**CHAPTER 1: INTRODUCTION**

* 1. **Background and Significance**

“News++” is a web application developed using PHP with Code-igniter (MVC) framework and SQL programming language. It is an online news portal aimed to assist in providing news. It will provide online news services to the users who want to know the daily basis around the world. This project will help the newsreaders to easily provide and reach the access around the world. The admin updates the news time to time according to the report they get. ”News++” also provides CMS(content management system) for admin panel similar to popular CMS like WORDPRESS, JOOMLA and etc, where admin is capable of creating categories/pages, advertisement and article dynamically. Authorization rule are also defined so that consistent data will be maintained in the database.

* 1. **Introduction to Development Platform**

News++ is built in PHP scripting language and SQL as database query language with many frontend libraries within Codeigniter framework. Here we have some basic introduction of them.

PHP is a very popular scripting language used by most of the website developers to enhance the functions and appearance of the websites. It is mainly known to create dynamic web pages. This programming language is basically used for custom web solutions. As it can be easily mixed with HTML, most of the web developers prefer to use this programming language.

Moreover, it is quite easy to use as it includes simple formats, techniques and features which can be grasped easily by programmers.

Codeigniter is PHP based framework which is popular of the following reasons:[1]

* MVC architecture.
* Little to no server requirements.
* Easy to understand and extend.
* All tool needed in one package.
* No installation needed.
* Built in security tools.
* Database abstraction and more.
* Large and active user community.
* Excellent documentation.

SQL (Structure Query Language) is database language used for retrieval and management of data in the relation database. SQL is a query language that used for creation and modification of database schema and database object access control management.

SQL can execute the query against database. SQL can create the data and also destroy the existing database. SQL can alter the structure of existing table(s). SQL can insert new record(s) into the database as well as delete the entries data. SQL can retrieve and extract existing record(s) from the database. SQL can modify, update existing record(s) from the database. SQL creates a view (virtual table) as same create and define indices and set the permission on the table(s) and views.

**1.3 Objective**

The main objective of a news portal is to disseminate information around the world in an easy way. The aim of this application “News++” is to update news around the world with user-friendly admin-panel with different permissions to users. It provides all kind of news from headlines to sport and entertainment. We attempts to find out the following.

The objective of this system is as follows.

* To enable administrator, editor and reporter to easily use the customizable admin panel.
* To provide easy and accessible news around country and the world.
* To provide more news choices.
* To provide 24/7 updates.
* To provide interaction ability to user.
  1. **Scope of the Project**

Newspapers around the world are struggling to survive while competing with websites that offer comparable news more quickly and without a subscription fee.

* This project is a news portal with most of all customization on control panel so its scope will cope all most developing of all news portal sites.
* It can be used as CMS to generate new news portal with frontend design as per the user necessity.
* A simple and user friendly control panel will attract the news agencies and journalist to make their portal with this project.

**1.5 Features of Project**

News++ is a web based application for complete news portal both fronted design and backend control panel. This site provides interface to provide customizable news to all the users. There are various features in our project **News++**. Some of them are:

* Web based system.
* User friendly design.
* Indirect communication between admin and user.
* Can be accessed from anywhere using internet.
* Can be used to update and provide recent updates about all most everything.
* Editor and reporters friendly control panel.
* Few cost for develop.
* More news choices.
* 24/7 updates.
* Ability to discuss news with peers.
* Social media plugins are used for sharing and commenting.
* Advertisement can be placed dynamically and their value can also be calculated.
* Simple color combination are used for design.

**CHAPTER 2: LITERATURE REVIEW**

**2.1 Review of previous studies**

“A researcher cannot perform significant research without first understanding the literature in the field” (Boote & Beile, 2005, p. 3). So, we collected some of the reviews of previous literature about or related to our project News ++. As we were intended and we have tired develop a complete CMS for news portal that can be very user friendly and that can be customize from a beginner programmer and can be used by media houses for their news portal; we have studied literature of similar and some of most popular global projects related to our project.

A CMS or content management system is basically an application built (maybe/most likely on top of a web application framework) for the purpose of providing rich tools to maintain, organize and add content dynamically to a website. Good examples would be Wordpress, Drupal, Joomla, DotNetNuke etc.

A framework is different in that it is far more generic. It's almost like the saying "Every square is a rectangle but not every rectangle is a square" in that most commonly every CMS comes built on top of a popular or in-house framework making it useful to extend but it lacks the true genericism to actually make it a framework.

Take expression engine. Expression engine is built on top of CodeIgniter but adds far more libraries, helper and functionality mostly geared towards content management. It would be hard to do the extra work to dumb down expression engine to create a new product that isn't a CMS compared to just using CodeIgniter (The framework).

**Evolution of Online News Portals in Nepal**

The history of online news portals does not date to long time back. According to Carlson (2000), the Palo Alto Weekly in California is the first newspaper to publish regularly in the web on January 19, 1994. In the South Asian context, Nepal pioneered on availing news content on the web in South Asia.

