LITERATURE REVIEW

2.1 OVERVIEW OF THE TOPIC

This software system is hosted on a server and accessed through the web. Web applications make it easy to share and collaborate with others because everything is centrally stored. A wide variety of students require the use of this software. This software require no (or minimal) coding or programming knowledge by users. This means if you have average computer skills, you can use this software to enhance teaching and learning. Common users of this system include students and lecturers. Specific functionalities of this system includes

* Using videos clips, and Pdf’s to present information
* Using the forum feature of the application to help students communicates better and have discussions
* To encourage effective communication between the students and the lecturer
* Include quizzes, assessments, and tests to measure learning

.

2.2 DEFINITION AND SUMMARY OF HOW THE EXISTING SYSTEM WORKS

At the Department of mathematics in KNUST, students are able to take quizzes online within a stipulated time. Students login with their credentials before they can take part in the test, These quizzes are mostly multi choice questions .

These quizzes are automatically marked and the total score of the student is displayed on the screen, students are unable to make changes to their solution once the submit button is clicked.

If a student is unable to complete the test within the given time, the marks of the answered questions will be displayed.

The marks of each student will be stored in the lecturers database for assessment.

2.3 REVIEW OF PROJECT PLATFORM

ClassAnnex is a web-based software. It is developed using PHP,HTML5, CS3, JavaScript and MYSQL database. This application is user friendly and because of that, easy to use. Its friendly user interface will ensure a smooth operation.

For efficient running of the program, it will require a computer system running XAMPP, Xampp is a [free and open source](https://en.wikipedia.org/wiki/Free_software) [cross-platform](https://en.wikipedia.org/wiki/Cross-platform) [web server](https://en.wikipedia.org/wiki/Web_server) [solution stack](https://en.wikipedia.org/wiki/Solution_stack) package developed by Apache Friends,consisting mainly of the [Apache HTTP Server](https://en.wikipedia.org/wiki/Apache_HTTP_Server), [MariaDB](https://en.wikipedia.org/wiki/MariaDB) [database](https://en.wikipedia.org/wiki/Database), and [interpreters](https://en.wikipedia.org/wiki/Interpreter_%28computing%29) for scripts written in the [PHP](https://en.wikipedia.org/wiki/PHP) and [Perl](https://en.wikipedia.org/wiki/Perl) [programming languages](https://en.wikipedia.org/wiki/Programming_language).[[3]](https://en.wikipedia.org/wiki/XAMPP#cite_note-x_mariadb-3)[[4]](https://en.wikipedia.org/wiki/XAMPP#cite_note-4) XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes

2.3.1 Technology Review

PHP is a [server-side scripting](https://en.wikipedia.org/wiki/Server-side_scripting) language designed primarily for [web development](https://en.wikipedia.org/wiki/Web_development) but also used as a [general-purpose programming language](https://en.wikipedia.org/wiki/General-purpose_programming_language). Originally created by [Rasmus Lerdorf](https://en.wikipedia.org/wiki/Rasmus_Lerdorf) in 1994,the PHP [reference implementation](https://en.wikipedia.org/wiki/Reference_implementation) is now produced by The PHP Development Team.PHP originally stood for Personal Home Page,[[5]](https://en.wikipedia.org/wiki/PHP#cite_note-History_of_PHP-5) but it now stands for the [recursive acronym](https://en.wikipedia.org/wiki/Recursive_acronym) PHP: Hypertext Preprocessor.[[7]](https://en.wikipedia.org/wiki/PHP#cite_note-7)

PHP code may be embedded into [HTML](https://en.wikipedia.org/wiki/HTML) code, or it can be used in combination with various [web template systems](https://en.wikipedia.org/wiki/Web_template_system), [web content management systems](https://en.wikipedia.org/wiki/Web_content_management_system) and [web frameworks](https://en.wikipedia.org/wiki/Web_framework). PHP code is usually processed by a PHP [interpreter](https://en.wikipedia.org/wiki/Interpreter_%28computing%29) implemented as a [module](https://en.wikipedia.org/wiki/Plugin_%28computing%29) in the web server or as a [Common Gateway Interface](https://en.wikipedia.org/wiki/Common_Gateway_Interface) (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a [command-line interface](https://en.wikipedia.org/wiki/Command-line_interface) (CLI) and can be used to implement [standalone](https://en.wikipedia.org/wiki/Computer_software) [graphical applications](https://en.wikipedia.org/wiki/Graphical_user_interface).[[8]](https://en.wikipedia.org/wiki/PHP#cite_note-8)

PHP has been widely ported and can be deployed on most web servers on almost every [operating system](https://en.wikipedia.org/wiki/Operating_system) and [platform](https://en.wikipedia.org/wiki/Computing_platform), free of charge.

MYSQL

MySQL is a relational database management system (RDBMS), and ships with no GUI

tools to administer MySQL databases or manage data contained within the databases.

Users may use the included command line tools, or use MySQL "front-ends", desktop

software and web applications that create and manage MySQL databases, build database

structures, back up data, inspect status, and work with data records. The official set of

MySQL front-end tools, MySQL Workbench is actively developed by Oracle, and is

freely available for use.

MYSQL is a relational database management system (RDBMS) that uses Structured

Query Language (SQL), the most popular language for adding, accessing and processing

data in a database.

MYSQL is noted mainly for its speed, reliability and flexibility.

HTML5

HTML5 is a core technology markup language of the Internet used for structuring and presenting content for the World Wide Web. This is the latest markup language on the web which provides advanced web interfaces and is very easy to program. Its core aims have been to improve the language with support for the latest multimedia while keeping it easily readable by humans and consistently understood by computers and devices. It eradicates a lot of problems we face on the net and a lot of coding.

CSS 3

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content, such as semantically insignificant tables that were widely used to format pages before consistent CSS rendering was available in all major browsers.

2.4 ARCHITECTURE REVIEW

Software architecture is a high-level structure of a software system. It is that level of Abstraction that the system can be viewed as a whole. It is commonly defined in terms of components and connectors. This system is a multiple-tiers application consisting of Client-tier, (CT), Web-tier (WT) and Enterprise Information System-tier (EIS) . A tier can be anywhere in the network, local or remote; can be implemented with any programming languages. The client-tier application provides a Graphic User Interface (GUI) to the end users, which is achieved using a web browser, such as Internet Explorer, Opera or Firefox. The HTML and PHP with Java applet is used to build the client-side GUI page. A web server, Apache or Internet Information Server (IIS), which is bundled with Microsoft 's Office server reference implementation, is used to serve the GUI page at the web-tier, and to provide dynamic content HTML/PHP pages. The web-tier holds data models of the data, presents the data models to the client through HTML/PHP pages, accepts and analyzes the user's inputs, passes the user's request to the Enterprise tier for processing, and forward response back to the client. The web tier handles the business logic and data. It communicates with the database tier through appropriate protocols. A relational database MySQL version 5.2 and PHP are used to build the Database tier application. The database should be of a powerful DBMS technology that can handle application security. The front end is delivered as pure HTML to ensure that it is extremely lightweight and browser independent. This architecture provides a greater application scalability, lower maintenance and increased re-use of components.

Architecture of ClassAnnex

User1 User2 User3

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

User4 User5 User6

User7

N I

User8

server

Local host:

sds

L launches request