P-3227

ONLINE EDUCATIONAL SYSTEM

PROJECT REPORT

Submitted By

S.Gowri Shanker

Register No: 0720300010

in partial fulfillment for the award of the degree

Of

MASTER OF COMPUTER APPLICATIONS

in

COMPUTER APPLICATIONS

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

May 2010

KUMARAGURU COLLEGE OF TECHNOLOGY

(An Autonomous Institution Affiliated to Anna University, Coimbatore)

COIMBATORE – 641 006.

Department of Computer Applications

PROJECT WORK

MAY 2010

This is to certify that the project entitled

ONLINE EDUCATIONAL SYSTEM

is the bonafide record of project work done by

S.GOWRI SHANKER

Register No: 0720300010

Of MCA (Computer Applications) during the year 2009-2010.

Project Guide

Head of the Department

Submitted for the Project Viva-Voce examination held on 17.05.2010

Internal Examiner

External Examiner

DECLARATION

I affirm that the project work titled **ONLINE EDUCATIONAL SYSTEM** being submitted in partial fulfilment for the award of **MASTER OF COMPUTER APPLICATIONS** is the original work carried out by me. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.

(Signature of the Candidate)
S.GOWRI SHANKER
Register No: 0720300010

I certify that the declaration made above by the candidate is true

Signature of the Guide,
Mrs. R.K.Kavitha,
Senior Lecturer/MCA

TARGET
School Of Multimedia & Programming
Reg. No. 701

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Hopes, Coimbatore - 04.
Off: 0422 4275 979

E-mail: feedback2target@gmail.com

Date : 12.05.2010

Sub: Project Completion letter

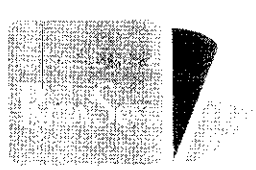
TO WHOMSOEVER IT MAY CONCERN

This is to inform that **Mr.Gowri Shanker. S (Reg. No: 0720300010)** of **Kumaraguru College of Technology,** studying **Final year MCA** has successfully completed the assigned tasks in the project **"Online Educational System"** for TARGET Pvt Ltd from Dec 2009 till Apr 2010.

During this tenure, he adhered to the professional code of conduct/ethics of TARGET Pvt Ltd.

For TARGET Pvt Ltd

Sathish .S



ACKNOWLEDGEMENT

I wish to express my deep unfathomable feeling of gratitude and indebtedness to **Dr.S.Ramachandran,** Principal, Kumaraguru College of Technology, Coimbatore for the successful completion of the project work.

I am very glad to express a special word of thanks to **Dr.A.Muthukumar,** Course Coordinator, Department of Computer Applications, Kumaraguru College of Technology, and Coimbatore for encouraging me to do this work.

I am very much indebted to **Ms.V.Geetha,** Assistant Professor, Project Coordinator, Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for her complete assistance, guidance and support given to me throughout my project.

I am very much indebted to **Ms.R.K.Kavitha,** Senior Lecturer, Department of Computer Applications, Kumaraguru College of Technology, Coimbatore for her complete assistance, guidance and support given to me throughout my project.

It is my pleasure to express my profound gratitude to **Target Private Limited, Coimbatore** for admitting into this project. I am thankful to **(Mr.S.Sathish)** of Target Private limited, Coimbatore, for this excellent guidance, timely suggestions and constant support in all my endeavors.

Finally, I owe a lot to my beloved parents and family members and to my friends and to my department staffs for their help and co-operation to complete this project successfully.

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Abstract

"Online Educational System" is designed for the students use, to build a optimal framework for web-based assessment. The value of these tasks lies in improving the knowledge of the student and the effective design of the online courses.

This examination system is used to test the indepth knowledge of the student in different subjects. The main objective of online assessment system is to efficiently evaluate the candidate thoroughly through a fully automated system. This system saves lot of time and gives fast and accurate results.

Online educational system makes the analysis of the exam results easy. The results will be precise and accurate. The system mainly has four major processes. Login, Download tutorials, Exam, Result.

Online assessment system has been developed with JSP as front end, mysql as back end.

List of Tables

List of Figures

1. Introduction

1.1 Organization Profile:

Target (P) Ltd.

Target Private Limited, founded in 2002 is a rapidly growing software development company specialised in Web Application development, Enterprise solutions, SCM Methodology and RFID with its headquarters in Chennai.

MPI has a wide range of website design, development and programming services ranging from simple HTML based website design to complex AJAX based web development and programming, multimedia and secure e-commerce web applications. We work with your company to define objectives and develop graphic design for your website and interactive tools to achieve them.

The benefits with MPI are Access to new technology, Accelerate cost savings, Improved focus on core responsibilities, Flexibility, Rapid implementation , Reduced risk , Achieving the highest quality standards, Reduce operational expenses , Maximize return on existing e-procurement assets, Provide total spend visibility.

Corporations worldwide are looking towards high quality and reduced cost of IT services. We, in our mission to offer Quality solutions at a competitive price, have our state-of-the-art, Offshore Development Centre (ODC) located in Coimbatore.

1.2 Project Overview:

Online educational system is used to test the knowledge of the students in the subjects. The main objective of online assessment system is to efficiently evaluate the candidate thoroughly through a fully automated system. Online educational system provides the opportunity to bring students together. Many leading educational institutions work to establish an online teaching and learning process. Several different approaches have been developed to deliver online education in an academic setting.

The questions will be of multiple choice patterns from which the student has to select the appropriate answer. As soon as the student submits the option, it displays the next question. Finally after completing the test, the system displays total number of questions and number of correct answers.

2. System Analysis

2.1 Existing System

- In the existing system only the student's knowledge is analyzed or they can use the resources which are readily available etc.
- There are possibilities of error when a large amount of data is stored randomly Also the existing system is time consuming and lot of complexity involved.

2.1.1 Limitations of the existing system

- Less Efficiency and accuracy due to lot of manual entries.
- Mostly everything is done manually in a written format.
- Results are not precise as calculation and evaluations are done manually.
- Result processing takes more time as it is done manually.

2.2 Proposed System

The proposed system helps us to overcome the disadvantage of the existing system and the changes made to the system.

2.2.1 Benefits of Proposed System

- It is a database which stores the information about the students.
- Analysis will be very easy in proposed system as it is automated.
- Calculation and evaluations are done by the system itself.
- Retrieval of information is easier because records are stored in a database.

3. System Requirements Specification

3.1 Hardware Environment

Processor	:	Intel Pentium IV
Speed	:	3.1 GHZ
Memory	:	1 GB RAM
Hard Disk Capacity	:	80 GB
Monitor	:	15" inch SVGA
Mouse	:	Logitech Mouse (Scroll)
Keyboard	:	108 Keys

3.2 Software Environment

Operating System	:	Windows XP
Designing Tool	:	HTML, CSS, JAVA SCRIPT
Scripting Language	:	ASP .NET
Web Server	:	Internet Information Server
Back-end	:	MS SQL 2005

3.3 Software Overview

JAVA

Movement to Server Side Java

Servlets are Sun Micro System's answer to CGI Scripts and Active Server Pages. Servlets are generic extensions to Java-enabled servers. It runs entirely inside the Java Virtual Machine and does not depend on browser compatibility. Servlets are Java classes that are dynamically loaded by a web server to handle requests and run on the server side. Just like any other Java class, servlets follow WORA (Write Once Run Anywhere).

The Servlet interface is at the head of the Servlet package. All servlets implement this interface, either directly or indirectly by extending from another class that implements this interface.

HYPER TEXT MARKUP LANGUAGE

HTML is the abbreviation of Hyper Text Markup Language. Hyper is the opposite of linear. It is used to be means that computer programs had to move in a linear fashion. HTML does not hold to that pattern and allows the person viewing the World Wide Web page to go anywhere, any time they want. Text is what we use. Markup is what you will do you will writer in plain English and then made up what you wrote.

JAVA SERVER PAGES

JavaServer(TM) Pages is a simple, yet powerful technology for creating and maintaining dynamic-content web pages. Based on the Java programming language, JavaServer Pages offers proven portability, open standards, and a mature re-usable component .

The JavaServer Pages architecture enables the separation of content generation from content presentation. This separation not only eases maintenance headaches, it also allows webteam members to focus on their areas of expertise. Now, webpage designers can concentrate on layout, and web application designers on programming, with minimal concern about impacting each other's work.

JAVA SCRIPT

Running Java Script:

What is needed in order to run scripts written in Java Script? You need a Java Script enables browser for e.g. the Netscape Navigator or the Microsoft Internet Explorer since these tow browser are widely spread many people are able to run scripts written in Java Script. This is certainly an important point for choosing Java Script to enhance you web pages.

