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Localisation for E-Learning Website of Comprehensive Universities in Malaysia

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ABSTRACT

An e-learning website is very useful, especially for students and lecturers, as this platform is very efficient for blended learning. Thus, the main objective of this research was to determine the user expectations of e-learning websites of comprehensive universities through localisation based on user preferences. This research showed how users interact with e-learning websites and indicated the patterns that can be used as standard guidelines to design the best e-learning websites. It was found localisation of e-learning websites was scarce and slow interaction with e-learning websites has inconvenienced users. Additionally, too many web objects on the user interface of e-learning websites have a tendency to confuse users. A mixed method approach was used I this study, namely content analysis (qualitative) and localisation (quantitative). Thus, this research contributes to knowledge by guiding users on localising their web objects according to their preferences and hopefully allow for an easy and quick information search for e-learning websites.

Keywords: E-learning, localisation, user expectations, web objects

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INTRODUCTION

An e-learning website allows sharing of materials for teaching and learning outside of the classroom such as slideshows, notes, documents, PDFs, and videos. Additionally, some e-learning websites allow one to communicate with others who are online. Thus, e-learning websites save time for both lecturers and students. Lecturers can also make online assessments for their students.

There have been various studies of localisation of websites, such as library websites, informational websites, and e-commerce websites. However, none has been on e-learning user interface design (UID). This research was motivated by attempts to find a solution to problems related to slow e-learning UID (Fitchen et al., 2009). Next is the complexity of e-learning UID (Fitchen et al., 2009). No standard web objects make the UID complex and complicated (Aslina, 2016).

E-learning provides a cost-effective and improved learning experiences beyond those available in the classroom (Misra, 2013). Students facing economic, family, physical, or geographical constraints can take advantage of opportunities provided by online learning (Misra, 2013). In addition, students learning in the classroom can augment their learning outcomes by participating in hybrid or fully online courses. Moreover, e-learning provides students with the ability to fit learning in their lifestyles, effectively allowing even the busiest person to pursue careers and gain new qualifications. This research will first determine the standard web objects of e-learning before localising them according to user expectations. All the results are recorded. This paper is organised as follows: a discussion of related localisation of user interface is contained in section 2, the experimental setup is presented in section 3 while discussions are in section 4. The final section summarises the paper.

Related Works

Most users would judge a website based on its interface design. According to Marcus (2013), on web implies availability and access to knowledge-based products among people around the world. Successful web-based products developed for markets in different countries and of different cultures consist of partially universal or general solutions to the design of user interface (Aslina & Azizah, 2014). Thus, by managing the user experience with common structures and processes, as well as user preferences and expectations, user interface and information visualisation designers can achieve compelling forms that allow for easy use.

E-Learning

E-learning refers to the deliberate use of networked information and communications technology (ICT) in teaching and learning (Naidu, 2009). It also includes online learning, virtual learning, distributed learning, network, and web-based learning. Referring to the educational processes that utilise ICT to mediate asynchronous as well as synchronous learning and teaching activities, Naidu (2009) stated that the growing interest in e-learning seems to come from several directions including organisations that have traditionally offered distance education programmes in either single-mode settings, dual or mixed. Besides, e-learning is also attracting residential campus-based educational organisations because they see e-learning as a way to improve access to their programmes and also as a way to take advantage of the growing market niche. In addition, the major obstacle to the growth of e-learning is the lack of access to necessary technology infrastructure (Naidu, 2009).

User Interface Design

User interface design (UID) for e-learning is different from a normal website for certain purposes. Since e-learning is an educational-based website, studies have looked at how to make a good and attractive website exclusively for its usability. E-learning interface design is critical for effectiveness of learning and interface design is largely intertwined (Delf, 2013). Besides, Delf (2013) added that the trend among large companies has led to the usability-first way of thinking about e-learning design, where ease of use is considered as a top design priority. In addition, designers follow the rules, which are required to make a design principle in which the method is to focus mainly on making a product easy to use. Delf (2013) also suggested that e-learning interface should be a core, integrated component of the overall design of e-learning products and the interface design should be determined by how people learn and the need to implement this program. There are four guiding principles in building a good interface for e-learning. It can vary from individual to individual since it is preferable to match e-learning closely to the clients' brand guidelines or to other pre-existing e-learning courses and materials (Webster, 2015). The first guiding principle is un-obstructive in which the user interface should not overpower the content so the end users will barely notice that it is there at all. Second, it is intuitive for which users need little explanation on how to navigate a course and use the user interface. Next, the flexibility in which the content of the course is not known at design time, but it is a safe guess that there will be a lot of variety in the content. Lastly, it must be simple and clean whereby being able to execute a simple and clean design with particular attention to detail is the mark of a skilled designer (Webster, 2015). Although expert opinion on designing a user interface for e-learning websites vary, there are similarities in which they want users to understand the websites in a simpler way. Thus, an e-learning website should be based on its usability.

