

## Online Analytical Examination System

V. Subhashini

Research Scholar, Department of Computer Science & Technology, Sri Krishnadevaraya University, Ananthapuramu, Andhra Pradesh, India.

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### ABSTRACT

The objective of this web application is to develop a system to conduct online tests in various domains and functional areas. The purpose is to enable a fast evaluation of applicant's skills and abilities. Online Analytical Examination is the application useful to conduct online examination for an organization, Academic institutions and training centers. It is an excellent test management, which offers a complete solution for Computer Based Test (CBT). It keeps all the records of conducted exams, score reports and other info. The aim of "Online Analytical Examination" system is to take online test in an efficient manner and no time wasting for checking the paper. The main objective of online exam is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves lot of time but also gives fast results for students the paper are given to students as their convenience and time and there is no need of using extra thing like paper, pen etc.

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### Introduction

Online Analytical Examination system is being launched because a need for a destination that is beneficial for students. With this site, students can register in this website. Students can give exams and view their results. This site is an attempt to remove the existing flaws in the manual system of conducting exams.

#### i) Purpose:

Online Analytical Examination web application fulfils the requirements of the students to attempt online exams. Students can assess themselves by attempting more tests to different subjects and verifying results. They just have to register on the site and login to appear in the exam. Students can give exam at any physical destination whenever they want. Students can view the result at the same time with correct answers. Thus the purpose of this web application is to provide a system that helps to practice online tests and improve their skills.

**ii) Scope:** "Online Analytical Examination" web application provides facility to write online exams by a login id to each student.

1. This system is designed for Educational Purpose.
2. Allow students to select the category on which he/she want to give test.
3. The system handles all the operations, and generates results as soon as the test is finish, that includes marks.
4. Allow students to view correct answers along with his/her answers after the exam is finish.
5. The type of questions is only multiple choices.

**iii) Benefits:** This website reduces the manual work, maintaining accuracy, increasing efficiency and saving time. Also students just register and can attempt many tests to different subjects. For students, it helps in facing different type of new questions with answers.

#### Objectives And Concentrations

Corporate between the data stored in the database and our Online Analytical Examination web application.

To deal with online system in an easy way and an efficient mannered.

Create strong and secrete data base that allow for any connection in a secret way, to prevent any outside or inside attacks.

Specify a privilege for each person to allow each person use this system to create his own exam. And have a complete control on his exam.

Allow each person to create more than one exam with different way to create variant questions.

#### Existing System

The first problem is that there are loads of hard copied documents being generated. This brings us to the age-old discussion of keeping information in the form databases versus keeping the same on sheets of paper. Keeping the information in the form of hard-copied documents leads to the following problems:

**i. Lack of space** - It becomes a problem in itself to find space to keep the sheets of paper being generated as a result of the ongoing discussion. The documents being generated are too important to be ill-treated.

**ii. Filing poses a problem** - Filing the documents categorically is a time consuming and tedious exercise.

**iii. Filtering is not easy** - It becomes hard to filter relevant documents for the irrelevant ones if the count of the same crosses a certain manageable number.

**iv. Reviewing becomes time-consuming** - All the process done manually at the centers and all the records are maintained on the papers. So the maintenance of the record is very difficult in the departments and as well as it's very difficult for the workers to check the record.

**v. Processing** - Result Processing is slow due to paper work and requirement of staff.

The Existing system is paper based, time consuming, monotonous, less flexible and provides a very hectic working schedule.

The chance of loss of records is high and also record searching is difficult. Maintenance of the system is also very difficult and takes lot of time.

### Proposed System

This is an era of information technology where automation of each and every activity is gaining importance. The site will lead to the automation of the examination system. To solve existing system problems required a computerized system to handle all the works and also required a web based application that will provide a working environment that will be flexible and will provide ease of work and will reduce the time for report generation and other paper works.

Online Analytical Examination web application provides the platform to conduct online tests to more than one subject. In this project, there are three modules.