Non-JavaScript Browsers:

A non-JavaScript browser does not know the <script> tag. It ignores the tag and outputs all following code as if it was normal text. This means the user will se the JavaScript code of our program inside the HTML document. This was certainly not our intention. There is a way for hiding the source code from older browsers.

Need For JavaScript:

In the initial stages, the arrangement of information collection, storing in HTML format and its dissemination through Internet Browser worked fine. However it was found lacking in so many aspects. The web pages carried the static information and it did not update itself on the fly. HTML was restricted to create static Web pages with no element of interaction. An acute need for the interactive Web pages was felt, as it served a great purpose in information collection and on-line validation through Web pages. So a tool was required to make the Web pages interactive, which can update the information dynamically on the fly.

TOMCAT

Tomcat is a Servlet container that is considered to be the official reference implementation of Sun's Java Servlet Specification and Java Server Pages specification.

TOMCAT SECURITY:

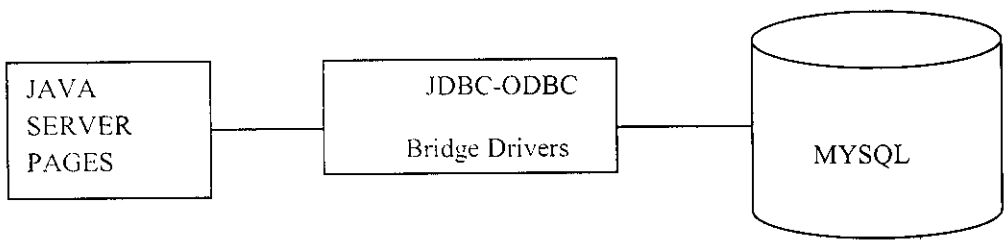
The importance of security is well understood. Any servlet engine that claims to support deployment of commercial applications should provide sufficient security services. The architectural details of Tomcat security can be understood by looking at, initially, the scope of web application security.

MYSQL

To work with data in a database, you must use a set of commands and statements (language) defined by the DBMS software. There are several different languages that can be used with relational databases; the most common is MYSQL. Standards for MYSQL have been defined by both the American National Standards Institute (ANSI) and the International Standards Organization (ISO). Most modern DBMS products support the Entry Level of MYSQL-92, the latest MYSQL standard (published in 1992).

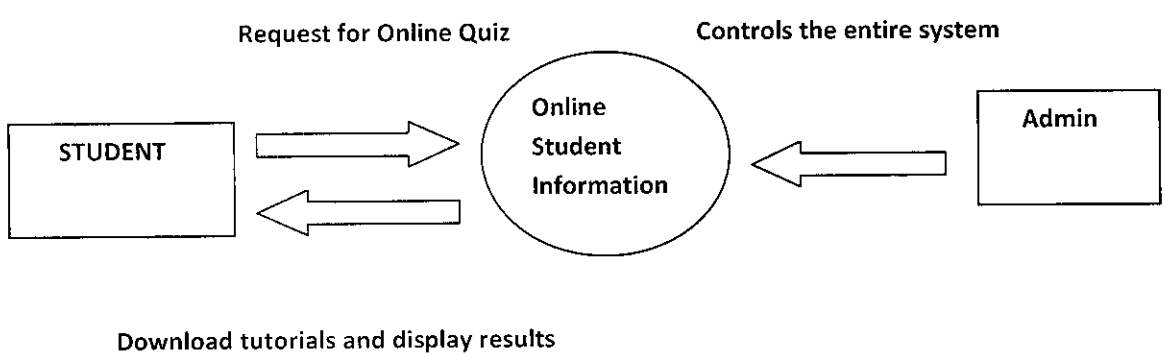
4. System Design

4.1. Three-Tier Architecture:



4.2 DFD diagram:

Level 0:



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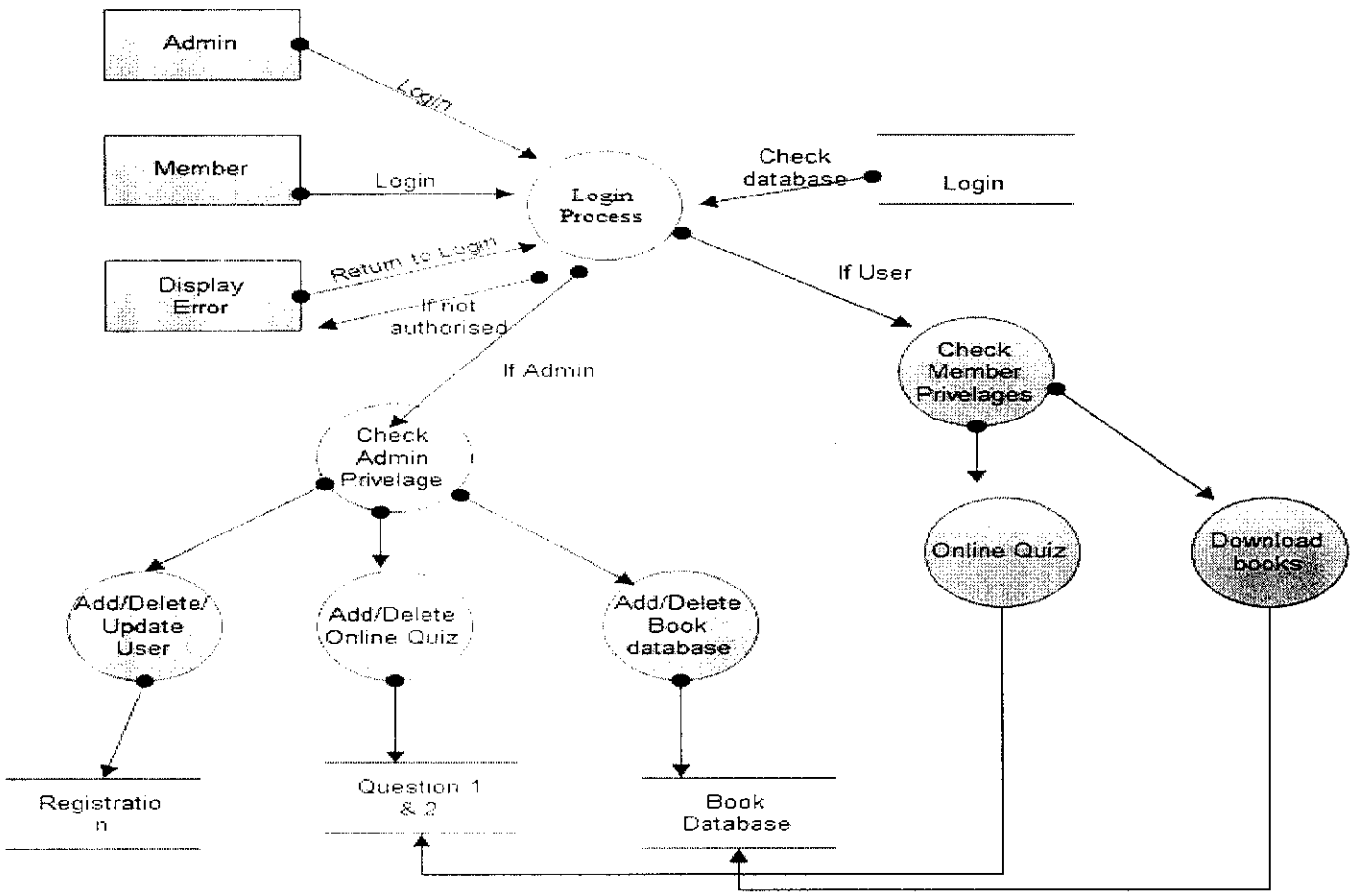

Admin
Login
Member
Login
Login Process
Check database
Login
Display Error
Return to Login
If not authorised
If User
If Admin
Check Member Privelages
Check Admin Privelage
Online Quiz
Download books
Add/Delete/ Update User
Add/Delete Online Quiz
Add/Delete Book database
Registratio n
Question 1 & 2
Book Database