Localisation

The theory of localisation is the process of adapting a product or service to a particular language, culture, and desired by the locals in certain countries (Cyr & Trevor-Smith, 2004). In the localisation of products, in addition to idiomatic language translation, such as time zones, currencies, local colour sensitivities, product or service names, gender roles and geographic examples must all be considered (Cyr & Trevor-Smith, 2004). Thus, they argue successfully that localised service or product is one developed in the context of local culture. Previous research has proven that localisation is beneficial for both user and work efficiency (Aslina & Azizah, 2013; Reinecke, 2010). Somehow, current localisation methods disregard the many facets of the typical user's culture by simply adapting to a certain country (Aslina & Azizah, 2014). User interface designs are a matter of taste as preferences vary from person to person. According to Nisbett (2003), people considered belonging to the same cultural group also perceive and process information in similar ways. Therefore, the design of user interfaces in different countries indicates that culture bundles a variety of these partialities, such as concerning a number of colours, navigational support, or information density and that many

preferences are collectively shared by certain cultural groups. Many companies have also started to adapt their user interfaces to foreign markets in order to gain customer loyalty and increase their market share (Nisbett, 2003).

Most of the previous studies conducted on localisation were for user interface of e-commerce websites (Adkisson, 2002; Bernard, 2000, 2001, 2002; Bernard & Sheshadri, 2004; Costa, 2010). Localisation in UID is to provide a technologically, linguistically, and culturally neutral platform to launch global e-commerce initiatives while allowing a framework that incorporates local content and functionality (Aslina & Azizah, 2015; Shannon, 2000). Then, visual design aids the viewer in establishing a system to structure information where this structure is created by the use of icons, symbols, or other navigational tools. Furthermore, persuasive power of design elements on an e-commerce website offers a set of guidelines to web designers based on elements such as navigation or optimal presentation of information as they appeal to user's logic, emotions, and credibility (Winn & Beck, 2002). Winn and Beck (2002) stated that with the number of online users on the Web steadily increasing, there are both social and business reasons to seek a better understanding of user preferences related to design elements.

This research will localise selected web objects from comprehensive universities in Malaysia according to what users among lecturers and students from UMS preferred. Previous studies have described the localisation of user interface designs but somehow none of them has localized web objects of e-learning websites. Apart from that, web objects need to localise the interface of e-learning websites. The web objects from the literature will be used to compare the e-learning websites of the chosen universities. This research will also focus on students and lecturers from UMS as users. Besides, effective UID toward e-learning websites is very important. Thus, this study will localise the web objects for e-learning user interface website. Before localising a website, web objects will be recognised first, so that localisation can be done. Web objects, which are also known as elements of a web page, include text, graphics, scripts, and URLs of a web page. The Web has expanded the set of objects with which users interact, such as representations of people, apartments, locations, flight itineraries, and products but somehow the Web lacks standardised type and tools for such semantically rich objects (Pham, 2013).

MATERIALS AND METHODS

Experimental Set-up

This research used a mixed method of qualitative and quantitative methodology. A qualitative methodology using content analysis was adopted which is the identifications of web objects in comprehensive universities in Malaysia. The web objects on e-learning websites of four comprehensive universities in Malaysia, which are also known as educational universities, were reviewed. They are Universiti Teknologi Mara (UiTM), Universiti Malaysia Sarawak (UNIMAS), Universiti Islam Antarabangsa Malaysia (IIUM) and Universiti Malaysia Sabah (UMS). Next, a quantitative methodology using survey by distributing questionnaires was conducted. The UMS was used as a case study for data collection. The questionnaires

were adapted from Bernard (2000) and Aslina and Azizah (2013). The sample size of the questionnaires was 70 random participants among UMS students and lecturers. The questionnaires were distributed to 20 lecturers and 50 students. There are two sections of the questionnaires; the first section (Section A) is demographic questions of the respondents; and the second section (Section B) is the user expectations of the location of web objects. The localisation of web objects used as grid the study was done by Aslina and Azizah (2013) who used 7x6 geometric grid square. For easy naming of the location for each object, the geometric grid square was also divided into nine sections, which are Top Left, Top Centre, Top Right, Centre Left, Centre, Centre Right, Bottom Left, Bottom Centre, and Bottom Right (Figure 1). The location of each web object consisted of four best options based on the content analysis done in the first methodology. So, the list localisation of the selected web objects was then determined. Next, respondents were asked to select the best location of the web objects in the second methodology. Finally, the localisation of the web objects was confirmed.

