DESIGNING QUIZ GAME WITH MULTIMEDIA ELEMENTS AS LEARNING OBJECT

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This dissertation is dedicated to my family for their endless support and encouragement.

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ABSTRACT

Throughout the 1980s and 1990s, the concept of multimedia took on a new meaning, as the capabilities of satellites, computers, audio and video converged to create new media with enormous potential. Combined with the advances in hardware and software, these technologies were able to provide enhanced learning facility, with attention to the specific needs of individual users. Knowledge is going deeper and deeper daily, there are many learning methods developed to catch this huge cloud of knowledge. Each of them are using some senses to make connection with user, reading a book, watching a video and listening to a podcast are examples of them. multimedia can stimulate more than one sense at a time, and in doing so, may be more attention-getting and attention-holding. Presently, traditional learning systems have resulted in a mismatch between what is taught to the user and what the industry needs. As such, many institutions are moving towards problem-based learning as a solution to producing graduates who are creative, can think critically and analytically, and are able to solve problems. Multimedia technology is an innovative learning system. In this project, using multimedia technology in a quiz-based learning environment by using multimedia elements, is focused. Based on the analysis of this project, a Quiz-based Learning System is designed and developed. This quiz-based system is consist of a number of technologies that is used in order to produce a full working system. It is revealed, that using of multimedia elements in this quiz-based system has improved the learning ability significantly.

ABSTRAK

Sepanjang tahun 1980-an dan 1990-an, konsep multimedia mengambil langkah baru, dengan adanya keupayaan satelit, komputer, audio dan video untuk mewujudkan media baru yang mempunyai potensi besar.Penggabungan kemajuan dalam perkakasan dan perisian, teknologi ini dapat meningkatkan kemudahan pembelajaran, dengan mengambil kira keperluan pengguna individu. Ilmu akan lebih terus mendalam setiap hari, terdapat banyak kaedah pembelajaran yang dibangunkan untuk menangkap 'awan pengetahuan' (*Cloud of Knowledge*).Setiap daripada mereka akan menggunakan beberapa pendekatan untuk membuat interaksi dengan pengguna, membaca buku, menonton video dan mendengar podcast adalah contoh daripada beberapa pendekatan. Multimedia boleh mencetuskan lebih daripada satu pendekatan pada satu masa, dan dengan berbuat demikian,lebih perhatian boleh didapati dan diserap. Pada masa kini, sistem pembelajaran tradisional telah menyebabkan ketidakpadanan antara apa yang diajar kepada pengguna dan apa yang diperlukan oleh industri.Oleh itu, banyak institusi beralih ke arah pembelajaran berasaskan masalah sebagai penyelesaian kepada melahirkan graduan yang kreatif, boleh berfikir secara kritikal dan analitikal, dan dapat menyelesaikan masalah. Teknologi multimedia adalah satu sistem pembelajaran yang inovatif. Dalam projek ini, penggunaan teknologi multimedia dalam persekitaran pembelajaran berasaskan kuiz dengan menggunakan unsur-unsur multimedia diberi tumpuan.Berdasarkan analisis projek ini, Sistem Pembelajaran berasaskan Kuiz direka dan dibangunkan. Sistem berasaskan kuiz ini terdiri daripada beberapa teknologi yang digunakan untuk menghasilkan sistem berkerja penuh. Hasil dapatan kajian, penggunaan unsur-unsur multimedia dalam sistem berasaskan kuiz ini telah meningkatkan keupayaan belajar dengan amat ketara.

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CHAPTER 1

INTRODUCTION

1.1   Introduction

In order to take holistic learning for on going knowledge, it is required to improve learning system from traditional ways of learning to new learning methods. One of the learning methods is learn during playing and having fun. Entertainment provides laughter, relaxation and enjoyment in our lives today. People enjoy spending their leisure time to pass time being happy and busy. The world as we know today is rapidly changing; technology is at its peak, affordable, readily available, and easy to use. People are embracing these changes fast.

In gaming it provides relaxation and diversion. It's all rounded can be used to entertain one or a group. The Flash Educational Quiz Game made increased brain power in general, improved memory, and makes one more creative problem-solving with no tension or strain. It's a multipurpose game, where players can have an opportunity of enjoying themselves and having fun while learning at same time hence making it very effective. People are very much advancing their interaction with their portable devices anywhere anytime they can read, eat, sleep and walk using them at ease. The Flash Educational Quiz Game does so too it gives the user Options on categories they can chat with their friends online (publicly or privately), play games quiz on different categorizes while having their own profile as social network.