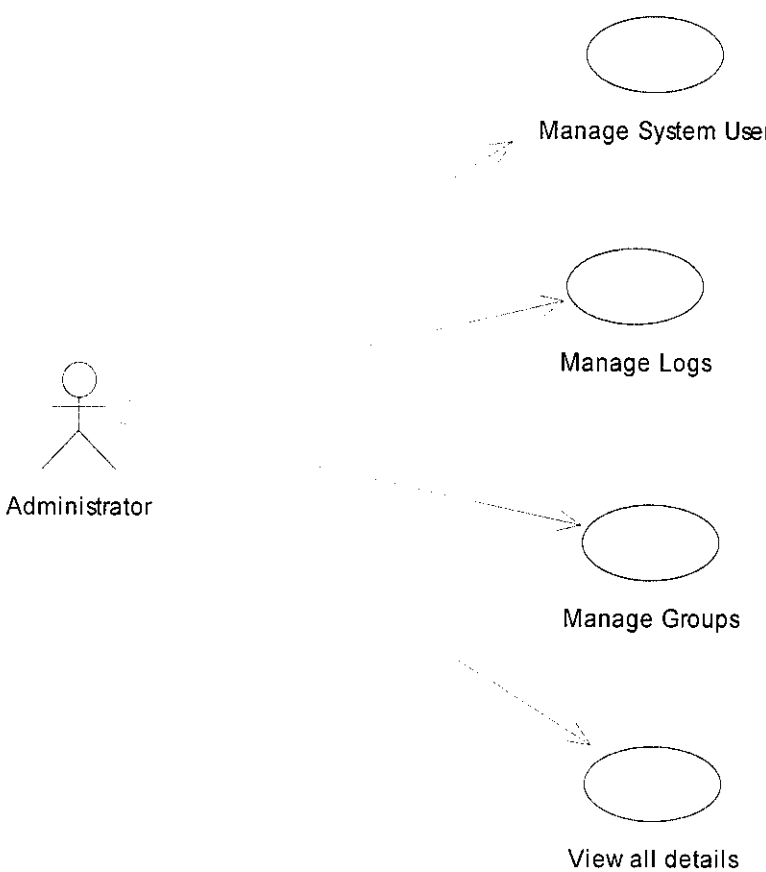
4.2.1Use-case diagram

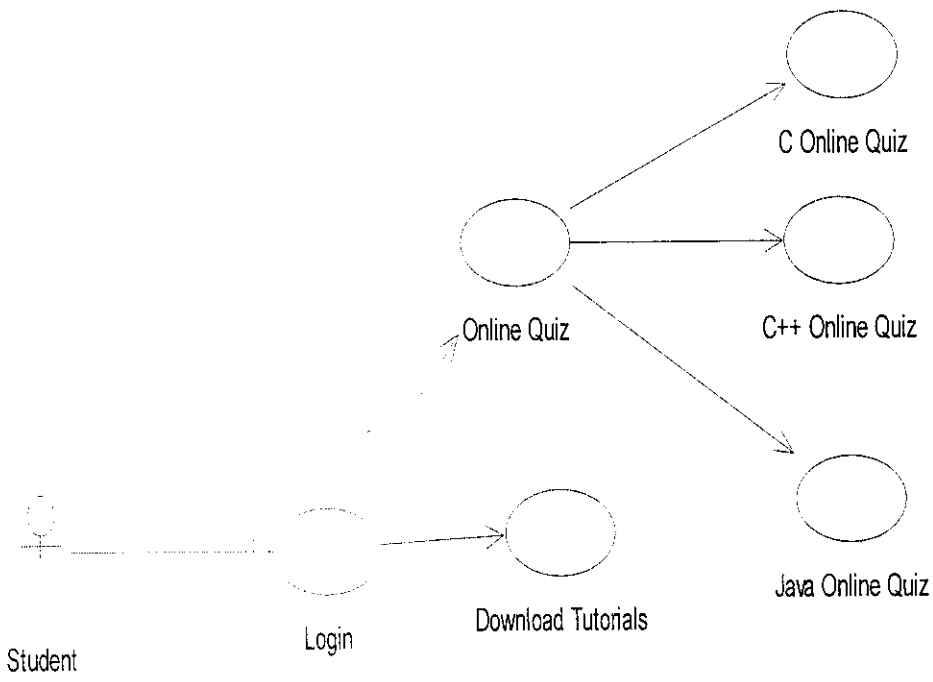
A use case diagram is a type of behavioral diagram defined by the Unified Modeling Language (UML) created from a use case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals represented as use cases and any dependencies between those use cases.

Actors

This system will be used by the following actors:

1. Admin
2. Student

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Online Quiz
C++ Online Quiz
Java Online Quiz
Download Tutorials
Login
Student
FAQ

4.3 Elements of Design

4.3.1 Input Design

Input design is a process of converting the user-originated inputs into the computer-based format. The goal of designing input data is to make the automation as easy and free from errors as possible. The requirements of input design such as user friendliness, consistent format and interactive dialogues for giving the right message and help for the user at right time are also considered for the development of the project.

a. **Admin login page:**

The Admin enter the valid username and password to update quiz database and see the feedback of the students.

b. **Student login page:**

It allows the existing users to log on the site and attend quiz, download tutorials, and enter their feedback in it.

c. **Add Questions:**

The admin enters the questions to the corresponding topic that has the questions it will import to the appropriate courses.

d. **Registration page:**

In this anyone who wants to register as a new user has to fill in their details in this page.

e. **Online Exam page:**

The registered student can select the topic he wants to attend. The questions are displayed and the suitable answer to be selected finally the result will be displayed.

4.3.2 Output Design

An application is successful only when it can produce efficient and effective reports.

The results of the examination are displayed to the student in an organized manner after finishing the test which shows total number of questions attended and number of correct answers.

The Output is mainly used to communicate with the user, processing the input data given by the user. The project must also ensure error free output. The output screens are designed in a very simple and easy to understand format.

4.3.3 Database Design

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. During database design analyst studies the data to determine which data will require store on external storage device.

The details about the relevant data for the system are first identified. According to their relationship, tables are designed through following method.

- The data type for each data item is decided.
- The tables are then normalized.

List of Tables

The databases in this project are,

TABLE NAME : Registration

PRIMARY KEY: Member_id or UserId

NAME	TYPE	DESCRIPTION	CONSTRAINT
Member_id	Varchar(20)	User Id or Login Id	Primary Key
Usertype	Varchar(10)	Type Of user	
Password	Varchar(10)	Member Password	
First Name	Varchar(15)	Member First Name	
Last Name	Varchar(15)	Member Lasr Name	
DOB	Date(8)	Date of birth	
Occupation	Varchar(15)	Type of occupation	
Gender	Varchar(10)	Gender	
Phone Number	Number(10)	Phone Number	
Addline1	Varchar(15)	Address1	
Addline2	Varchar(15)	Address2	
State	Varchar(15)	State	
Country	Varchar(20)	Country	
Pincode	Number(8)	Pincode	

TABLE NAME : Student

NAME	TYPE	DESCRIPTION	CONSTRAINT
Member_id	Varchar(20)	User Id or Login Id	Foreign key
User Name	Varchar(15)	Name of user	
Password	Varchar(15)	Member Password	

TABLE NAME : Question_id

NAME	TYPE	DESCRIPTION	CONSTRAINT
Quest_id	Varchar(5)	Question id	Primary Key
User_id	Varchar(5)	Id of user	

TABLE NAME : Questions

NAME	TYPE	DESCRIPTION	CONSTRAINT
Topic id	Varchar(5)	Id of the topic	
Quest Id	Number(5)	Id of Question Number	Foreign key
Question	Varchar(40)	Type of Question	
OptionA	Varchar(5)	Options	
OptionB	Varchar(5)	Options	
OptionC	Varchar(5)	Options	
OptionD	Varchar(5)	Options	
Answer	Varchar(5)	Type of Answer	

TABLE NAME : Topic

NAME	TYPE	DESCRIPTION	CONSTRAINT
Topic id	Varchar(5)	Id of the topic	
Desc	Varchar(30)	Description	

TABLE NAME : Feedback

NAME	TYPE	DESCRIPTION	CONSTRAINT
Member id	Varchar(5)	Id of the Member	
Comments	Varchar(30)	Description	

4.3.4 Modular Design

This System has three main modules such as,

- ✓ Admin Module
- ✓ Student Module

Admin Module:

Admin Login form:

It allows the administrator to log on the site and update the quiz database, see the user details and feedback of the students.

- o Admin have the authority for edit and update the quiz, admin also include the questions to the appropriate topic.
- o In Admin page we also have the FAQ's.

Student Module:

The student first has to register the details after that he can write the exam.

- The student can click start button to start the exam.
- The score will be displayed after the student completes the exam.

5. System testing and Implementation

5.1 System Verification

In online educational system, each module has been verified whether it is working as it is desired. The functionality of the module has been exhibited and verified as it is working properly. Verification also determines whether the system is consistent, and performs the selected functions in the correct manner. In data access, it verifies whether the right data is being accessed, in terms of the right place and in the right way.

