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Electronic-test Web application / Lee Yin Ping.

ELECTRONIC-TEST WEB APPLICATION

LEE YIN PING

This report is submitted in partial fulfillment of the requirements for the
Bachelor of Information Technology (Software Development).

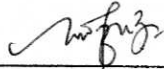
FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2004

ADMISSION

I admitted that this project title name of
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STUDENT : _____ Date : _____
(LEE YIN PING)

SUPERVISOR :  _____ Date : 20/10/08
(CIK NURUL AZMA ZAKARIA)

DEDICATION

To my beloved parents...

DEDICATION

To my beloved parents...

ACKNOWLEDGEMENTS

I would like to thank Cik Nurul Azma Zakaria for giving assistant to complete this project successfully. She had given me a lot of guidance and support to make sure the project finish as plan.

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Last but not least, I would also like to express my appreciation to all who involve for helping me to complete this final project proposal.

ABSTRACT

Delivering the high levels of reliability and availability required of Electronic-Test sites requires not only great technology, but also great operational processes. Building a scalable, highly available application is a necessary process in becoming functional as an online examination application. E-Test is has the back-function which can be used by the lecturer as the administrator and the front-function which is used by the student. The back-function includes the maintenance and configuration for the E-Test application. Such of the maintenance work that can be done include configure the question and configure how the question displayed. For the front-function include search the individual result, generating performance graph and answering the question. E-Test application also contain security feature such as authentication login, session timeout, keep track of the user action, abandon user session after log out and avoid user to click the IE back button. E-Test application is a web application which is develops using Microsoft SQL-database server, Microsoft Visual .Net (ASP.NET), ASP and the IIS Web server. It applies the three-tier technology which includes the database server, client and web server.

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LIST OF ABBREVIATION

TERM	DEFINITION
E-Test	Electronic Test
KUTKM	Kolej Universiti Teknikal Kebangsaan Malaysia
FTMK	Faculty of Information Technology and Communication
SDLC	Software Development Life Cycle
HCI	Human Computer Interaction
RAD	Rapid Application Development
IIS	Internet Information Services
XML	Extensible Markup Language
ICT	Information and communications Technology
FICT	The Faculty of Information & Communication Technology
R&D	Research and Development
DSI	Dynamic Systems Initiative
DBMS	Database Management System
SQL	Structured Query Language
IE	Microsoft Internet Explorer
IEAK 6	Internet Explorer Administration Kit

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CHAPTER I

INTRODUCTION

1.1 Preamble/Overview

Online test web application is the research for final year project due to the fast developing internet technology. E-Test is similar with the test paper that is taken by candidate during the examination. The different between E-Test and normal examination is E-Test is an online application and result can be obtained as soon as they finish take the test. This application is the multi answer question set examination. Candidate can choose more than one choices as their answer. This will make the question more challenging and increase the level of difficulty compare to not a multi answer question set. This application will randomly access question based on the level set by the organizer. The level of the application represent category of the questions. The purpose of level in this application is to make sure that question randomly retrieved is equal from each category.

It will mark the question according to the answer set given by the organizer. Total correct answer and score of the candidate will be display. This application will generate a report in graph form showing the performance of the candidate after take the test. This application requires the user to log in before use the application. E-Test will detect the identity used is an authorize user or not. It will direct the user to the appropriate page because administrator will enter a different page for the candidate

pages. This application is much consider about the administrator as a powerful user. E-Test is a complete application and stands alone.

For security purpose, this application will online track the user activity. Only the user who has log in the application can use this application. Different user identity will access different application page. For example, if the user is using the administrator identity they will access the administrator page, which different from the user access that, use the candidate identity. Different user identity can access different pages. The administrator user will determine each of the candidate identity authority access. There will be a password field to protect the authorize user. Each of the login will have a valid session time to access. If the time to access has exceeded 5 minutes, session will expired and required the user to log in again.

The purpose of E-Test is to make the English examination set paper can be taken online. E-Test can make the calculating marks for each paper sited by the candidate in faster and efficient way. E-Test is built to generate a quick evaluation of candidate performance in the examination. User can change the setting of the examination flow just by change the value in the appropriate form. Generally, E-Test is develops to help organization organize an online quizzes or online examination. Due to the time constraint and venue constraint for each candidate to take the exam, E-Test is the solution for the problem. E-Test is an online application that can be access by the each candidate from a personal computer which can online or have intranet.

