## AN INTERNSHIP REPORT

ON

**Object Oreinted PHP** 

**AT** 

**NEUTROLINE PVT.LTD** 

**DEVDAHA-7, RUPANDEHI** 

## **Submitted By**

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Shanker Dev Campus, Putalisadak

An Internship Report Submitted To

**Faculty of Management, Tribhuvan University** 

in partial fulfillment of the requirements for the degree of

**Bachelor of Information Management** 

Kathmandu, Nepal June 2021 **ACKNOWLEDGEMENTS** 

An internship report title "AN INTERNSHIP REPORT ON OBJECT ORIENTED PHP"

has been prepared in the partial fulfillment of the requirement for the degree of Bachelor of

Information Management 8th semester. I should remain thankful to many persons for the

successful completion of my internship.

First of all, I am thankful to my respected Internship Supervisor Mr. Manoj Maharjan for his

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With Thanks

Suraksha Guragain

BIM Eighth Semester

Exam roll no: 7695/16

Shanker Dev Campus

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## STUDENT DECLARATION

This is to certify that I have completed the Three and a half months Internship at **Neutroline Pvt. Ltd** under the guidance of "Mr. Manoj Maharjan" in partial fulfillment of the requirements for the degree of **Bachelor of Information Management** at Faculty of Management, Tribhuvan University.

Date:	
	Signature
	Name: Suraksha Guragain

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## **List Of Abbreviations**

BIM Bachelors in Information Management

FOM Faculty of Management

HTML Hypertext Markup Language

IT Information Technology

PDF Portable Document Format

PHP Hypertext Preprocessor

SQL Structured Query Language

TU Tribhuvan University

VS Visual Studio

IDE Integrated Development Environment

MVC Model View Controller

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## **CHAPTER ONE**

### INTRODUCTION

### 1.1 Background

This project report is prepared in relation to the internship program as a partial fulfillment of BIM program of Tribhuvan University. Bachelor in Information management (BIM) degree is an undergraduate academic degree requiring four years of study to acquire which is a hybrid program with a mix of management and information theory courses. The major goal of BIM is to Prepare IT professionals proficient in the use of computers and computational techniques in order to develop effective information systems to solve real life problems in the organization or any firm. It helps to develop students' skill in object-oriented software design methods and data management systems by providing professional training to students by combining information technology with managerial skills. According to this program, Students must need to complete internship for eight weeks and prepare the reports for the fulfillment of the degree. This report is based on the practical knowledge gained during the internship period.

An internship is an agreement between an individual and organization for a fixed period of time, where we work for the organization and they agree to be mentor and guide us. Internship can offer valuable insight in particular field or career. To gain practical skills, we had to involve in an organization, for which I chose Neutroline Pvt. Ltd. as an intern which was also a part for partial fulfillment of the requirements for the degree of BIM. It was one of the ways of showing programming skills and technical skills in the task assigned at where I had my internship. Internship provides real world experience to those looking to gain and explore relevant information required to enter a particular career field.

This internship report has been prepared as a partial fulfillment for the requirements of BIM degree awarded by Tribhuvan University. The internship has not only fulfilled that very requirements but also provided a valuable opportunity to learn how actually activates are performed in an IT organization. The major task at Neutroline Pvt Ltd that I performed was to work in a core PHP and MVC framework to develop different software. I got an opportunity to be familiar with various new technologies that has been adopted by the organization.

## 1.2 Objectives of the Study

The main objective of the internship program is to allow the students implement the theoretical knowledge and ideas to practical and real life setting. Internship facilitates reflection on experiences obtained in the internship and to enhance understanding of academic materials be application in internship setting. It also helps the student to understand about the possible opportunities in the market, to analyze the strength and weakness of the business organization.

The following are the major objectives of the internship program:

## 1.2.1 General Objective

- To gain real life experience working in a software company.
- To learn the work culture of the organization.
- To learn how an organization actually operates.
- To sharpen my skills in programming.
- To implement my theoretical knowledge, gained during the entire time-period of BIM, in the actual field.

### 1.2.2 Specific Objective

- To get familiar with open source technologies.
- To develop the software and web applications accurately ascertained and respond to the customer in timely manner
- Helps in digitizing the customer's logics and ideas

## 1.3 Methodology

This section talks about different methods that were followed during the preparation of this internship report. It includes selection of organization, placement, study approach, nature and sources of data.

