ONLINE EXAMINATION FRAMEWORK FOR COMPUTER UNIT FACULTY OF ARTS AND CULTURE

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Abstract

This study is aimed to design an Online Examination framework for Computer Unit, Faculty of Arts and Culture, South Eastern University of Sri Lanka. This Online Examination framework is an electronic way of facing the examination via a web driven application. Today most of Online Examination System available in the market. But some people still use a manual system. Through this current manual process, users face many problems. Therefore, we have introduce Online Examination framework eliminates all this manual process and to provide easy, efficient and accurate software based solution to help in examination activities. The main objective of this project is to change the current manual system into computerized one.

Key Words: *Examination, Framework, Manual*

Introduction

Online examination is a test conducted over the internet. Also, it measures the knowledge level of students. Students can give online exams from their own devices at their own time. The online examination requires an internet connection and a web browser. In the current world most of the countries use this online model to conduct the exams. But in Sri Lanka most of the exam were conduct still in offline manual process. Some of the private institute only moved to the digital and online base examination process. Most of the government institute still follow the traditional method as the manual process to conduct the exams.

This study is aim to design an online examination framework for Computer Unit, Faculty of Arts and Culture, South Eastern University of Sri Lanka. This Online examination framework is an electronic way of facing the examination via a web driven application. Today most of online Examination system available in the market. Some people still use a manual system

because users face many problems through the current manual system. So online examination framework eliminates all this manual process and to provide easy, efficient and accurate software based solution to help in examination activities. The framework will enable students to register, face the exams and checking the answers. Candidate is given a limited time to answer the questions and answers can be evaluated manually or through automated system, depending on the nature of the questions and the requirements and the results will be sent to the candidates.

All the names of registered students with complete information are stored in a database, which is maintain. In this framework, a student can face the examination without any difficulty. This framework is very useful to prepare an exam, safe the time that will take to check the paper and prepare mark sheets. As already stated, the project online examination framework' provides means for fast and convenient way to face the examination. The required a web based application that will provide a working environment that will be flexible, will provide ease of work, and will reduce the time for report generation and other paper works.

Problem Statement

There are so many problems on the existing manual examination system. Therefore we were going to introduce the new online examination framework for change the existing manual system in to web based system.

Objectives

The main objective of this paper is

- To change the current manual system into computerized one
- To identify the drawback in the manual examination process
- To explain the advantages of the online based examination process.

General objective of our project is to change the current manual system into computerized one. This project would be very useful for Computer Unit. Where regular evaluation of students is required. Specific objectives of this system are, Design to facilitate administrator and user, Online examination project assesses student by conducting online objective test, It saves time as it allows number of students to give the exam at a time and displays the results as the test gets over and for essay type questions, they will provide the result quicker than manual. The problems of the existing manual system of examination are following:

Expensive and Time consuming: Manual examination system is expensive to conduct, for example, time and money is spent in Printing exam papers and forms. Time spent on arranging the questions and answers papers and Place. Keeping the information in the form of hard-copied documents leads to the following Problems: Lack of space – It becomes a problem in itself to find space to keep the sheets of paper. Being generated because of the ongoing discussion- Filing poses a problem – Filing the documents categorically is a time Consuming, Filtering is not easy, and it becomes hard to filter relevant documents. Loss of forms and papers: Sometimes, papers get lost after being answered. Large number of workers: There must be supervisors and examiners the separate files are requiring more space to keep. Handwritten records and answers messy and hard to understand. Organizing papers and writing reports take lot of time
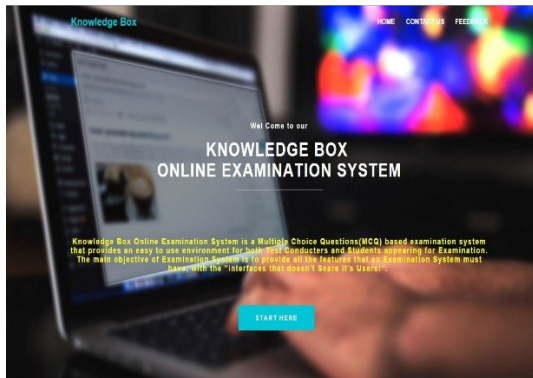