5.2 System Validation

Validation testing is done to ensure whether the work steps and deliverables of the project are acceptable. It verifies whether right data is being accessed and performs the functions properly.

Validation also determines if online assessment system complies with the requirements and performs functions for which it is intended and meets the goal and user needs. It is traditional and is performed at the end of the project.

In this project, while entering the student details, all the fields has to be entered, else the system will ask to enter the detail in the unfilled field.

5.3 Testing

Testing is executing a program to test the logical changes needed in it and with intention of finding errors. Tests are conducted to find discrepancies between the new system and its original objective, current specifications and documents.

5.3.1 Unit Testing

In unit testing, we have to test the program making up the system. Unit testing focuses first on the modules independently of one another, to locate errors. This enables within that module alone.

In this project, each page was tested separately as a unit. The flow of control and data through that page was tested. Each page is tested with the previously prepared test cases to find cases to find errors in the page. After rectifying the errors, once again it was tested to ensure whether there was no error.

5.3.2 Integration Testing

Once module can have an adverse effect on another, sub functions when combined, may not produce the desired major functions. Integrations testing for conducting tests to uncover errors associated within the interface. The objective is to take unit-tested module and build a program structure. The entire module are combined and tested as whole.

In web based educational system, top down integration testing was followed. In this system, for example, first the user should give the name of valid username. If the user name is not valid this will show the label as "This username not available". This process is continued from the page level to module level and finally the whole system is tested.

5.3.3 System Implementation

The implementation of the "Online Educational System" application involves the individual programming, system testing, training and the operational running of developed system that application subsystems. One major task of preparing for implementation to the online exam.

A crucial phase in the system life cycle is the successful implementation of the new system design. Implementation simply means converting a new system design into operation.

The Admin Module has very useful to the users. Then the Users can write the exam with the help of the admin module.

This involves,

- Website creation, Course creation, updating quiz.
- Insert questions , allow the student to write the exam and publish the result.

6. Conclusion and Future Enhancement

6.1 Conclusion

The application is developed and designed in such a way that any further enhancements can be done with ease. The system has the capability for easy integration with other systems. New modules can be added to this system with less effort.

The system has been found to work effectively and will be implemented in short period of time. Proper documentation is provided. The end user can easily understand how the whole system is implemented by going through the documentation. The module developed will be user friendly.

The system has been keeping in mind all the given possible conditions and found to work efficiently and effectively.

6.2 Future Enhancement

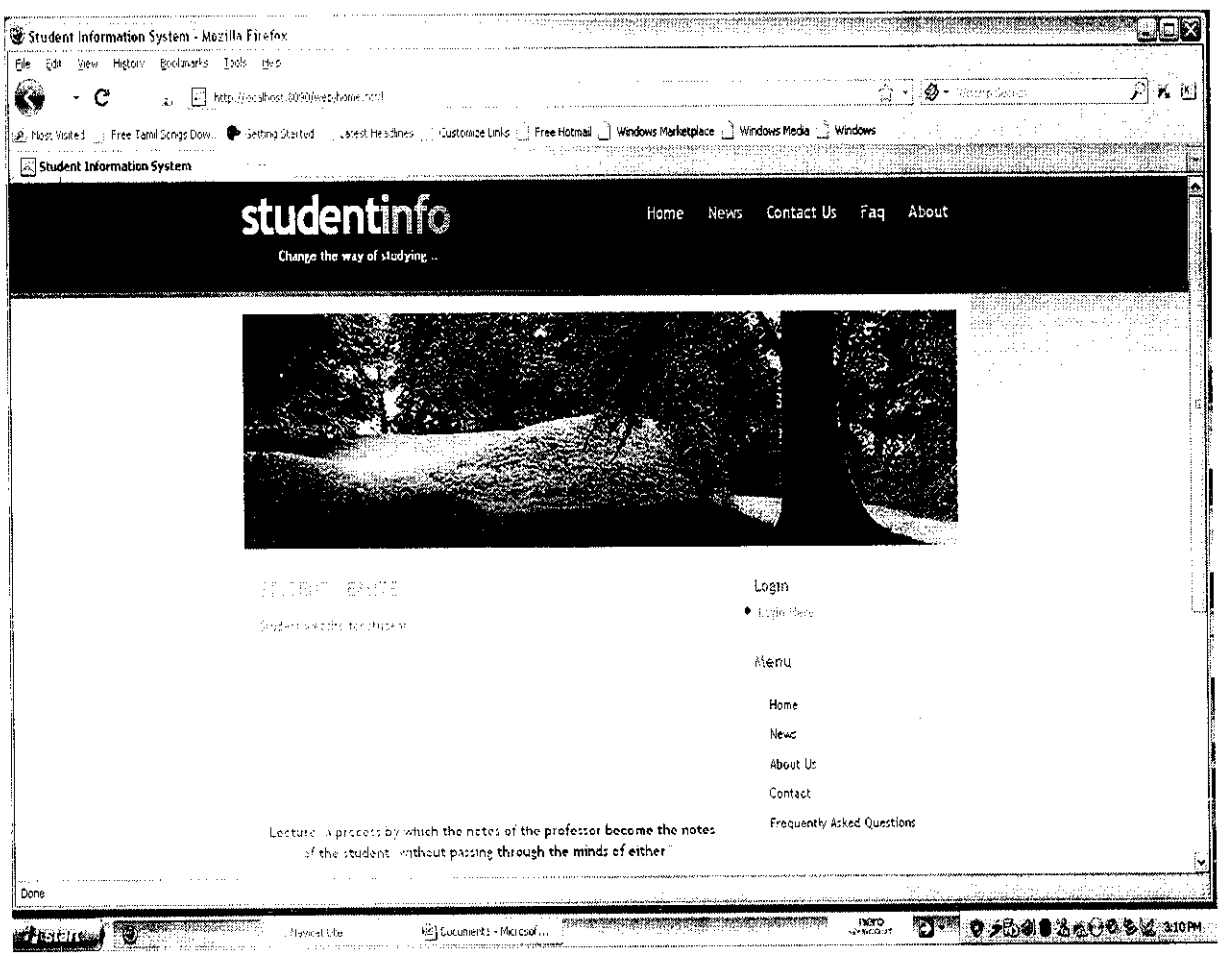
Online educational system will be enhanced further with the following features:

- By developing Voice exam Service users can speak with one another through this system.
- By developing Video exam Service users can see one another through this system and conduct the exams.
- The system can be enhanced with the face recognition technology for the authentication process.