#### Admin Module:

- Admin is the one person who manages the site.
- Log on to the site
- Staff members are register by Admin to particular subject.
- Views all the staff members details
- Views all the user details
- Inserts questions into database specifying subject to which it belongs
- Views all questions
- Views all the results of students

#### Staff Module:

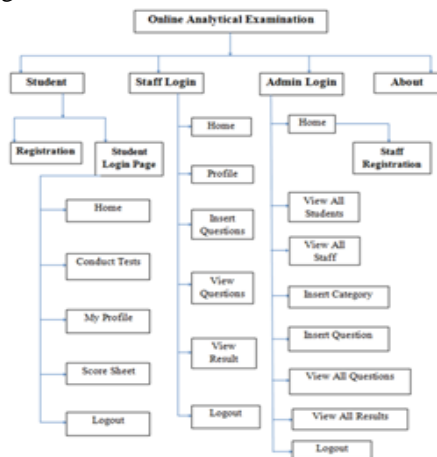
Staff activities related only to particular subject to which he/she registered by Admin

- Log on to the site
- Inserts questions into database
- Views all the results of students
- Views all questions

#### Student Module:

- Students register
- Log on to the site
- Select subject to which he/she want give test
- Attempt test
- View marks after test finish
- View correct answers
- View previous test results

The main purpose behind the proposed system is to provide a comprehensive computerized system, which can capture, collate and analyze the data and evaluate the impact of the program.



### Computerized vs. Manual Examination System

Automated process of examination is much better than the manual system as it has following advantages:

- Time saving
- Increased efficiency

- Allows neat handling of data rather than error prone records.
- Decreases overhead
- Accurate

### Overall Description

In Online Analytical Examination web application students register can give the test and view their respective records, which include their marks for each test given by them, will be maintained separately. Staff will be registered by admin. Admin maintains site.

### Product Perspective

The application will have a user friendly and menu based interface. Following screens will be provided:

1. There is a screen for student registration.
2. A login screen for entering the username, password will be provided to student. Access to different screens will be based upon the student.
3. There is a screen for displaying student menu.
4. There is a screen to displaying student profile.
5. There is a screen to select subject on which student want to take exam.
6. There is a screen to taking test.
7. There is a screen for displaying results of students after taking the exam.
8. There is a screen to view previous results of that student.
9. A login screen for entering the username, password will be provided to staff. Access to different screens will be based upon the staff.
10. There is a screen for displaying staff menu.
11. There is a screen to displaying staff profile.
12. There is a screen to insert question of subject on which staff registered.
13. There is a screen to displaying all questions of subject on which staff registered.
14. There is a screen for displaying results of students on which subject staff registered.
15. There is a screen for displaying admin menu.
16. There is a screen to displaying all student details.
17. There is a screen to displaying all staff details.
18. There is a screen to insert new subject.
19. There is a screen to insert questions for any subject
20. There is a screen for displaying all questions of all subjects
21. There is a screen for displaying all results of all students.
22. There is a screen to register staff by admin

### Product Functions

The website will allow access only to authorized users with specific roles (Administrator- maintains the website, Staff to allow enroll questions, Students-Give the exams online)

A summary of the major functions that the website will perform:

1. Provide facility to students for practices more tests and view correct answers.
2. Allow staff to insert questions and view student results.
3. Admin updates the databases.

### User Characteristics

1. **Educational level:** Users should be comfortable with the English language.
2. **Experience:** Users should have prior information regarding the online examinations.
3. **Skills:** Users should have basic knowledge and should be comfortable using general purpose applications on computers.

**Software Product Features:**

1. **Sequencing Information:** All the information regarding exam details, student list, staff list, display of result should be handled sequentially that is data should be stored only in a particular sequence to avoid any inconvenience.
2. **Error Handling:** If any of the validations or sequencing flows does not hold true then appropriate error messages will be prompted to the user for doing the needful.
3. **Validity Checks:** JavaScript provides validity checks for various fields in the forms.