#### **1.3.1 Organization Selection**

Selection of an organization was a crucial task. Since the organization selected was going to be the medium through which we will gain the real life experience and exposure, the organization was to be selected wisely. As I am interested in programming, mainly in web-programming, I had to choose a software company to sharpen my knowledge in the field. I started to search software companies which could be a help to my interest. I applied for internship program in a company that looked most promising and eligible one by sending my resume. I was called for the interview at Neutroline Pvt Ltd via skype. I got an opportunity to talk about projects I had done and I was selected as a Software Developer Intern. I completed the internship in Neutroline Pvt. Ltd after 100 days. It is a systematized software company that is based on Texas, USA but has a branch in Nepal as well and allowed remote working too.

#### **1.3.2 Placement Duration**

I was placed at the development department of Neutroline Pvt. Ltd. The internship was started from 2021/01/29 to 2021/04/05 with time duration of three months and half. The time duration was not long enough to understand the organization completely. It was hardly sufficient time to learn all the tasks implemented in real time scenario. However, I still learned a lot which will definitely help to build and foster my career in Information Technology field.

#### 1.4 Activities Performed

During the period of internship, firstly, I was assigned tasks that would help me become familiar with the working environment as well as with the project I was going to work on. The task at the beginning were divided in smaller chunks of tasks. After the assignment, I would try to do it on my own and would ask for help if I was stuck in the task for more than a few hours.

The list of activities done are as follows: -

- Created layouts using front-end tools
- Learned Document Object Model Manipulation and applied it in a web page.
- Learned how and where to work in MVC pattern PHP, made basic functions to demonstrate MVC's workflow
- Performed back end task using core PHP and Database
- Software testing since it was being deployed, found several errors concerning validation, design and responsiveness

The tools used for performing these activities are as follows: -

- HTML
- CSS
- PHP
- MYSQL
- Bootstrap
- JavaScript
- jQuery
- Visual Studio Code
- Github
- Gitbash

### **CHAPTER TWO**

### INTRODUCTION TO THE INDUSTRY

## 2.1 Introduction to Information Technology

Information Technology is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones. Several industries are associated with information technology including computer hardware, software, electronics, semiconductors, internet, telecom equipment, e-commerce and computer services.

IT can substantially enhance an organization's ability to obtain, share and structure information, thereby enabling it to widen continually its knowledge base, improve its efficiency and competitiveness. In this new era, IT stand as the central force in shaping Organization, societies and nations based on the pre-assumption that it is the key to achieve progress today. At last, Information technologies are the product of developed countries and to make that technology suitable for developing countries like Nepal. There should be an effort to build a capacity to recognize the importance of implementing IT according to the development needs and requirements. So, IT is the most and vital component to build up the nation helps the economic growth.

## 2.2 History of Information Technology

Looking at the evolution of IT, it is to focus on the specific contributions of technological inventions and advances to the industry's key growth driver: digitization and the resulting growth in the amount of digital data created, shared, and consumed. The industry was born with the first giant calculator digitally processing and manipulating numbers and then expanded to digitize other, mostly transaction-oriented activities, such as airline reservations. But until the 1980s, all computer-related activities revolved around interactions between a person and a computer. That did not change when the first PCs arrived on the scene. After the technological advancements in

the early years of the 21st century, another successful business model has arisen for hosted software, called software-as-a-service, or SaaS; this was at least the third time this model had been attempted. From the point of view of producers of some proprietary software, SaaS reduces the concerns about unauthorized copying, since it can only be accessed through the Web, and by definition no client software is loaded onto the end user's PC.

Web development is a broad term for the work involved in developing website for the Internet (World Wide Web) and intranet. Web development can range from developing the simplest static single page of plain text to the most complex web based internet applications electronic business and social network services. Web development commonly refers, may include web engineering, web design, web content development, client-server side scripting, web server and network security configuration and e- commerce development. Web development has come to mean the creation of content management system.

## 2.3 Introduction to Web Development

Over the past decade or so, the web has been embraced by millions of businesses as an inexpensive channel to communicate and exchange information with prospects and transactions with customers. A web application or web app is a client–server software application in which the client (or user interface) runs in a web browser. Common web applications include webmail, online retail sales, online auctions, wikis, instant messaging services and many other functions.

A web application can be developed using programming language including Java EE, PHP and the browser-supported language (basically, the combination of JavaScript, HTML and CSS).