Figure1- Home Page

Figure2-Admin Page

Administrator has a privilege to create, modify and delete the test papers, its particular questions. User can login and give the test with his specific Registration number and password, and they can see the results as well. Allow administrator to create tests and update marks. The most important thing is, Can be used anywhere any time as it is a web based application (user location does not Matter) and No restriction that examiner has to be present when the candidate takes the test. Another objective is to make the system simple and easy to learn as possible. The user interface should be intuitive so that a moderate computer user would be able to use it fully, with minimum train1.
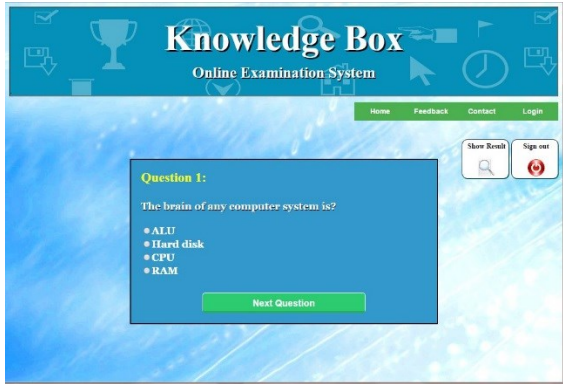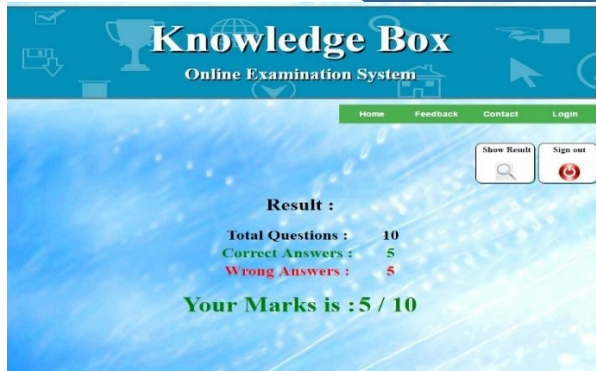
Figure3- Exam Page

Figure4- Result Page

Methodology

Methodology is one of the most important part of a developing a system or framework. There are so many types of system development model. Therefore to do this framework we use the waterfall methodology.

Waterfall Method

The waterfall approach is one of the oldest SDLC models, but it has fallen out of favor in recent years. This model involves a rigid structure that demands all system requirements be defined at the very start of a project. Only then can the design and development stages begin.

Once development is complete, the product is tested against the initial requirements and rework is assigned. Companies in the software industry typically need more flexibility that what the waterfall methodology offers, but it still remains a strong solution for certain types of projects—especially government contractors.
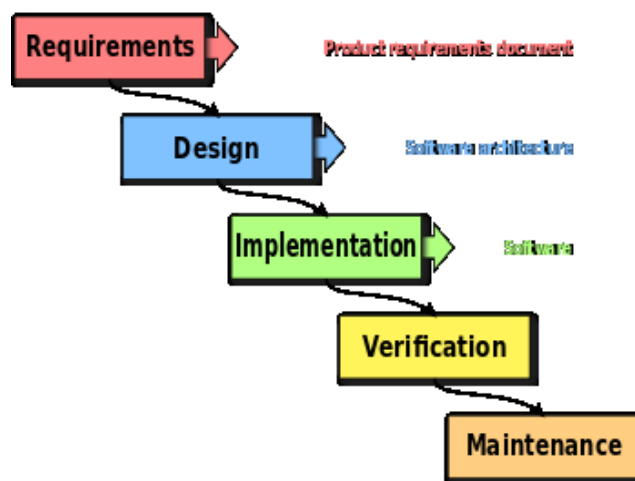