**IMPLEMENTATION****Macromedia Dreamweaver**

Macromedia Dreamweaver is a software program that is used for the purpose of web development. While the program was initially developed under Macromedia, it is now owned by Adobe Systems. Dreamweaver is a highly successful program that is the premier tool for HTML editors. This software program single handedly controls over 70% of the HTML editing market. Dreamweaver can be used on a number of different platforms, and some of them are UNIX, Windows, and Mac. Macromedia Dreamweaver is the ideal tool for those that wish to work with HTML, but its inability to follow W3C has caused problems among some developers over the years. The latest versions of Dreamweaver are incorporating a number of different technologies such as JavaScript, CSS, and other scripting systems.

Perhaps one of the most impressive features of Dreamweaver is that users don't have to be skilled with HTML (Hyper Text Transfer Protocol) in order to use it. The HTML code of a page can be hidden. Dreamweaver will allow the users to create web pages without a large amount of difficulty. When Dreamweaver is used, the documents created in it can be previewed in the web browser. However it must be installed on the computer of the user.

Another important feature of Dreamweaver is the website management tools it offers. These tools have low learning curves, and are easy for the novice to utilize. If the user needs to find a specific piece of code, Dreamweaver make this easy to do, and the user does not need to have a large amount of knowledge of the code. Once Macromedia MX was introduced, dynamic content became an important part of Dreamweaver. The user can make a connection with MS Access or MySQLdatabases, and this will allow them to present content using tools such as ColdFusion, PHP (Personal Home Page), or ASP.NET. Most importantly, the user does not need to have a tremendous amount of programming experience.

Another powerful feature of Dreamweaver is its ability to be extended. These elements are called extensions, and are small applications that can be written by any developer. The extension will typically be written in either JavaScript or HTML, and it can be downloaded by anyone. This is an important feature, because it allows independent developers to make important extensions to the software that allows it to be more functional. A number of extensions are offered free of charge, but some companies have developed commercial versions as well. Dreamweaver is an important tool for anyone who wishes to work with powerful HTML editing tools. The use of extensions makes it a tool that many developers have come to respect.

When you need help with Dreamweaver, from the menu select Help, then select Using Dreamweaver option.

1. The Help Topics: Dreamweaver Online Help window opens.

2. The four help tabs are Contents, Index Search and Favorites.
3. Click the Contents tab and double click on the topic that best answers your questions.
4. Click the Index tab. Click the first letter of the word for which you are looking. Scroll down and click on the topic that best suits your needs.
5. Click the Search tab to begin the search for a keyword.. Type the word in the top box and click Display Topics. Click on the topic that best suits your needs.

**WAMP Server**

WAMP is acronym for Windows/Apache/MySQL/PHP, (and/or) Python, (and/or) PERL. The acronym WAMP refers to a set of free (open source) applications, combined with Microsoft Windows, which are commonly used in Web server environments. The WAMP stack provides developers with the four key elements of a Web server: an operating system, database, Web server and Web scripting software. The combined usage of these programs is called a server stack. In this stack, Microsoft Windows is the operating system (OS), Apache is the Web server, MySQL handles the database components, while PHP, Python, or PERL represents the dynamic scripting languages.

WAMP is a variation of LAMP for Windows systems and is often installed as a software bundle (Apache, MySQL, and PHP).By installing these two components locally, a developer can build and test a dynamic website before publishing it to a public web server.WampServer is a utility designed to allow you to create Web applications and manages your server and databases. It is often used for web development and internal testing, but may also be used to serve live websites. It allows you to create web applications with Apache2, PHP and a MySQL database. It also comes with PHPMyAdmin and SQLite Manager to easily manage your databases. WampServer installs automatically (installer), and its usage is very intuitive. WampServer is the only packaged solution that will allow you to reproduce your production server. Once WampServer is installed, you have the possibility to add as many Apache, MySQL, and PHP releases as you want. WampServer also has a tray icon to manage your server and its settings.