### **CHAPTER THREE**

## INTRODUCTION TO ORGANIZATION

## 3.1 Introduction to the organization

Neutroline Pvt Ltd is an US based IT company operating in Nepal. It is a group of people working together on providing IT solutions globally. They have been working in IT industry for last ten years and have been providing IT consulting and software development service in many countries including United States, Finland, India and Nepal. Neutroline Pvt Ltd was established in 2015 with an aim to provide a technology solution to all types of clients including individuals, government, all kind of small business and large organizations. After a successful work in the field of IT Recruiting in United States, their team has come up with an idea to expand the area of work by utilizing the knowledge, experience and technology and provide a software solutions to the client in Nepal and Internationally. They are looking for young generations get an opportunity to expose their talent, utilize their knowledge and skills in home country. Their aim is to be the best IT Solution Provider through their innovative and unique work.

## 3.2 Objectives

The objectives of Neutroline Pvt Ltd are as follow:

- Developing and maintaining smooth cross platform mobile application and providing end to end testing.
- Innovative & creative websites for personal and organizations to express the clients and to grow clients' businesses.
- Performing high quality of QA services and helping business deliver innovative sofware solutions.
- Development of highly efficient, dependable, distributed, scalable enterprise applications.
- Providing consulting and workforce solutions nationally and internationally.
- Preparing CV/Resume from their career experts and help clients land their dream job.

#### 3.3 Mission

"To transform business ideas into reality."

They build custom IT solutions and products that accelerate customer's business growth, simplify process and increase revenue. Providing consulting and workforce solutions nationally and internationally is their goal. They want to create innovative & creative websites for personal and organizations to express clients and to grow their businesses.

"We want to be the best IT Solution Provider through our innovative and unique work. Our team will turn the life-changing ideas of our customers into awesome software."

#### 3.4 Vision

Their main vision is:

"We have a dream to be the leading software company in the nation and create a brand by providing excellent 'customer's satisfaction that many companies are missing."

## 3.5 Technology for software

- Python/ PostgreSQL
- Linux Containers LXC and LXD
- Docker Containers
- Php/Laravel
- C#, C++
- JAVA
- Native App Development Android

## 3.6 Team background of Neutroline Pvt Ltd

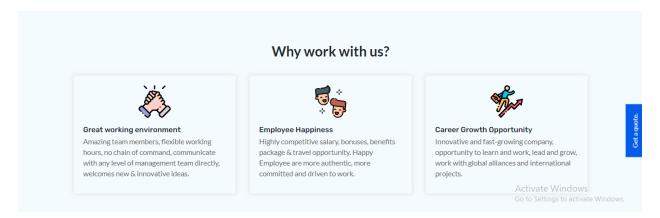


Fig 3.6.1 Team background according to the company

### **CHAPTER FOUR**

### ANALYSIS OF ACTIVITIES DONE

## 4.1 Understanding the system and working environment

This phase is simply included along with the working environment of Neutroline. The supervisor was very helpful and supportive in helping interns to understand the IT infrastructure and working procedure of development process in the organization. This phase also included proper understanding of communication procedures, reporting mechanisms and functional hierarchy of the firm. All the employees and the interns were working remotely due to the pandemic but they had to work at office location before the pandemic and hopefully after it too.

## 4.2 Background

The main purpose of the project was the development of a website for company itself. Though, it already had a website, they wanted it to be more functional, accessible, useful and generally better. This project required adding many attractive and dynamic design elements and it included things like making website responsive, responsive mobile view, attractive appearance and user friendly. The project was based on core PHP with MVC Framework. The website was divided into two parts: - Frontend which consists of the interface and the coding associated with it (HTML, CSS, JS,BOOTSTRAP) and Backend which consists implementation of the coding (PHP, MySQL). And I was given the task of designing the website at the beginning.

## 4.3 Requirement Analysis

Requirements analysis, also called requirements engineering, is the process of determining user expectations for a new or modified product. These features must be quantifiable, relevant and detailed. For any system to operate properly, some specific requirements should be fulfilled and should be meet in order to make the system work properly. In context to DMS, we can identify some user and technical requirements.

