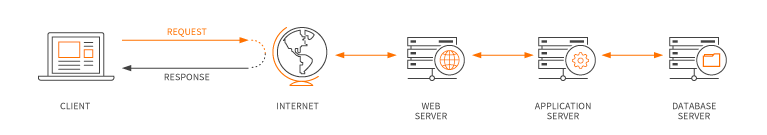
**CHAPTER 1**

**1.0 INTRODUCTION: A Web-based Education Portal Application**

A **web application** or **web-based application** or **web app** is a computer program that utilizes web browsers and web technology to perform tasks over the Internet.



Millions of businesses use the Internet as a cost-effective communications channel. It lets them exchange information with their target market and make fast, secure transactions. However, effective engagement is only possible when the business is able to capture and store all the necessary data, and have a means of processing this information and presenting the results to the user.  
  
Web applications use a combination of server-side scripts (PHP and ASP) to handle the storage and retrieval of the information, and client-side scripts (JavaScript and HTML) to present information to users. This allows users to interact with the company using online forms, content management systems, shopping carts and more. In addition, the applications allow employees to create documents, share information, collaborate on projects, and work on common documents regardless of location or device.

While a **Portal** is a private location on the internet, accessible with a unique URL (web address) and unique username and password unlike a website that is publicly accessible.

Its features are as follows:

* Personal login is required
* Only portal members can see the contents
* Content is unique to user based on linked account information and group member settings/permissions
* Secure access point for personalized information
* Communication features with other portal members or group
* Dynamic content changes more frequently than typical websites
* Interactive functionalities for portal site members

and many more. . .

**1.1 Background of the study**

An **education portal** is a specially designed website that provides a host of educational services. The term portal was historically used to describe a port or location of multiple loading and offloading activities. It is now used most widely to describe a multi-function website that includes public and private sections, data retrieval and submissions tools, personalized content, and often links or connections to education related systems or services.

The ability to provide personalized, user-specific content is central to the core functionality of an education portal. The technology required to support this type of website structure became widely available in the mid 1990s, with the advent of user management functionality as part of a web server. There are two ways to provide this content: **a series of template forms** or the **use of a content management solution**.

A public website typically provides a range of general information about the school, programs, course, history, and admissions. Users are encouraged to refer to the website instead of contacting the school directly for general information. The content manager is responsible for reviewing and publishing content that is accurate, relevant, and easy to locate.

Registered students are provided with a unique user name and password to log into the private area of the website. Here, personalized content is provided, based on a database or similar tool that holds the student data. For example, students can log on to the education portal for their school and see their current courses, program of study, fees, and other relevant information. The depth and breadth of information provided varies widely and is often tied to the system architecture of the school.

Creating and maintaining an information portal is a new technological development and has resulted in the creation of new jobs and career paths. There are two areas of skill that are required to form an educational portal: **computer systems** and **content management**. This type of website requires a dedicated web server, that can support both public and private sections. There needs to be a mechanism or program to manage requests for user identifications and passwords, as well as the ability to remind users of their passwords or allow them to reset the password.

In addition to basic user management, the private section of the website usually has connection to either the student system or data from that system. This information requires additional security to protect student privacy and prevent unauthorized access. Specially trained security and infrastructure staff are required to set up and maintain these tools.

Content management refers to all the text, pictures, files, and data provided to users through the education portal. In many organizations, a site administrator logs into the website with his unique account information and has the ability to maintain or add content to the websites, both public and private. This role is critical to keeping the website functional and meeting user’s needs.

Crawford University does not host its own education portal and needs to implement to the advantage of the institution. The active portal hosted by fresh hope systems (http://mycrawfordportal.net) has been sufficient, proficient and successful in its course registration by students and approval by various units, result processing, information management and dissemination, resumption clearance and examination docket/pass, account management.

Just as a program will have its flaws, also this has its own shortcomings that eventually makes it incompetent, such as performance, as it is very inefficient, because it is written in plain contemporary PHP language and/or very high traffic. It also has other numerous imperfections such as defective user interface and poor user experience, unimplemented functionalities, persistent and offensive dialog on page load, broken, duplicate and redundant links. The system being outsourced is one of the major challenge of the system as it doesn’t afford availability at all times. User cannot get a new password online but have to go to the edu-portal office so they can manually set a new password to the account.