The most important part of the WAMP package is Apache (or "Apache HTTP Server") which is used run the web server within Windows. By running a local Apache web server on a Windows machine, a web developer can test webpages in a web browser without publishing them live on the Internet.

**Apache**

A public domain source Web developed by a loosely-knit group of programmers. The first version of Apache, based on the NCSA http Web server, was developed in 1995.Core development of the Apache Web server is performed by a group of about 20 volunteer programmers, called the Apache Group. However, because the source code is freely available, anyone can adapt the server for specific needs, and there is a large public library of Apache add-ons. In many respects, development of Apache is similar to development of the Linux operating system. The original version of Apache was written for UNIX, but there are now versions that run under OS/2, Windows and other platforms.

**MySQL**

MySQL is by far the most popular database management system for small- to medium-sized web projects. Only the proprietary Oracle database and the small embeddable SQLite are more widely deployed.

MySQL is named after the eldest daughter of Ulf Michael Widenius, the main author of the original version of MySQL whose daughter's name is my. MySQL is developed, marketed, and supported by MySQL AB, which is a Swedish company.

A database is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds. Other kinds of data stores can be used, such as files on the file system or large hash tables in memory but data fetching and writing would not be so fast and easy with those types of systems. So nowadays, we use relational database management systems (RDBMS) to store and manage huge volume of data. This is called relational database because all the data is stored into different tables and relations are established using primary keys or other keys known as foreign keys.

A Relational Database Management System (RDBMS) provides following facilities:

- Enables you to implement a database with tables, columns and indexes.
- Guarantees the Referential Integrity between rows of various tables.
- Updates the indexes automatically.
- Interprets an SQL query and combines information from various tables.

MySQL is an open source relational database management system (RDBMS) based on Structured Query Language (SQL) for processing the data in the database. SQL is used on fundamentally all major relational database systems, on many platforms and in many applications. MySQL is released under an open-source license. MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages. MySQL provides APIs for the languages C, C++, Eiffel, Java, Perl, PHP and Python. In addition, OLE DB and ODBC providers exist for MySQL data connection in the Microsoft environment. A MySQL .NET Native Provider is also available, which allows native MySQL to .NET access without the need for OLE DB. MySQL is very friendly to PHP, the most appreciated language for web development. MySQL supports large databases, up to 50 million rows or more in a table. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB). MySQL is customizable. The open-source GPL license allows programmers to modify the MySQL software to fit their own specific environments.

MySQL runs on virtually all platforms, including Linux, UNIX, and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web-based applications and online publishing and is an important component of an open source enterprise stack called LAMP. LAMP is a Web development platform that uses Linux as the operating system, Apache as the Web server, and MySQL as the relational database management system and PHP as the object-oriented scripting language. (Sometimes Perl or Python is used instead of PHP.) WAMP is a variation of LAMP for Windows systems.

#### HTML

First developed by **Tim Berners-Lee** in 1990, HTML is short for Hyper Text Markup Language.

**Hyper Text:** Hyper Text simply means "Text within Text". A text has a link within it, is a hypertext.

Every time when you click on a word which brings you to a new webpage, you have clicked on a hypertext.

**Markup language:** A markup language is a programming language that is used make text more interactive and dynamic. It can turn a text into images, tables, links etc.

HTML is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user. Each individual markup code is referred to as an element (but many people also refer to it as a tag). An HTML document is made of many HTML elements and each HTML element contains different content. Some elements come in pairs that indicate when some display effect is to begin and when it is to end. Each page contains a series of connections to other pages called hyperlinks.