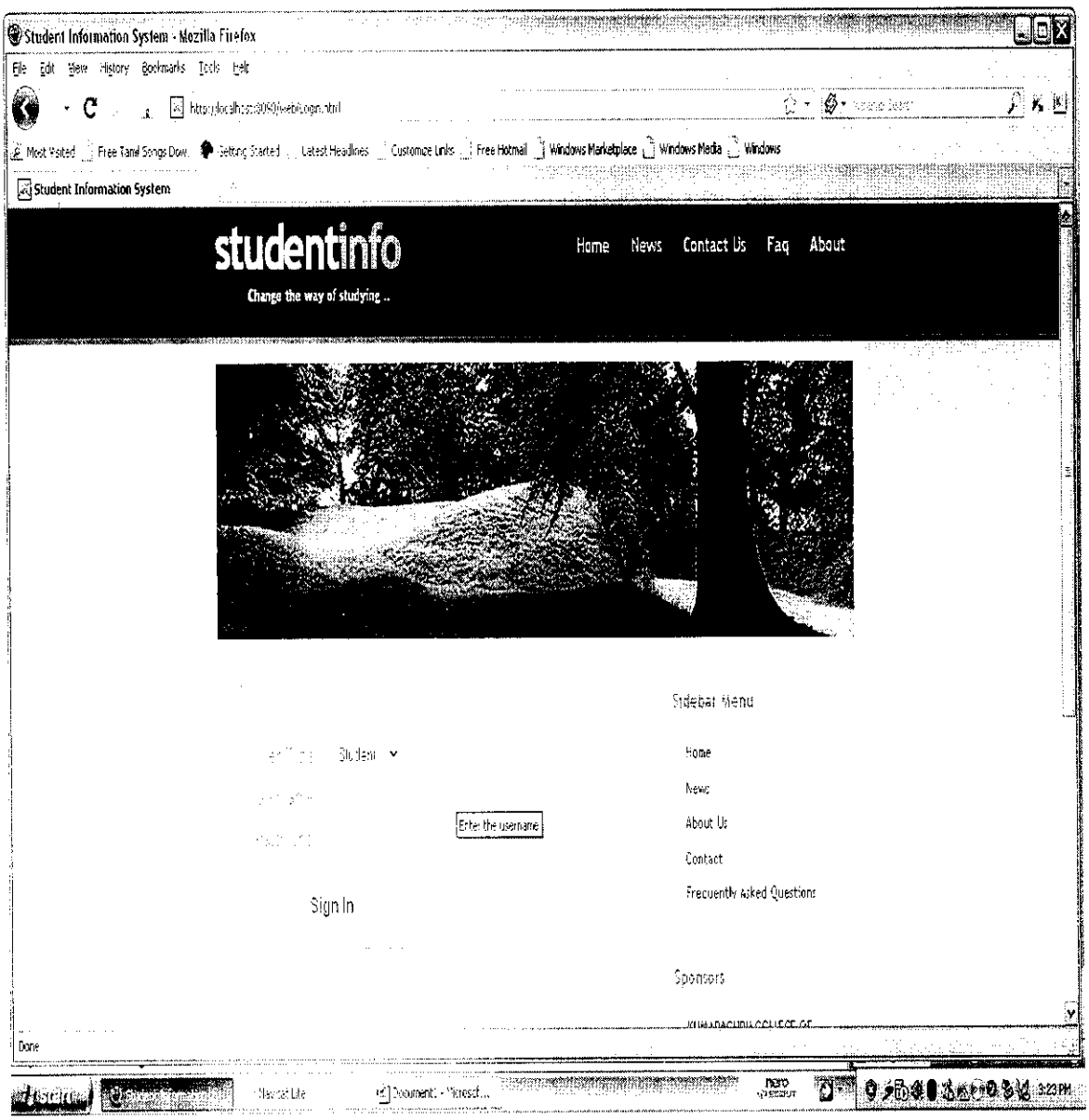
APPENDIX

SCREEN SHOTS

HOME



LOGIN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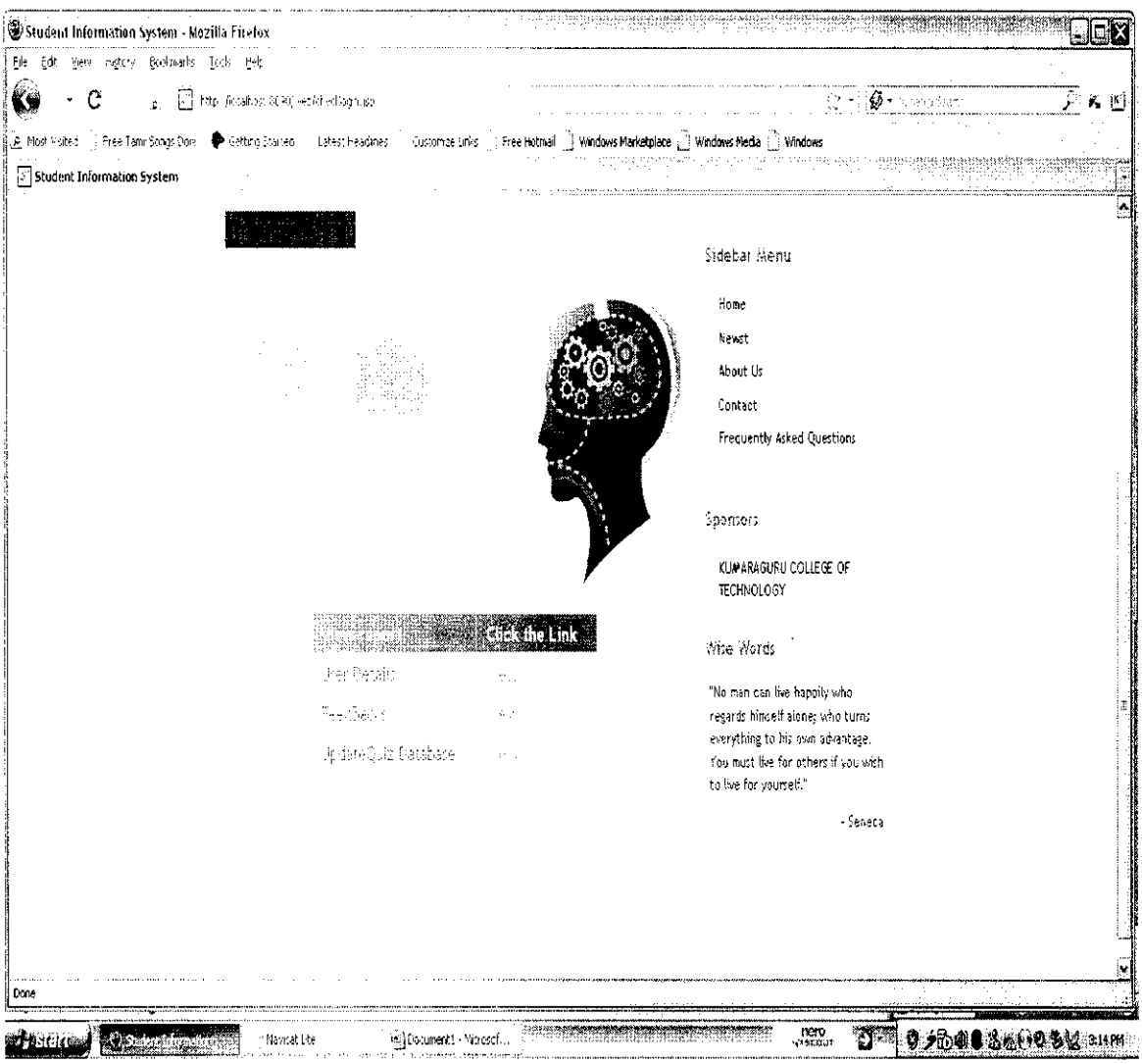
ADMIN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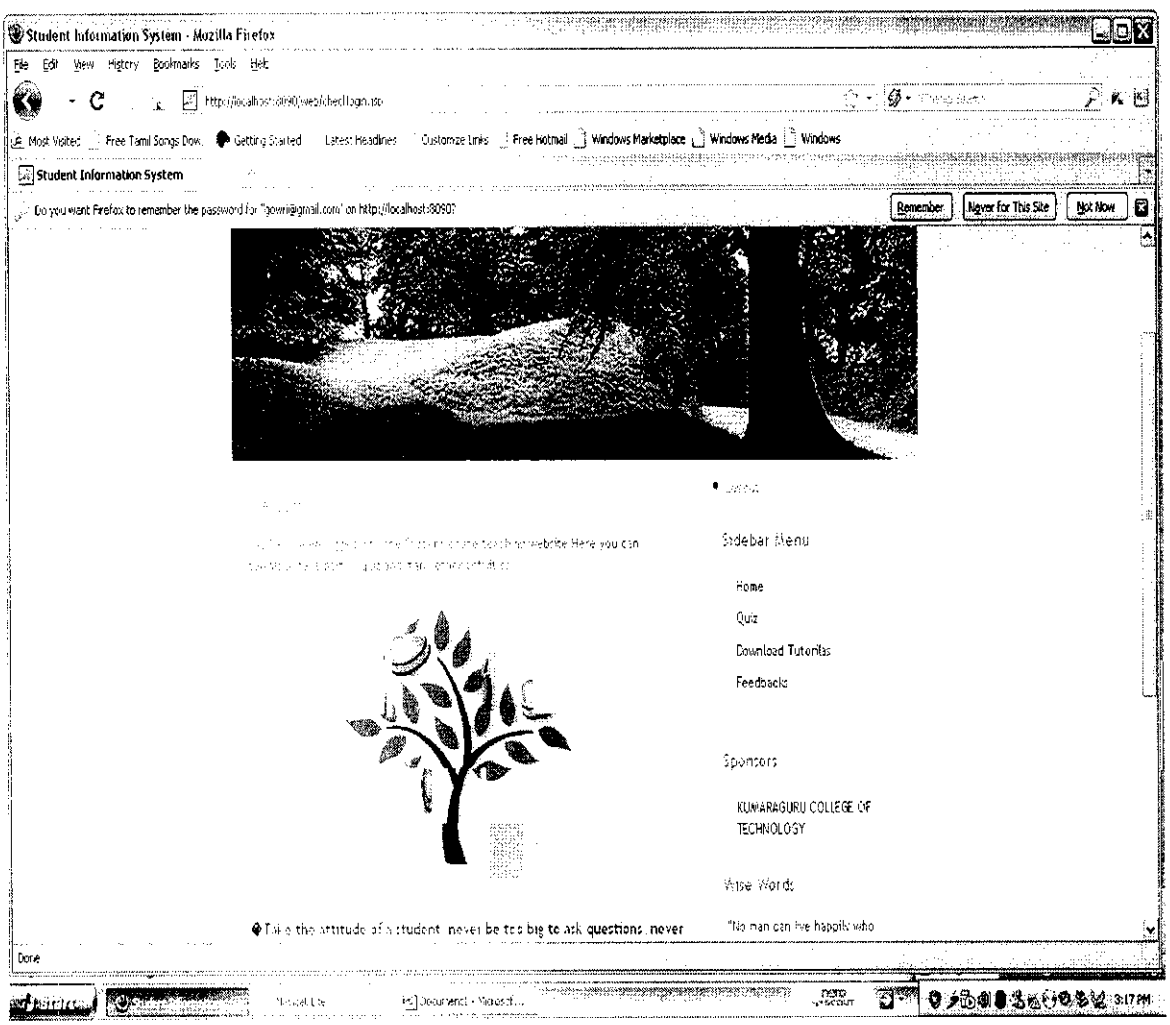
"No man can live happily who regards himself alone; who turns everything to his own advantage. You must live for others if you wish to live for yourself."
- Seneca
Done