The organization that becomes the research for the E-Test application is a college university, Kolej Universiti) Teknikal Kebangsaan Malaysia, KUTKM in Faculty of Information Technology and Communication, FTMK for English subject. KUTKM is the new college university built due to the government recommendation one state one university. KUTKM is first government College University that situated at Ayer Keroh

Melaka. It was first operated at 21 June, 2000. It was established on Dec 1st 2000 under Section 20 University and College University Act 1971 Act 30. The actual college based is built at Durian Tunggal. KUTKM is emphasis on the hands-on and technical.

KUTKM mission is to produce highly competent professionals via world class higher Technical Education based on application oriented teaching, learning and research through Smart University-Industry collaboration in line with National Aspiration. The structure of KUTKM is unique and distinctive curriculum design. Teaching and learning concepts based on problem-centered, action learning and creativity is the second structure of the KUTKM while emphasis on experiential and hands-on learning with fully equipped 'Teaching Factory' facility. The university town within the vicinity of industrial park is the fourth structure of KUTKM. The intensive collaboration with industries: syllabus design, industrial training and professional consultants. The vision of KUTKM is to be the world's innovative and creative technical universities. KUTKM has the curriculum planning on the current technology and skills and to fulfill the needs and requirements of industries.

1.2 Problem statement(s)

Problem which can be recognized can be view from two different perspectives. From the perspective of organizing an examination manually below is the problem recognized.

- Using a lot paper since it is manually printed-out
- Using a lot of human resource in marking paper
- Inaccurately of the marks
- Need a lot of time to produce the result of the candidate

- Manually create a statistic showing performance of each subject taken
- Wasting money if there is a changes in the question
- Examination leak problem

From the perspective of existing online examination application

- Longer loading time of the application
- Low level of user friendly
- Dependency of the application to the programmer towards the maintenance work
- Examination leak problem
- Not even question from each level or topic to be included in one question set

Problem recognize from other perspective

- Different place of examination will cause of examination cheating case such as disquisition

They no need to print the examination question. Besides, E-Test can save a lot of time human resource time in marking examination paper. E-Test can reduces the inaccurately that occur in marking exam paper by human and produce the result faster than human. It can also solves question problem where if administrator has accidentally wrote a wrong choices for the question or wrong question set. E-Test allow administrator to edit the question without problem.

E-Test is develops to save times, money and database storage. It saves a lot of times when administrator can choose the existing choices when the choice is similar. Administrator is no need to type for the second times. E-Test can be used by any

organization which wants to organize an examination or quizzes for example university. E-Test can also be used by the company who wants to organize a quizzes contest. E-Test is build to avoid the examination question leak due to the randomly question retrieve. The more question in the question bank, the chances of the repeating question in different question set lower. E-Test application is develop using the combination of Software Development Life Cycle (SDLC) model and Prototyping Development Approach.

1.3 Objective

The objective of the E-Test can be divided into a few perspectives. E-Test hopes to achieve the listed benefits as below

- No more correcting answer sheets manually. The system validates the answers selected by the candidate/examinee and calculates the examination score automatically.
- No calculating the scores manually. The system automatically calculates score for the candidate. Questions can have different points/marks.
- Get examination results instantly. The administrator/examiner can view the results right after the examination has been conducted since the system calculates and updates the score.
- Avoid Examination leaks. Set the examination to pick random questions from the Question Bank at time when the examination is administered. Non-repetitive, random questions will be displayed to the candidate. More the questions in the Question Bank, more random the questions displayed to the candidate.
- Save on administrative resources and time. Self-registration by candidates/examinees, elimination of printing costs for conducting

examinations, use existing network setup for administering examinations results in saving administrative resources and time.

For the security purpose, E-Test application hope to achieve the following task,

- a) Tracking the user action
- b) User must log in to used the application
- c) Password encryption store as varbinary in the database
- d) To make sure they are an authorize user, password fields will be provided
- e) User can leave the application alone from doing nothing in 5 minutes. Within 5 minutes, their session log in expired, user needs to re-log in again.
- f) Delete the cookies after user log out from the application

For the long-term database design, E-Test application hope to achieve the following task,

- a) User login identity can be used in other application besides this application. Because, there will be another table controlling the access right of each user for the application.

During the project developing, below is the expectation that hope to achieve,

- Improve my skill and understanding about the programming language
- Learning new language especially ASP.net and implement it in this project
- Hope to become more understanding the business value of the application that develop
- Hope to understands more the quality of the system