Figure 5: Waterfall Method

System Design

E-R Diagram

Information should be thoroughly analyzed to get a clear understanding of the system. Therefore, we analyze the requirements gathered from relevant parties and decided to categorize the users who use this system into administrators and students. The application consists of an initial login screen, which asks for id and password to allow access to the test. For new students, there is an option for signing up by giving their details. After sign-up, the details are stored in the database managed by MySQL. Each time the student tries to login with entered password is matched with the corresponding user-id in the database, which if successful is allowed to continue to the welcome screen.
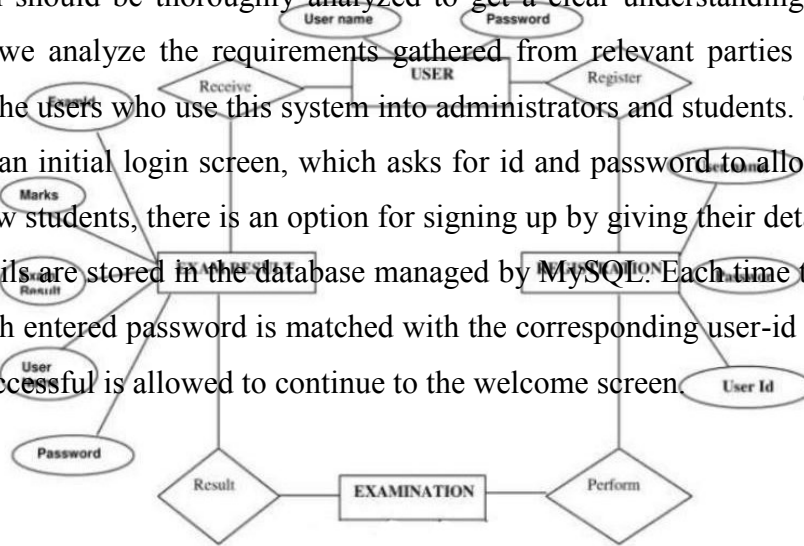
Figure 6: system design

The welcome screen has provisions for log-out as well as giving the test. If the option for the test is selected, the user is directed to the questionnaires, which are connected to the question generator database. This page also has a timer. Then the user gets the option to log-out from the session. The results are calculated comparing the input from user to the answer stored in the database. Administrator can login to the system through their username and password. After correcting and calculating the marks, the results will be sent to the Students.

Definitions, Abbreviation, Acronym

The table below provides the definitions of all terms, acronyms, and abbreviations

No	Terms/Acronyms	Definitions
1.	Student	User mostly a student who will appear for the examination
2.	Department	Another user mostly department member, lecturer or examiner who posts set of questions, the available options and correct answers.
3.	Administrator	Super user, adds Department and manages system.

IMPLEMENTATION

The implementation of the system consists of the development of a number of web-forms, database Entries and store procedures. Every web-form includes one or more data to transact relevant data. Technologies, which we used to do this project, are shown below.

Software Requirement

- Operating system   : JDBC, ODBC
- Technology
- Web Technology   : Html, JavaScript, CSS
- IDE   : Eclipse
- Web Server : Apachie

- Database
- Java Version

: MY SQL

: Jdk-

Hardware Requirements

- Intel(R) core i3CPU
- 2GB RAM
- 10GB hard-disk space or higher
- DVD rewritable
- 16" monitor (can support up to 1366x768 resolution)
- Keyboard and mouse

Deliverable

Online Examination Framework covers almost all type of problems faced while conducting

online

Examinations and this is also will produce:

- No restriction that examiner has to be present when the candidate takes the test
- Being an integrated Online examination system it will reduce paper work
- It could reduce human mistakes
- Easy to store and retrieve information
- User friendly interface
- Convenience, security and flexibility
- The computerized process is quicker than manual

Conclusion

This document describes our experience in designing, developing and deploying an online examination system framework for computer unit Faculty of Arts and Culture South Eastern University of Sri Lanka. Online examination framework will manage all process of manual examination. Administrator has a privilege to create, modify and delete the test papers and its particular questions. It saves time as it allows number of students to give the exam at a time and it also there by helps in saving resources- both human and natural. User can register, log in and give the test with his specific id. It is very easy to use and it is very less time consuming. The main biggest objective was to come up with a complete computerized, automated system and fulfill all the requirements. The main purpose of implementation of the online framework is to provide easy, efficiency, accurate software based solutions to help examination process easily resolved. we hope through this framework the objective of our study as to complete computerized, automated system to fulfill requirements of online examination framework to enhance efficiency and increase accuracy and it also add value to Computer Unit more capability in future.

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