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# 4. Implementation

## 4.1 Introduction

Implementation is the process of executing a plan, method, design or model into effect. Actually, it is the process of producing the product of the client as drawn in design phase. It is the process done after the complete understanding of requirement and specification, construct during design phase. During this process developer start building, coding the software and program the application to meet the user requirement. After implementation, the software swings toward the deployment and then finally software are placed in actual world. Essential training should be given to the end user in order to handle the software properly. Before actual deployment of software, possible occurring bugs should be eliminated and user interface should be enhanced. This phase is considered the most lengthy phase during the project development.

## 4.2 Languages

### 4.2.1 Programming Language: **PHP and HTML 5**

**PHP** (PHP Hypertext Preprocessor) and HTML 5 (Hyper Text Markup Protocol) are the two main language used during the development of this system. Following them JQuery, JavaScript and Ajax are also used in minimal amount. PHP is the server side scripting language. PHP can run on various platform including Windows, Linux, Unix, Mac OS X etc. and it is compatible the server like Apache and IIS. Moreover, this language support a wide range of database too. Having such a varying feature, this language is easy to learn at all.

PHP can embedded into HTML 5 along with the different frameworks and CMS (Content Management System). Having such a numerous feature and still easy to use it, so most user prefer PHP for server side programming. While HTML is, a markup language used to design website and work combining with CSS (Cascading Style Sheet) and JavaScript. When a user request a webpage to a server, server response and execute process data in HTML format to browser.

### 4.2.2 Framework: **CodeIgniter**

**CodeIgniter** is a software development web based framework using in building dynamics website combing with PHP. CodeIgniter is totally based on MVC pattern where M stand for Model, V for View and C for Controller respectively. It is a very powerful open source PHP framework. Here Controller is the necessary part during development while other two are optional. Comparing other framework CodeIgniter is easy to use, have string security, and it comes with a small framework with a small footprint.

### 4.2.3 Database: **MySQL**

**MySQL** is one of the popular user-friendly database system used in PHP because of its reliability, fastness and due to easiness in use. It is a web based database system run on server and it is ideal for any project from small to large applications. As MySQL is also an open source software developer use MySQL database for developing the application using PHP. In addition, it have capability to work with huge amount of data.

## 4.3 Development Environment

### 4.3.1 IDE (Integrated Development Environment)

**Notepad++** is the IDE used during the development. It support great features for multiple language like C, C++, C#, HTML, ASP, CSS, and JAVA etc. It support different OS like Microsoft Windows, MAC and UNIX. It have a feature to backup saved file automatically. It support the text encoding formats including ASCII, Unicode, and UTF-8 etc. Speech synthesis, zooming, split screen, bookmarks, macros, spell checker etc. are the different features available in this IDE. In addition, it support for macros and plugins.

### 4.3.2 Development Platform

The system was built on Windows 10 version of Microsoft Windows Platform.

## 4.4 Development Strategy

This process includes the methods during the deployment of the system.

### 4.4.1 System Migration

A system migration is the way toward exchanging business process IT resources to a newer hardware infrastructure or a different software platform with the end goal of staying aware of current technologies and additionally to increase better business esteem. The migration is done to create better system than the current system and would, in the end, give better value. It might involve the physical migration of computing assets whenever the old system cannot function at all. Principally system migration are driven whenever the current system perform with zero output, whenever new system gives a far better performance than old one and whenever the old system becomes deprecated and no longer support the current business strategy. This replacement helps in improving the success rate of company, increase productivity, and finally increasing staff morality and performance.

### 4.4.2 Data Migration

Sometime only data need to be migration besides replacing whole system, which is known as data migration. Data migration is the process of transferring data from one system to other between data storage system. It occurs during the upgrade process of existing system. Data migration is performed when the two or more company merge to form single one and when one system is replace with other. Storage migration and database migration are the possible challenge that may occur during data migration. Backup is the most essential factor to keep on mind during data migration.

<http://www.dataintegration.info/data-migration>

## 4.5 User Training

Replacing only system and data does not help in gaining the fruitful result in company. Company will be benefit only if there is correct deployment of the system and the user of the system are well trained to use that software. Installation is not only the core thing in development process. User Training also provide a great role on it. If the end user are not aware about the system and if they are not aware about how to use software it may negatively increase the efficiency of software and in fact decrease the company strength. Restaurant Management System (Online Food Ordering System) is a web-based system where a customer can order the food items online. Hence, in return customer get the foods as they ordered, at their door, free of cost. It help the busy person of the Kathmandu valley and help the customer of valley delivering the food items at their door which decrease the rid of visiting restaurants/hotel for having food. Customer can search the food items as category wise and item wise. Customer are given the facility to search the food in ascending order and descending order by the item name, category name and price wise. Customer are also provided with the search button to search the items they want for searching the items fast. In addition, the pagination help them to view the items clearly. Customer are provided with cart facility as well to review the order they made. Customer can edit the items in cart, delete the item form cart and they can add new item in the cart if they want. It save the customer time as they can book the food items directly from the internet and get home delivered freely.   
  
The system provide friendly user interface and the system is easy to use. Customer have the online communication facility if they got any problems. In addition, the system is provided with the user guide consisting how to use the system including the demo of online food ordering system. This lead the customer to run the system more smoothly and effectively.

# Conclusion

Finally, the designed was successfully developed and then after implementation was concluded. Referring the design phase done in previous stage the implementation was conducted successfully. Coding for designing the system is done relating the design. Using CodeIgniter framework with PHP language and MySQL the system was developed in Windows Platform (Windows 10). Moreover, user training was successfully held which increase in increasing reliability of the system and tend to run the system smoothly.