STUDENT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"No man can live happily who
Take the attitude of a student never be too big to ask questions never
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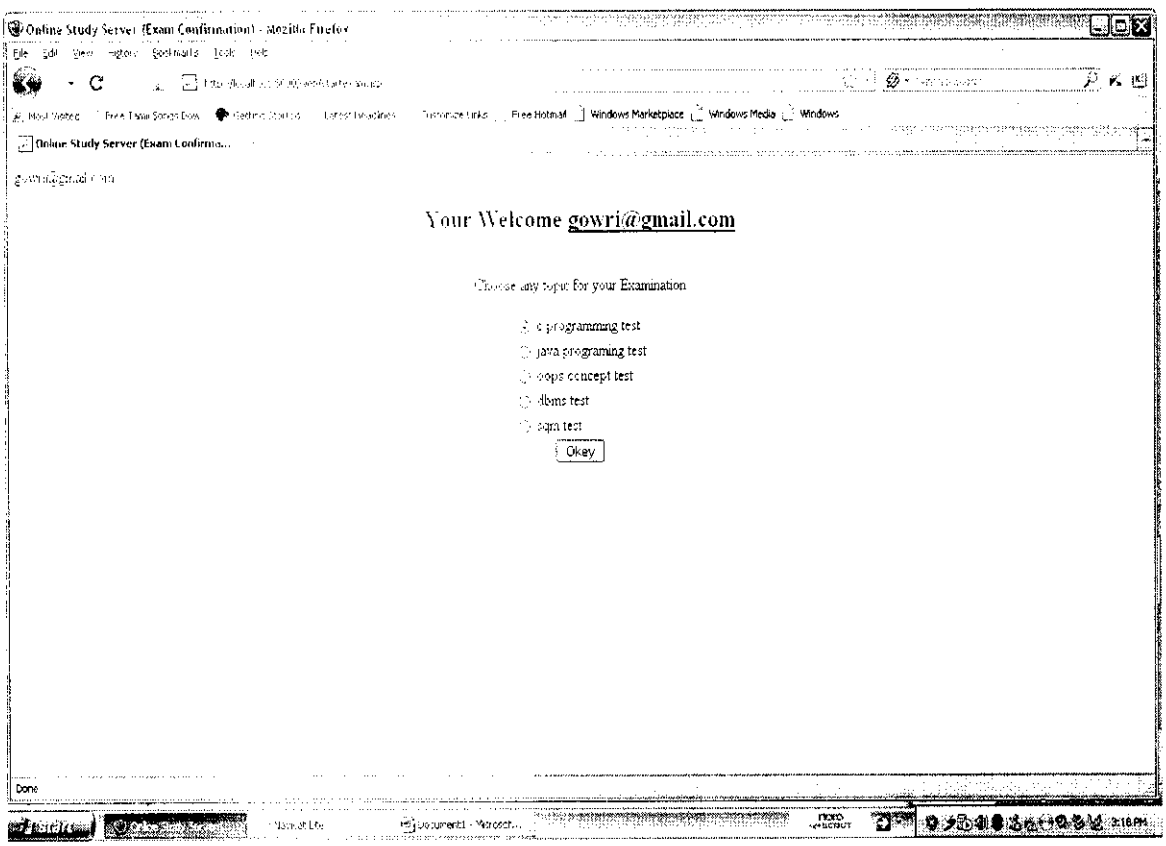
QUIZ TOPIC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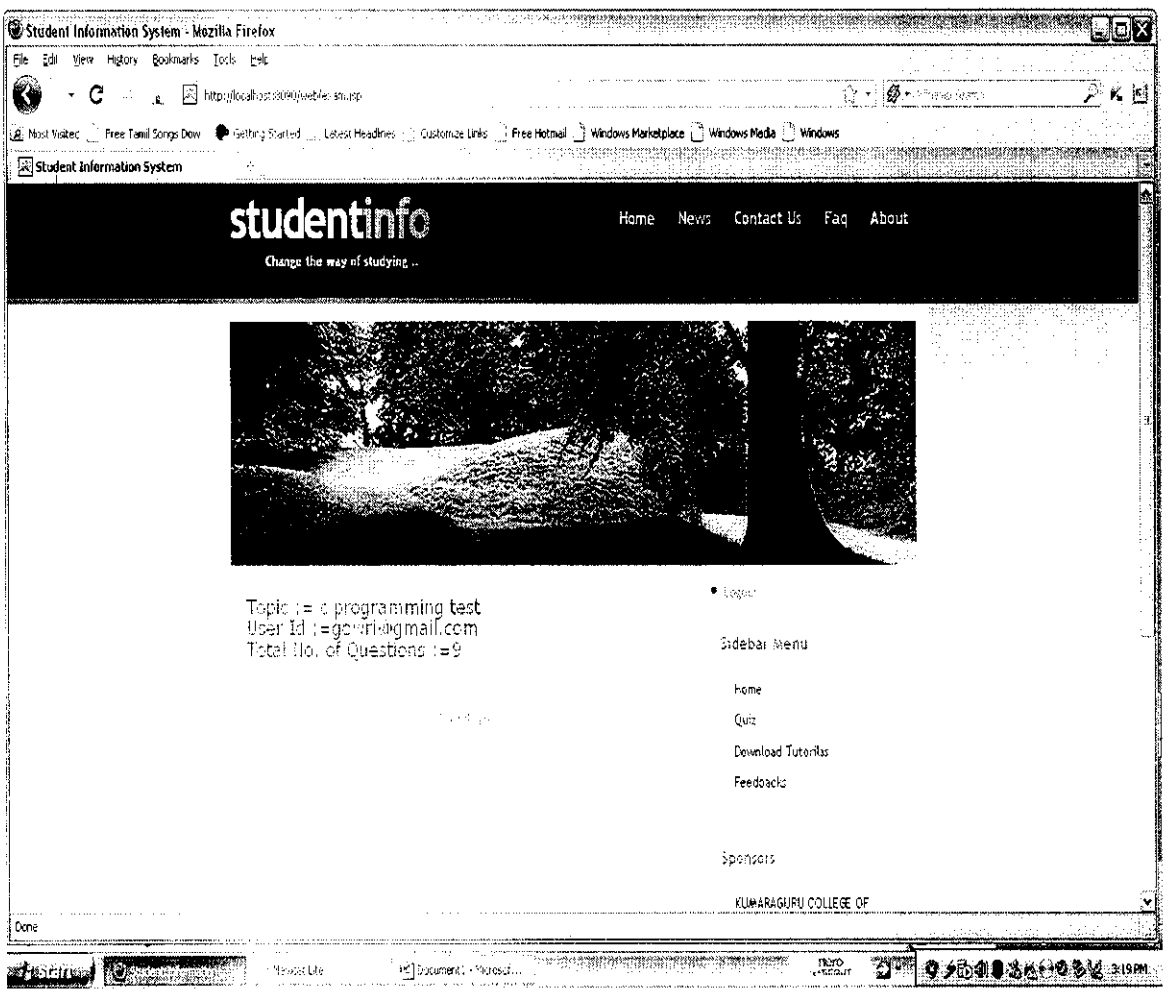