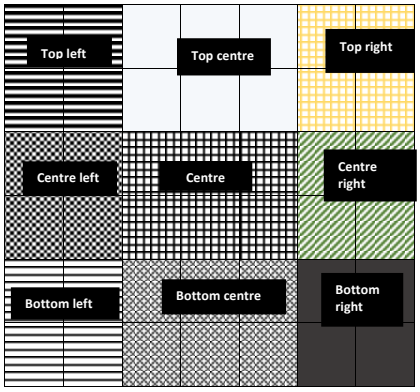

Figure 1. Geometric 7x6 grid square (Aslina & Azizah, 2013)

RESULTS AND DISCUSSION

There are 14 web objects selected for localisation in this research based on the review of four universities: Logo, Log In, External Links, News & Announcements, Advertisements, Search Courses, Helpdesk, Navigation, Main Menu, Home, Calendar, Course Categories, Faculty Categories, and Feedback. The web objects were divided into two sections, which are confirmed web objects and selected web objects. The confirmed web objects were those that appeared three or four times on each e-learning website of the comprehensive universities. The confirmed web objects were Logo, Log In, External Links, News & Announcements, Advertisements, Search Courses, Helpdesk, Navigation, Main Menu, and Home. The selected web objects appeared once or twice only on certain e-learning websites of the comprehensive universities. They were Calendar, Course Categories, Faculty Categories, and Feedback. Localisation of selected web objects was collected using 7x6 geometric grid method proposed by Aslina and Azizah (2013). The darker the shade in the region, the greater the number of times that the particular web objects selected by respondents to localise the web objects (Figure 2).

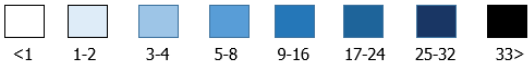

Figure 2. Scale of shades

The first section of the questionnaires is on demographics. A total of 44% of the respondents were male. The questionnaires were distributed to 20 lecturers and 50 students from UMS. About 57% of the respondents were in the age group between 20 and 24, 10% were between 25 and 29, 4% were in the age range of 30-34 years old, 14% were 35-39 years old, 3% were 40-44 years old, 4% were 45-49 years old, 3% were 50-54 years old, 4% were 55-59 years old, and none was 60 years old and above. Since this research used mainly students as a sample, the highest percentage age group was between 20 and 24 years old and therefore, most of the respondents were undergraduate students. The 14 web objects were localized according to user expectations. The percentage of respondents who localised the 14 web objects was recorded and analysed. Figure 3 to Figure 16 show the results.