#### 4.3.1 System Requirement

During the development of the system, we were required to design the web page and database system. The hardware and software required for the system development are described below: -

#### Hardware Requirements

- CPU Processor- Intel Core
- RAM-2GB
- Graphics-1GB
- OS-Window 7

## Software Requirements

- XAMPP Package
- IDE(VS codes/ Sublime text)
- Web Browser
- Composer
- NPM

#### **4.3.2** User Requirement

The user requirement specifies what the user expects the software to be able to do. These are requirements that the user should be provided with:

- System must be easy to use and friendly.
- System must be flexible and maintainable.
- Search facility should be provided
- Necessary information should be easily available
- Maintain accuracy and speed.
- Visibly Pleasing Designs
- Accessible

## **4.3.3** Technical Requirement

The technical requirement pertains to the technical aspects that the system must fulfill, such as performance-related issues, reliability issues, and availability issues. It consists of hardware,

software and other supportive resources required to complete the information system to be developed.

#### 4.3.4 Functional Requirement

Functional requirements describe the functionality of the system to be developed. It describes about the functions, inputs, behavior, tasks and output of the system. Some of the functional requirements of this web-based application are as follows:

- View the received applications by Admin.
- Add/Remove Jobs by Admin
- View the job vacancies and apply by Users/Visitors of website.
- Add and Remove Employee and Employee Details by Admin.
- Edit Employee details and job details by Admin.
- Registration and login for employees.
- Adding details regarding education, achievement, employment and certification by Employees.
- Login for Admin.
- Timesheets to be filled up by Employees.
- Updating profile picture by Employees
- Updating Resume by Employees
- Updating bank details by Employees
- Timesheets to be viewed and edited by Admin.
- Comments to be added and removed by managers.
- Comments to be read by employees.
- Automated emails to be sent to employees who filled up the timesheets.
- Automated emails to be sent to employees who registered for an employee account.

#### 4.4 Activities Done

Neutroline System is a web based application that is developed using core php programming language and MySQL database for back-end and HTML and CSS is used for front end. A team was already working on the project before I joined. Following are the major activities that I have done which were the prerequisite for Neutroline System.

#### **4.4.1 Xampp Installation**

Xampp is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MySQL database, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

#### 4.4.2 Intallation of Visual Studio Codes

Visual Studio Code is a code editor redefined and optimized for building and debugging modern web and cloud applications. Visual Studio Code is a lightweight but powerful source code editor which runs on desktop and is available for Windows, macOS and Linux. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).

#### Key features of VS code:

- Emmet Abbreviations
- The Integrated Command Line Interface
- Prettier
- Multi Cursor Shortcuts

#### **4.4.3 Composer Installation**

Composer is multi-platform and we strive to make it run equally well on Windows, Linux and macOS. Composer is a tool for dependency management in PHP. It allows us to declare the libraries our project depends on and it will manage (install/update) them for us. Composer requires PHP 5.3.2+ to run. The installer will check a few PHP settings and then download to our working directory.

## 4.4.4 Coding for Web-Page Design

Since it was a MVC based system, I did the codes for design parts in separate folders. The CSS part was in "public" folder. The design part of the page was required to be kept in "templates" folder. I also had to fetch the data from database which was in the "models" folder.

Firstly, I designed the UI as per the documents they had given to me. I created a layout in which the data would be displayed. One of the pages of the system that I was assigned to code for consisted of nav-tab which I built using HTML, PHP, BOOTSTRAP. I used Document Object modelling for manipulating only a certain portion of the page.

The task I was required to do was to fetch the employee details from the database and display in the admin's page. The data I needed was Employees' education data, employment data and certification data the employees had entered while registering their Employee Account. This was necessary so that the admin could view and edit all the details whenever required.

Coding included a lot of code in JavaScript too for populating the page with fetched data. I also had to put different events in different elements of the page. I applied click event in submit button which would insert, update or delete the details of Employees as requested by Admin. I also did validation for the data entered while editing which required me to apply change events on select boxes. I was also required to write SQL queries which included JOIN to fetch data from more than one tables and to make documents downloadable.

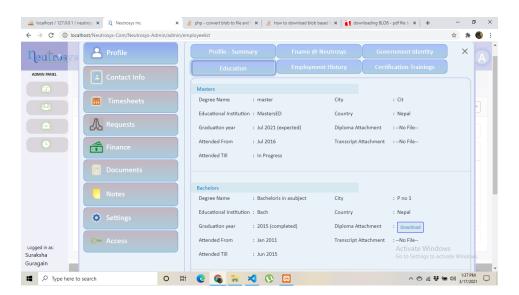


Fig 4.1 Fetched and displayed dummy data that were stored in database(Admin's page)