Flash Educational Quiz Game creates awareness on what is going on in the field of entertainment making the player intrigued and captivated in the knowledge acquired along side with fun as it is a multiple choice all they have to do is select an answer and enjoy. This was my main objective learning while enjoying with a comfortable environment. Each category rises aware on each field. Cars: what is the new model, fuel consumption manufactures price range, what year it was established, what part of the world it was manufactured, speed and interior parts.

Computer category is quite expansive so researcher kept it simple. The project aimed on certain manufactures and their products example; Apple. It enables user to label parts of a computer from the multiple choice provided. This creates awareness of the computer products and the hardware and software part.

Music category is on musical instruments and the sounds produced. The instruments sound is played and the player has to choose what the instrument is being played from the choices provided. Sound produced is very entertaining and very distinctive to its instrument this is makes the player familiar to musical instruments fast.

Movies category is simply movies and the star characters. There are animation, action, horror and adventurous movies that are so popular and this makes conversations in chat rooms on what's new in the movie theatres making them fun and exchanging pinions.

1.2   Project Background

It has been seen that people are always into games and entertainment that led to addiction that took efforts to overcome and focus on educative projects that improve brain power rather than deteriorate and diminish their big goals in life. This addiction affects school performance, memory performance, poor concentration and

much more. This Research got the idea and decided to come up with an entertainment type of game that will provide entertainment and learning at the same time.

Games are often considered childish and often used as an entertainment tool. This is not true games are not only meant for children but for all ages despite that the society has being taking it negatively. All that differs is content and from that now games are age rated. Children games are very simple and greatly colorful to enhance color recognition they teach them numbers, car racing for eye and hand coordination improvement and music to entertain and sing along for verbal improvement. The technology greatly advances with each age group thus making it challenging and improve skills as well.

The necessitates of the project is in order to integrate gaming contents with learning contents with the aim of developing new gaming platforms known as "Educational Games" which enhances knowledge alongside fun and joy of playing games. Currently games are entertainment tools thus this research has used it and transforming it into a beneficial for with additional of educational contents. This project is mainly focused on how to educate the society, especially the gamers, in such a way that, the gamers not only that will have a chance to enjoy and take the games as means of entertainment and having fun, but it should also be a tool more than entertainment. The main idea behind the implementation of this project is basically to allow games and in this case the gamers to acquire more than their main set objectives. This project is intended to enable gamer to obtain knowledge and learn new things just as they keep on playing their games. On the education side this will tremendously help a large number of people learn, and acquire new knowledge about also testing their own skill without even realizing that they are actually learning.

From the rough research conducted and from the observation made it is noticed that, in most cases the games or any other related entertainment type of category are being takes as tools for relaxation , entertainment and enjoyment. Few

of the games that have being developed that comprise with more that entertainment feature, for instance the Xbox 36o games that allow gamers to physically plays as if they were doing it in real life though this focuses more in making the gamer physically active.

There will be a number of challenges that will arise in this project especially in designing this project which should be able to touch different agreement groups but also able to educate the user being the main objective of this project and as far as the system is concerned.

For sure, educating when having fun make it very appealing and many people initiate themselves with enthusiasm. Chatting while playing make it easy to keep in contact with friends who can also engage themselves in your game by requesting help as two heads are better than one. It benefits all keeps the players happy, comfortable and at relaxation.

1.3   Statement of the problem

Today, there are many web-based learning information systems which take full advantage of internet technology. For example, non-synchronous teaching and learning, learning anytime and anywhere, large and easy-to-link communities, and multimedia tools which help leaning. (Lin, 2010)

Knowledge is going deeper and deeper daily, there are many learning methods developed to catch this huge cloud of knowledge. Each of them are using some senses to make connection with user, reading a book, watching a video and listening to a podcast are example of them.