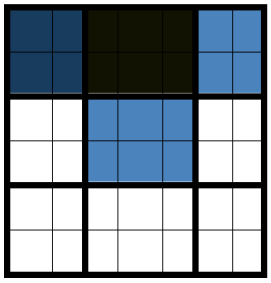

Figure 3. Logo

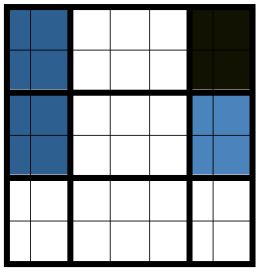

Figure 4. Log In

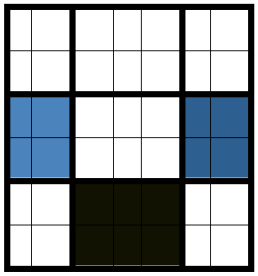

Figure 5. External Links

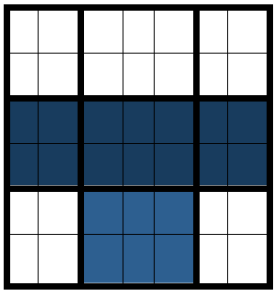

Figure 6. News & Announcements

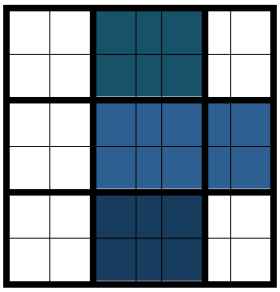

Figure 7. Advertisements

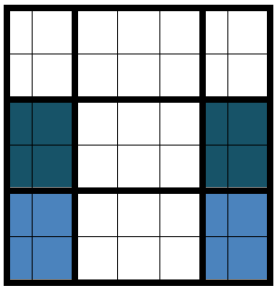

Figure 8. Search Courses

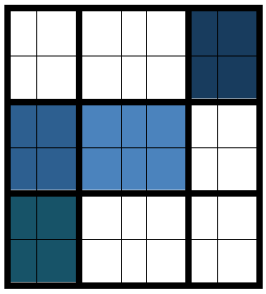

Figure 9. Helpdesk

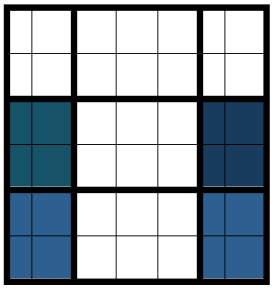

Figure 10. Navigation

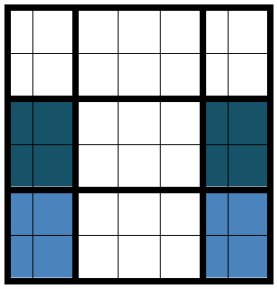

Figure 11. Main Menu

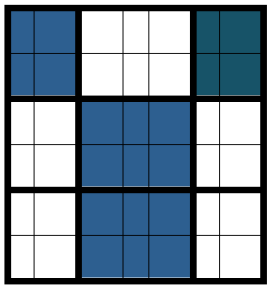

Figure 12. Home

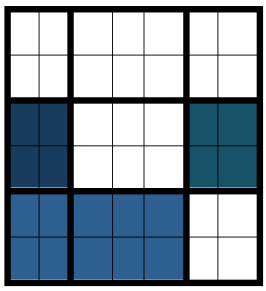

Figure 13. Calendar

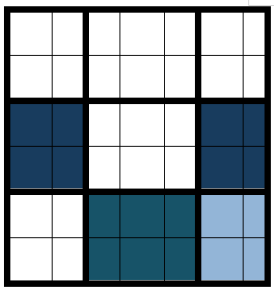

Figure 14. Course Categories

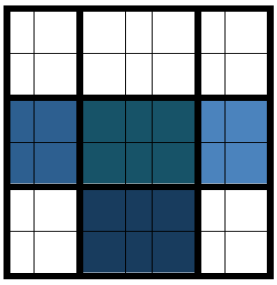

Figure 15. Faculty Categories

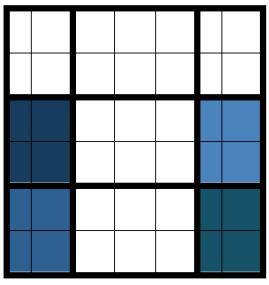

Figure 16. Feedback

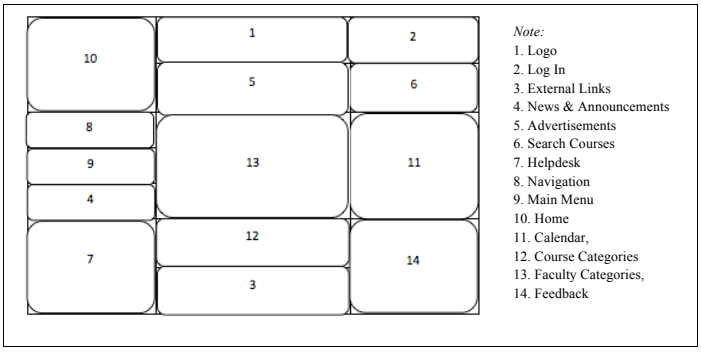

Figure 15. Localisation of web objects for e-learning website

CONCLUSION

In conclusion, the proposed guideline (Figure 17) for the UID of e-learning websites has been obtained based on localisation. By using user expectations, it will be easier for users to use the e-learning websites. Most of the web objects are localised based on user's need. Thus, it is hoped that it will help users to easily access the information and details that they need. The Ministry of Education (MOE) has indicated Malaysia's intention to expand on massive open online courses (MOCC) as a way to take advantage of technology to improve quality and widen access to education where MOOC is being used as an online learning approach that offers benefits for Malaysia. The MOCC refers to what a good e-learning should be; where, an interactive and engaging environment encourages a high-degree of collaboration and international interactions. The guidelines enable users to easily engage in learning tasks. Future research can focus on usability testing or by using tools such as eye-tracking technology which are based on (Nurul-Hidayah et al., 2011; Aslina and Azizah, 2014b) efficiency, effectiveness, and satisfaction to measure and verify the proposed guidelines.

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