Kathmandu Post went on the web on September 1, 1995 is the first newspaper to avail its content into the web. In the beginning, its content was available at http://www.cen.uiuc.edu/~rshresth/ktmpost/. It was possible through the support from Mercantile Communications, one of the first ISP in the country and Rajendra Shrestha. Later, Mercantile Communications began availing those contents from its portal south- asia.com. (Upadhyaya, 2006, p. 117)

It was only in 1996, Indian media made first tentative foray into cyberspace (Adhikary, 2005). Bharatiya Janata Party set up first party website in the country in 1998 elections (Gunaratne, 2000, p. 105). The Hindu, The Times of India and Indian Express were other few major newspapers to setup website in India. These websites were low-tech and did carry all the news stories featured in the newspaper. But, after nearly a decade, the situation has drastically changed. Many of the online news portals are in the condition to compete with major sites in the world.

In Nepal, Himal South Asian was first magazine to have its own domain in the web. It went on the web through www.himalmag.com in 1997. This website has been availing the archive of the magazine since March 1996.

Nepalnews, started since November 1999, under domain www.nepalnews.com, is the first independent online that doesn’t publish in hard copy or doesn’t have any corresponding Broadcast media. Firstly, it availed content of other newspapers that were available in south-asia.com. Later it began posting its own news and features. Now it has grown into an independent and one of the most credible news portals in the country. It claims that it has been visited more than one hundred and ten million times in the nine years of its inception.

There are over a dozen independent online news portals in Nepal that update round the clock offering service in both Nepali and English. Major publication houses avail their publication on the internet through their own domain. However, it has increased to a dozen in recent days. They provide all of their publications through the domain. Besides, they update at least once a day. Seven of them update their content as soon as news breaks. They had become major tools to carry breaking news even before 2006 (Kshetri, 2006).

But the situation is changed now, there are thousands of news portal are available in Nepal, Some of them are from renounced News Houses and others are individual institutions and organizations. Most of them are developed in CMS like Wordpess, Joomla etc. We are getting easy to easiest way to create websites with CMS. Then also we have figured out some of their minor disadvantages that can be bigger issue when the Corporate or News House needs more customization on their portal.

The question is why the people or organization still deny to use CMS like Wordpress and others for their web development is not easy to customize and hard to add features manually as per organizations need. There are a lot of options available for that also, we may get a lot of plugins are available payable and free as well. People do not believe in free plugins and please get frightened to pay through online for payable plugins due to security reasons of online transaction.

News++ is trying to solve those problem locally, since we can provide services in every step here in Nepal and with the succession of it we will certainly develop remarkable plugins for it in our future work. Hence, here we will also discuss customers’ perception of privacy and security issues, the reality of such issues and ways to avoid those issues, all based on some trustworthy solution we have found.

News++ is a news portal application which provides basic news and has a customizable user interface. News helps people to get the trending knowledge about the world and the news about sports and other entertainments. News provides the events and trends that are taking place around the world.

**CHAPTER 3: ANALYSIS OF ISSUE AND SOLUTION**

**3.1 System Overview**

News++ is a web based online news portal system. It is for everyone who like to be updated with recent news all over the world and also for the corporate houses who want to develop news portal of their own. They can use our News++ as CMS with little customization. This system is developed considering the requirements of journalist and news houses for their online news portal. This is simple block diagram for News++ system.

Admin

Author

Article

News Reader

Creates writes read by

Fig 3.1 Blog diagram

Admin is responsible for following actions:

* Creating and updating the users (Authors)
* Creating and defining different groups and permission of the users.
* Creating and updating advertisements with proper calculation of price within the system.

Editor is responsible for writing new news article and editing the news article created by all other users (Authors). Authors or reporters are responsible for creating news article

This is one integrated system that contains three types of user- Admin, Authors and News Reader. Role of authors can be different that is assigned by the Admin.

To design the application we have used 3-tier architecture with MVC framework. As 3-tier architecture divide the whole system into three parts, so to design the system we divide into three subsystems. These are Client Tier/ Client subsystem, Business Logic Tier/ Business logic subsystem, and Database Tier/ Database subsystem.

**3.2 General Constraints**

News++ is web application developed with HTML,CSS,JS and other frameworks of them like Bootstrap, juery, nestedSortable for the client-layer, PHP with CI framework is used of business layer and MYSQL database management system is used for database-layer; there are no vital issues that are appearing and could be appeared. Though it is online system, there is always one risk stays that is hacking. There is no hardware issues for it because of its architecture. Its database will be maintained in database-server and user do not have to worry about their storage capacity.

This system is platform independent; so, there is no constraints in case of operating system in using this web application.

**3.3 Methods**

The following steps of system analysis and design have been used to analyze the system.

* Planning of the system.
* Study of the system requirement.
* Feasibility analysis
* Technical Feasibility
* Economic Feasibility
* Time Feasibility
* Ethical & Social Feasibility
* System Design
* Data Flow Diagram(DFD)
* Entity Relationship Diagram(ER-Diagram)
* Use-Case Diagram
* System Implementation
* System Testing

**3.4 Feasibility Analysis­**

**3.4.1 Technical Feasibility**

* This project requires few server installations and after the server is installed, few days training to the Admin will be adequate to use this system. So, there will be no any technical difficulties for this system.
* Automation of backup is possible through DBMS software of any Backup software.
* This system is user friendly and convenient to use. So, the user can easily use this system.