HTML code ensures the proper formatting of text and images so that your Internet browser may display them as they are intended to look. Every web page you see on the Internet is written using one version of HTML code or another. Without HTML, a browser would not know how to display text as elements or load images or other elements. HTML also provides a basic structure of the page, upon which Cascading Style Sheets are overlaid to change its appearance. One could think of HTML as the bones (structure) of a web page, and CSS as its skin (appearance).

HTML is a formal Recommendation by the World Wide Web Consortium (W3C) and is generally adhered to by the major browsers, Microsoft's Internet Explorer and Netscape's Navigator, which also provide some additional non-standard codes. The current version of HTML is HTML 4.0. However, both Internet Explorer and Netscape implement some features differently and provide non-standard extensions. Web developers using the more advanced features of HTML 4 may have to design pages for both browsers and send out the appropriate version to a user. Significant features in HTML 4 are sometimes described in general as dynamic HTML. What is sometimes referred to as HTML 5 is an extensible form of HTML called Extensible Hypertext Markup Language (XHTML).

#### Features of HTML:

- It is a very easy and simple language. It can be easily understood and modified.
- It is very easy to make effective presentation with HTML because it has a lot of formatting tags.
- It is a markup language so it provides a flexible way to design web pages along with the text.
- It facilitates programmers to add link on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.
- It is platform-independent because it can be displayed on any platform like Windows, Linux and Macintosh etc.
- It facilitates the programmer to add Graphics, Videos, and Sound to the web pages which makes it more attractive and interactive.

HTML defines the structure and layout of a Web document by using a variety of tags and attributes. The correct structure for an HTML document starts with <HTML><HEAD> (enter here what document is about) <BODY> and ends with </BODY></HTML>. All the information you'd like to include in your Web page fits in between the <BODY> and </BODY> tags.

#### PHP

PHP is a scripting language that can be used to access data from the database.

A scripting language is a form of programming language that is usually interpreted rather than compiled. Programming languages such as C or C++ you compile the program (permanently) into an executable file, before you can execute the program. A program that is written in a scripting language, is interpreted one command at a time by a command interpreter (Command interpreter is in most cases an executable written in another language (for instance C/C++) than the scripting language.) Some other examples of scripting languages are Perl, Python, Java and Ruby.

PHP is especially suited to server-side web development, in this case PHP generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content or dynamic images used on websites or elsewhere. PHP files can contain text, HTML, CSS, JavaScript, and PHP code. PHP code is executed on the server and the result is returned to the browser as plain HTML. PHP can generate dynamic page content. PHP can create, open, read, write, delete, and close files on the server. PHP can collect form data. PHP can send and receive cookies. PHP can add, delete, and modify data in your database. PHP can be used to control user-access. PHP can encrypt data. With PHP you are not limited to output HTML. You can output images, PDF files, and even flash movies. You can also output any text, such as XHTML and XML.

PHP runs on various platforms like Windows, Linux, UNIX, Mac OS X, etc. PHP is compatible with almost all servers used today (Apache, IIS, etc.). PHP supports a wide range of databases. PHP is easy to learn and runs efficiently on the server side.

What distinguishes PHP from something like client-side JavaScript is that the code is executed on the server, generating HTML which is then sent to the client. The client would receive the results of running that script, but would not know what the underlying code was. You can even configure your web server to process all your HTML files with PHP, and then there's really no way that users can tell what you have up your sleeve.

Although PHP's development is focused on server-side scripting, you can do much more with it. The PHP programming language is a server-side HTML embedded scripting language. Let's depict the sentence. The PHP language runs on the server-side. This means that the execution of the scripts is done on the server where the website is hosted. HTML embedded means that you can use PHP statements (read a piece of PHP code) from within an HTML code. PHP files are returned to the browser as plain HTML.

### Conclusion

The basic purpose of developing the Online Analytical Examination project is to provide a simple tool to students/users to learn gain more knowledge through attempting online tests and accessing themselves. Students / Users can take any test at any time. Online Analytical Examination project is application developed for student where to take test and to learn subject at any point of time to relax their minds with easy assessing.

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