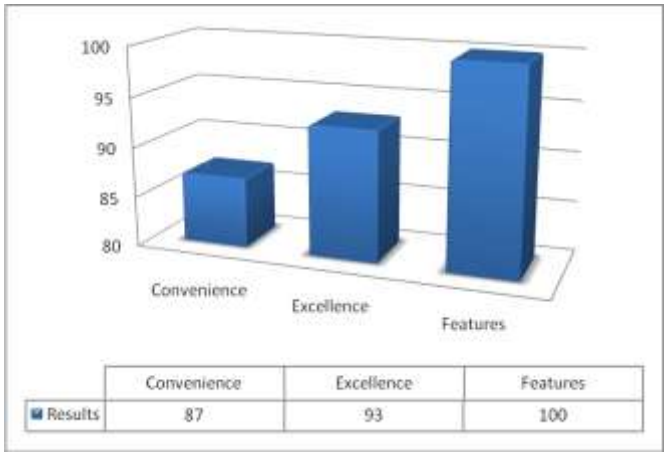

Figure 4.5: Characteristics of the evaluation of the usability testing results

VII. SIGNIFICANCE OF THE STUDY

The whole system helps the youth by:

- Online application can draw young people who live in the country to reach out to their peers, government, and politician to address issues and get information and exchange ideas.
- For the rural communities, this initiative will act as a window to knowledge and services, which will uplift their skills and cognitive abilities systemically.
- Web-based Forum provides an avenue for youth to reach out.
- It will also serve as a means for service providers to reach out to the rural audience.

VIII. CONCLUSION

In this project, the implementation of the sequence of the several steps for building the system is discussed and tested. A web-based forum application prototype for youth in rural was developed. The result of running the system showed that objective of the study is done successfully. The output of this chapter is the developed prototype.

Web-based Youth Forum Application will enable young people to communicate within and outside the country through the information and the useful knowledge provided. Thus, this web-based application enables young people, especially in rural development to be more skillful and abilities to be harnessed for the benefit of the country.

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