This project promises to provide a perfect solution to all the stated problems.

**1.2 Statement of the problem**

The purpose of this study is to develop a web-based Education Portal Application as a solution to the problems of automation of students processes in the institution. The purpose of this study is aimed to solve the following problems:

1. **Inefficiency**: Slow page load and response time.
2. **Under implemented:** Persistent and offensive dialog on page load that threatens satisfactory user interaction, broken links, duplicate and redundant links, unimplemented functionality, use of anachronistic technologies and defective user interface and poor user experience, no online help.

User has to go to the edu-portal office to manually set a new password for his/her account.

1. Unreliable and insecure as server breaks down and students are unable to access the portal and it has no active SSL (Secure Sockets Layer) certificate i.e it doesn’t use Https (Hypertext Transfer Protocol Secure) protocol.

**1.3 Aim and objectives of the study**

The **aim** of this study is to proffer solution to the above stated problems being faced and to develop a web-based education portal for Crawford University using codeigniter framework to develop each web page and MYSQL as the database for storage of information on the website. The objectives are as below:

1. To create an embedded online course portal which provides a pre-assessment module that allow courses verification to the students when login on the website and result checking by students. In addition, the course portal can also automatically evaluate and showcase the report of courses of the students.
2. Course allocation, approval, course grading and result processing by lecturers.
3. Position-based user restriction, bursary approval and dispensation of clearance to qualified users, mailing, admission list management, user data management.
4. To improve the privacy, user-friendliness and to enable convenient access to the different kinds of information and services mounted on the web by users, it would be desirable to set up a portal for channeling the vast information resources to the different users in an efficient and effective manner.

**1.4 Significance of the study**

The study will be beneficial to the following:

1. **To the Students**

Through this system, the students will be able to use the education portal effectively for their online registration process especially for registering their personal information, courses registration, resumption registration and exam registration. Example: It will also promote students easy access to information resources, materials etc.

1. **To the Academic officers**

Academic officers includes the lecturers, deans, Heads of departments, level advisers and edu-portal officers. Through this system, they can manage academic affairs more conveniently and proficiently and also provide all the necessary information and resource material to their students and also be able to get the student information from the website.

1. **To the Future Researchers**

The future researchers could gain knowledge from the study on the benefits, advantages and disadvantages, impact of developing web portals which they may apply to their research in the future. By improving on the portal in such a way that is being connected with inter-switch whereby students will be able to make any necessary payment through the website, payment like school fee, acceptance fee, and departmental fee and so on.

1. **Project Supervisors**

This will serve as a tool for the easy management of student accounts and review of project work.

**1.5 Scope of the study**

The application of this software may not be limited to Crawford University alone but can be used equally by other universities, even secondary schools and colleges. This paper only covers all that is required to design and implement the education portal program and nothing more.

**1.6 Limitation of the study**

Usually, every work has some limitations and this study is not exempted. These are the following things that limit the education portal application development:

**TIME LIMITATION:** A researcher cannot boast a present accuracy of the research work due to difficulties ranging from other academic work, health condition and other distraction during the period of the research work, because in the work there is limited amount of time even from the research to be carried out.

**FINANCIAL LIMITATION:** limits the researcher’s frequency of investigation on the web toward gathering the necessary information relevant for the study.

**1.8 METHODOLOGY**

**Language:** PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.).

**Framework:** codeigniter (a free, open source, easy to use object-oriented PHP MVC web application framework for developing applications rapidly)

**Architectural pattern:** Model View Controller(MVC is an architectural pattern that separates an application into three main logical components: the **model**, the **view**, and the **controller**. Each of these components are built to handle specific development aspects of an application. MVC is one of the most frequently used industry-standard web development framework to create scalable and extensible projects.)

**Database:** MySql (MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). 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 applications and online publishing.)

* Understand system to be designed
* Write the pseudocode and draw a flowchart accordingly.
* Install PHP, mysql and codeigniter unto your local computer.
* Start development.

**1.9 CONCLUSION**

The aim of this project is to provide a web-based education portal application to be used in the Crawford university to improve efficiency. Though in the long run, more features may still be added which will entail expanding the program to be more complex than this. This is a very challenging project and I love it because it makes me learn a new thing **– PHP codeigniter framework**, it introduces me to the practice of use of frameworks in the world of development.