START EXAM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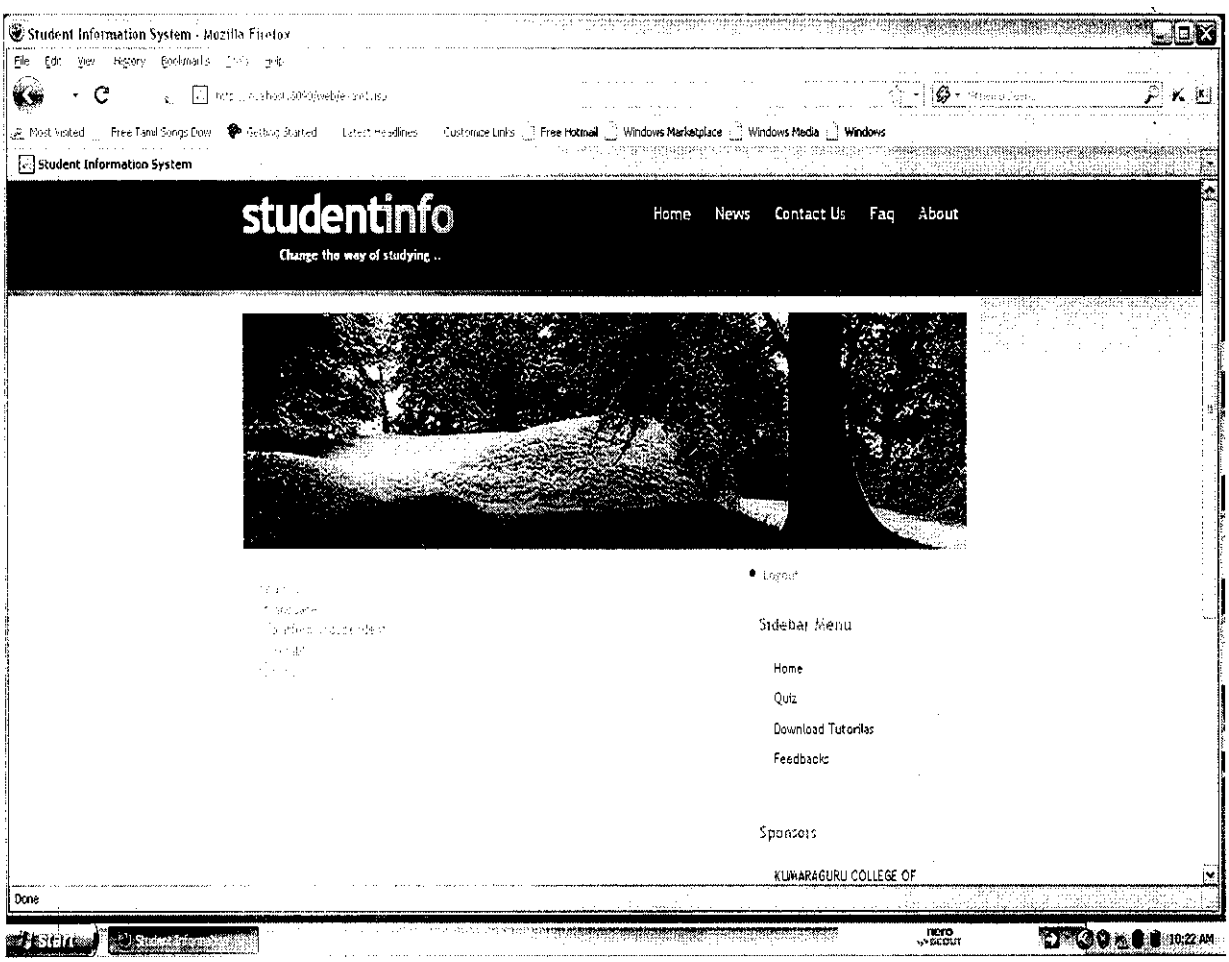
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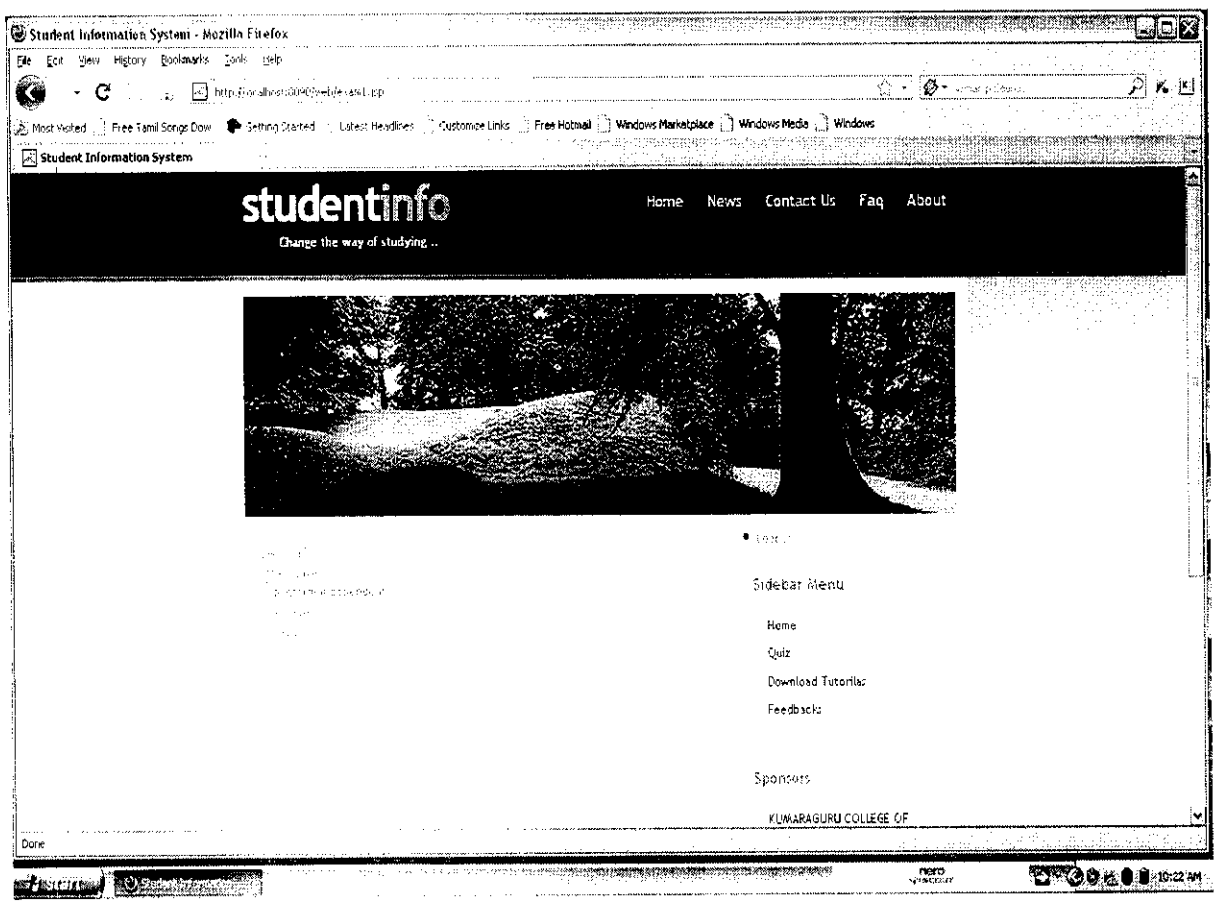
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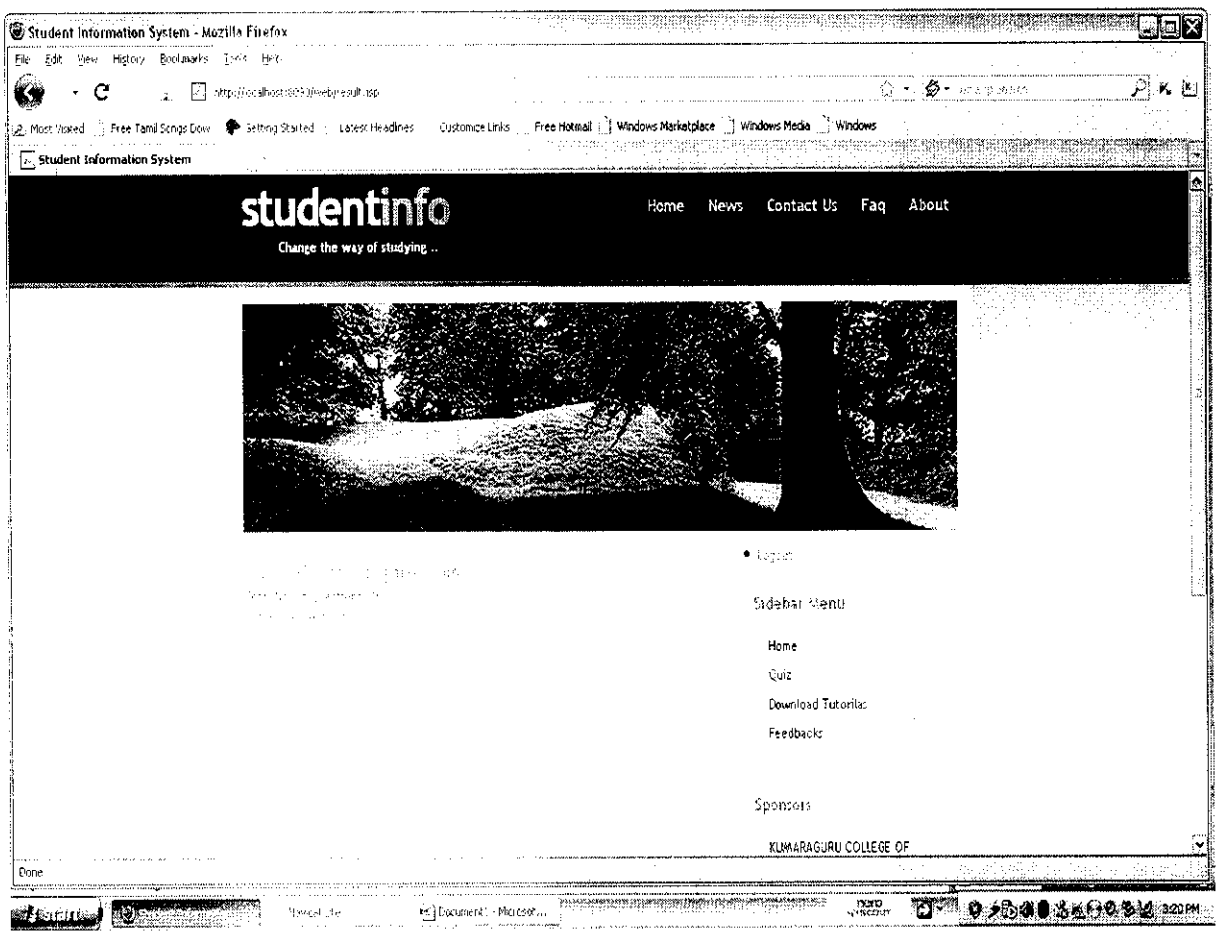
RESULT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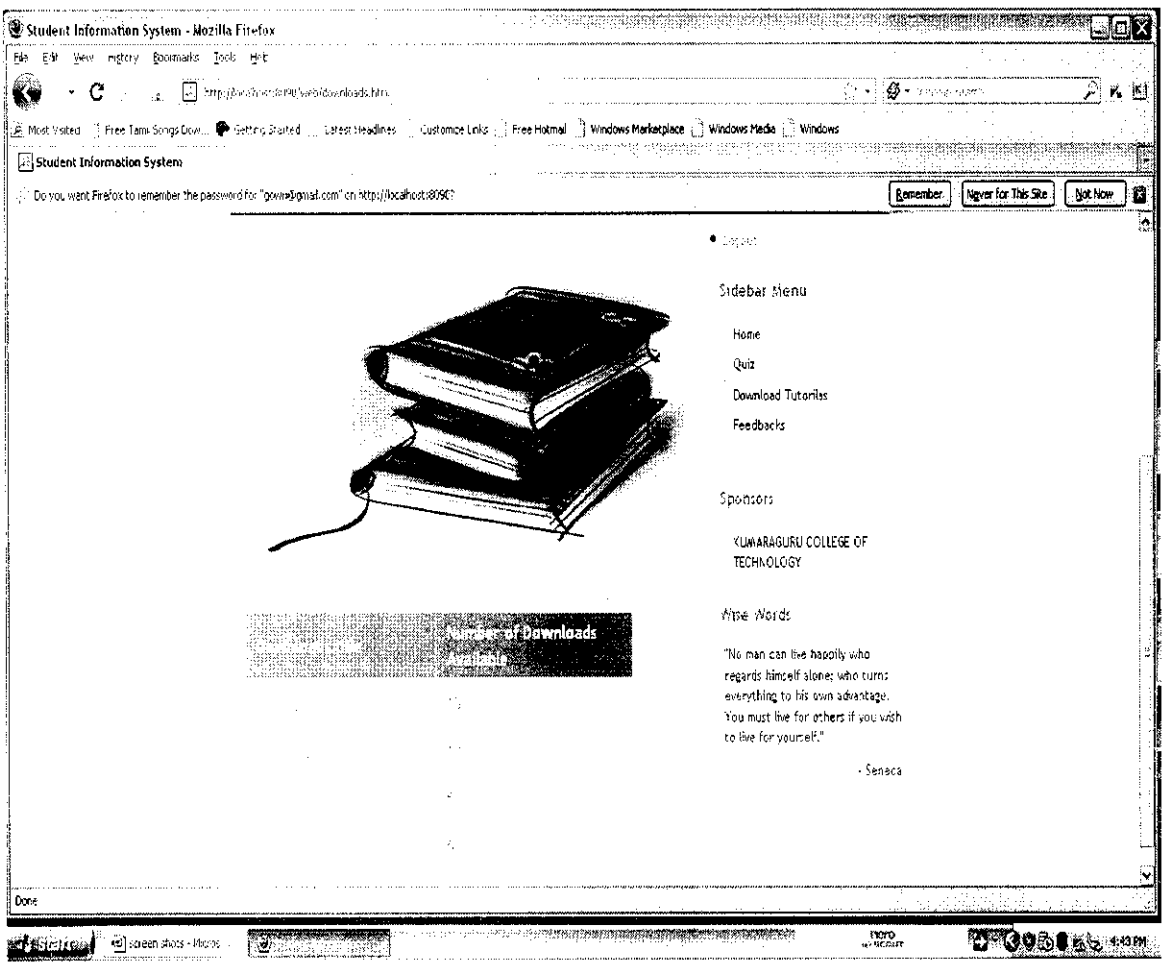