There are four primary learning styles: visual, auditory, read-write, and kinesthetic. People learn using a variety of these methods, but one method is usually

predominant. Familiarity with the characteristics of each learning style and associated strategies allows you to address the needs of each type of learner. (Friedman, 2008)

In compare of traditional learning, hands-on learning and game base learning methods there are some field to analyze, traditional learning is cost effective, has low physical risk and allowing to comparison between users is another feature of this method. On the other hand on hands-on learning method these features are not highlighted and it has focused on highly engaging to make the user interested on subject, Learning pace tailored to individual student, immediate feedback to response user mistake and suggest the correction, by using this method user has ability to transfer learning to read word environment and it can actively engage the learner. On comparison of these two methods of learning with game-base learning which is the method of learning in this project it can highlighted the game-base learning method will cover all the features of traditional learning and hands-on learning. (Trybus, 2012)

Quiz base learning is one category of game-base learning and covers all the benefits of game-base learning method. By improving the quiz-base learning and importing multimedia elements to this method such as visual, auditory and read-write learning systems it can make a new generation of learning which is mixing best learning methods and systems to increase the power of learning system.

1.4   Research Aim

The aim of this research is to integrate quiz web-base application which is improving the ability of learning by analyzing different methods of learning and using each particular learning method in the right place. The system to be developed will be using various technologies and different programming languages that contains learning contents.

1.5   Project Objectives

Main objectives of project listed as:

1. To analyze effect of using multimedia elements on learning systems and methods and selecting best method.
2. To design quiz base web application with best chosen learning system.
3. To develop and evaluate the web base quiz application by using selected learning method.

1.6   Justification and Significant of Study

The knowledge is growing very fast, on the other hand there should be new methods of learning to catch this huge amount of knowledge. Implementing new systems of learning by using new learning methods can make this. Another usage of this kind of quiz application can be in class rooms and teachers can make their quizzes online, students also are able to learn during quiz easier than traditional methods of learning. Improving the competition sense of student can help them to get use to using this kind of applications and enjoying of using quizzes.

1.7   Limitation and Scope of Study

As far as the system is concerned there are a number of things that the system will be able to deliver. The following is a list of the system limitations outlined:

I.   Multiplayer Support

As it has been explained earlier on in application description, one of the limitation of the system will be it is bounded to people with medium level of knowledge and also the competition will based on the score hence the system does not support a multiplayer game. The Flash Educational Quiz Game system does offer limited selections of quiz to be answered by the gamer which by then provide a wide range selection of answering and selecting the quiz.

II.   Data Encryption

From to the fact that Flash Educational Quiz Game system consists of valuable data/information that is private hence, has to be well saved and not exposed to intruders who do not have access to the system. This is one of the problems that have immerged during the project development that is to make sure the data is well secured which by then from my level of knowledge and professional that could not be implemented in the system even though it was an ideal solution. A user log in dialog was instead implemented / is used where users have to enter their password and user name to access and make use the system.

III.   Mobile Access Of The System

The system currently does not offer if not supporting a remote access of the system especially from mobile devices (phones), meaning that for the user to access the system he or she has an option of only using the physical desktop connection to actually make use of the system. At present the system can also be installed as an application to other computer and being used without the use of a web browser hence being one of the limitations again in this project. We came across during our project.

IV.   Meeting The Deadline

Were allocated with a very limited or fixed amount of time for the completion and implementation of our system which was not enough for us to introduce the said features.

V. Budget Constraints

It is As well knows that keeping the system available on the network / internet so that it can widely be available and accessed at any point is costly and requires a given amount of budget for such service to be implemented. Unfortunately this was not successful to this project due to financial and budget limitations in general.

1.8   Organization of Thesis

This thesis is summarily divided into six chapters. Each chapters have contributed to show the flow of the research from start till the end.

Chapter 1 is start with gives introduction of the research then follow by elaboration of the background of the research and statement of the research problem that formulate to idea of the research. The aims, objectives, scopes and justification for the research are determined in this chapter. Following is a brief overview of the chapters ahead.

Chapter 2 reviews related works that previously done by other researcher. From previous research, the idea of research can be analyzed and strengthen to make sure this is researchable and contribute to the knowledge. This chapter start with introduction after that is coming academic research and then technical research.

Chapter 3 presents methodology in performing this research. Methodology is importance to make sure all objectives set by researcher achieved to fulfil aims of the research. Every steps involved in the research is discussed.

Chapter 4 discusses on the implementation and design of this project. In this chapter clearer explanation on how the development of the application. Step by step

process of the proposed with more detail explanation compare what has been discussed in Chapter 3.

Chapter 5 is testing of the proposed application and analyzed the result based on comparison with previous implementation. The result then discussed before pass to the last chapter.

Chapter 6 is last chapter to summarize all works done in the research and re-stating the contributions has been made through the research. This chapter gives conclusion what supposedly the directions for future research to be referred.

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