**3.4.2 Economic Feasibility**

* From the developers’ point of view, we did not find any economic difficulties in this project. We are studying as developers and we already have development tools. So, it is economically feasibility for us to develop this project.

**3.4.3 Time Feasibility**

* Based on our prior experience, this project is completed in 2 month. So, we concluded that this project has no issue with time feasibility.

**3.4.4 Ethical Feasibility**

* Only trained and authorized person can manage the contents of this system. Any unethical or immortal posting can be easily recognized. So, this project is ethically feasible.
  + 1. **Social Feasibility**
* The aim of this project is to provide information and updates about the world to the readers.
* This project makes the people aware about what is happening around the world.
* This project helps in giving update about the sports to the people who loves sports.

**CHAPTER 4: DESIGN SPECIFICATION AND IMPLEMENTATION**

The deliverables of this project can be outlined as follows:

* Data Flow Diagram of News++.
* Database design of News++.
* ER diagram of News++.
* Development of all News++.
* Documentation of News++.

**4.1 Design Overview**

From the detailed study of some available systems we have done discussion between the team members and other students of our college.

System design is a problem solving technique that resembles system components into a complete system which is a complete system. In this phase the input output files, database and other components are designed.

**4.2 System Architecture**

System design is one of the important phases of the System Development Life Cycle (SDLC). System refers to both hardware and software. The system architecture describes the collection of inter-connected hardware nodes on which the software will eventually run. System architecture consists of Hardware node, the connectivity among nodes, and the location of user, inputs and outputs.

We use Three-tier architecture to design our system. Three-tier architecture increases performance, flexibility, maintainability, reusability and scalability while hiding the complexity of distribute processing from the user/clients.

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Fig 4.2 system architecture (3-tier architecture)

**4.3 Context Diagram**

The context diagram of News++ is given below:

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**4.3.1 Top Level Data Flow diagram of News++**

**4.3.1.1 Top level DFD for admin**

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**4.3.1.2 Top level DFD for editor and news reader**

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**4.3.2 Use Case Diagram**

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Fig 4.3.2 Use case diagram of News++

**4.4 System Design**

**4.4.1 ER Diagram of News++**

The ER-Diagram of our project News++ is given below:

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Fig 4.4.1: ER-Diagram

**4.4.2 Database design of News++**

**4.4.2.1 Meta data**

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| --- | --- |
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**CHAPTER 5: System Implementation and Testing**

In the system development lifecycle, this is another most important phase. During this process coding is done according to the documents. Testing of the codes has been done for detection.

**5.1 Coding**

By using HTML, PHP, CSS and JavaScript with their respective frameworks as the front end tool, the system has been developed and using MySQL as a back end tool. Verification and Validation of the interface is done endure the system confirms with the system specifications and meets the user requirements.

**5.2 Testing**

The team tested the system using dummy data. The system is fully tested so the system will be successfully used. The system has been tested thoroughly using the following testing techniques.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.N** | **Description** | **Requirements** | **Actual output** | **Test Status** |
| 1. | Rights of Administrator | Admin can create and update user.  Admin can create and update ads.  Admin can provide permission to group and user.  Admin can create and update categories. | Admin is capable of adding and updating user.  Admin is capable of creating deleting and updating ads info.  Admin also can create and provide permission to groups. | Passed |
| 2. | Rights of  Author | Author can create and update the articles. | Authors are able to create and update news article successfully. | Passed |
| 3. | Right of News  Reader | News reader should be capable of reading categorized news with latest news with priority | News reader are capable of reading categorized news with latest at first priority. | Passed |

**Table 5.2: Testing information**

**5.3 Installation**

The purpose of the implementation is to build a properly working system and present it to the user.

It is transferring the system from the development side to the client side. The installation of the system is installed on the servers specified on the requirements. Server operating System with Web Server (Apache) is installed in order to host the News++. A dedicated Database Server (MS-SQL) is installed in order to store the database. A separate Backup Server is also used for backing up database.

**5.4 Training**

After the installation of the system is done, training will be provided to the administrators about how to use the system. Administrators are trained how to manage the whole system.

**5.5 Documentation**

Project documentation is used to define the way we manage projects and the governance surrounding them. During all the phase of System Development Life Cycle (SDLC), each and every document is developed such as analysis, designs etc. and has been properly documented. The example of the documentation of our system is the project report.

**CHAPTER 6: CONCLUSION**

In this project, we were focused on developing CMS with suitable interface for news reader. That is the target feature of our project. It would help to administrator of system to dynamically create/ update users, advertisement along with price and duration and even articles can be managed. In other hand authors are capable of create and update news article so that the News reader can get them on time and we got success on it.

During the project we learned to work in team. This project helps us how to coordinate with the group to make the system.

**6.1 Limitation of the Proposed System**

* Dynamic div management customization is lack.
* Customizable header and footer is lack.
* Custom CSS is lack
* Custom font-family and font-size is lack in system.

**CHAPTER 8: REFERENCES**

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