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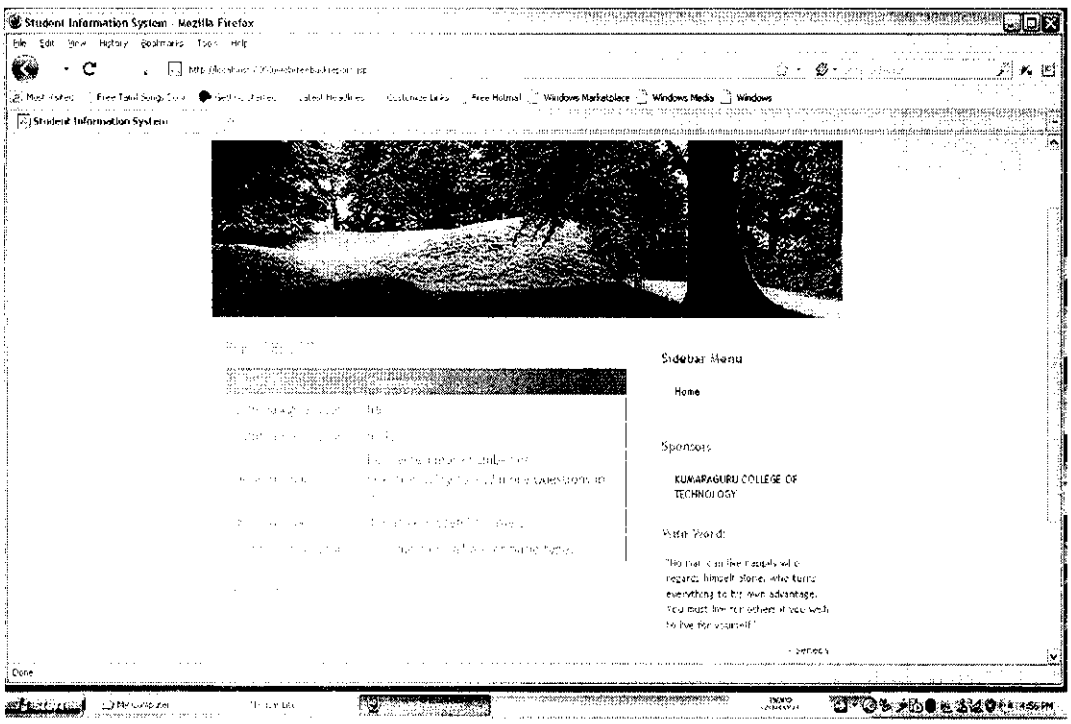
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