Some code for displaying fetched data shown in photo:

```
💝 timeoff_approval_tab.php M
                                                                                                                                                                                JS fillEducationTabForm.js X ** approval_summary.php M
                                                                                                                                                                                                                                                                                               JS timesheetApproval.js M
                                                                                                                                                                                                                                                                                                                                                       ti 🗆
Ф
            V OPEN EDITORS
                      e weekly_ap... M
                                                                 5 v function fillEducationTabForm(educationTabInfo) {
                     en timeoff ap... M
                                                                                return new Promise((resolve, reject) -> {
    if (ljQuery.isEmptyObject(educationIabInfo)) {
        if (educationTabInfo['notRequired']) {
            additionalEnrollmentFormVariables.educationTabInfoRequired = 0;
            $("#education-tab.form-title").html('<ni)>Education Details - <span class="text-danger not-required-form">Y
                 × JS fillEducationTab...
                     eapproval_s... M
           V NEUTR... [‡ □ ひ ④
                                                                                                          ${"#additional_enrollment_form .edit-btn").removeClass("d-none").addClass("d-inline-block");
$("#education-btn").addClass("completed");
                      JS fillAccountTabFo...
                      JS fillAdditionalCo...
                      JS fillAdditionalEnr...
                                                                                                           if (!jQuery.isEmptyObject(educationTabInfo.mastersDegreeInfo)) {
                      JS fillAddressTabFo...
                                                                                                                   if ("mastersDegreeInfo1" in educationTabInfo.mastersDegreeInfo) {
   if (Object.keys(educationTabInfo.mastersDegreeInfo).length == 1 && educationTabInfo.mastersDegreeInfo).
                      JS fillBankDetail.js
                                                                                                                                  (object.keys(educationTabInfo.mastersDegreeInfo).length == 1 && educationTabInfo.mast
$("#mo-masters-degree").prop("checked", true);
$("#master-degree-table").addclass("degree-disabled");
$("#mave-more-than-one-master-degree").prop("disabled", true);
$("#more-than-two-master-degree").prop("disabled", true);
$("#more-than-two-master-degree").prop("disabled", true);
$("#more-than-two-master-degree").prop("disabled", true);
$("#masters-degree-in-progress").addClass("degree-disabled");
$("#masters-degree-in-progress").addClass("degree-disabled");
$("#mpd-degree").prop("disabled", true);
$("#phd-degree").prop("disabled", true);
$("#phd-degree").parent().next().addClass("degree-disabled");
                      JS fillCertificationH...
                      JS fillCertificationT...
                      JS fillConfirmationT
                      JS fillDefaultCountr...
                      JS fillEducationHist...
                                                                                                                                   masters Field. masters Select Field For Validation. splice (0); \\ masters Field. masters Field For Validation. splice (0); \\
                      JS fillEmployeePrfP..
                      JS fillEmployment...
                                                                                                                                   mastersField.mastersDegreeDiplomaFileFieldForValidation.splice(0);
mastersField.mastersDegreeTranscriptFileFieldForValidation.splice(0);
                      JS fillEmploymentT..
                                                                                                                                   mastersField.mastersGPAFieldForValidation.splice(0);
```

Fig 4.2 Javascript code to populate the page

```
ც ⊞ ∙
                                        Neutrosys-Admin > src > Models > ** User.php

2955     public function getEducationTabInfo($employeeID) {
          e weekly_ap... M
                                                                    $this->dbConnection->query("SELECT EducationForm FROM tbloptionalenrollmentdocuments WHERE EmployeeID = ?");
$this->dbConnection->bind(1, $employeeID);
                   esheet... M
V NEUTR... [♣ □ ひ 白
                                                                    $response = $this->dbConnection->single();
                                                                           $educationFormRequired = $response->EducationForm;
                                                                           if($educationFormRequired) {
                                                                                  $this->dbConnection->query("SELECT tad.*, tlc.Name AS CountryName FROM tblacademicdegree tad
LEFT JOIN tbllookupcountry tlc ON tlc.CountryID = tad.CountryID
WHERE tad.EmployeeD = 2 AND tad.AcademicDegreeTypeID = ?");
$this->dbConnection->bind(1, $employeeD);
       Manager.php
        Marital.php
        M Note.php
                                                                                   $this->dbConnection->bind(2, 3);
                                                                                   $mastersDegreeDetails = $this->dbConnection->resultSet():
        Relationship.php
                                                                                   $mastersDegreeInfo = []:
        Request.php
                                                                                  if(isset($mastersDegreeDetails[0]) {
    $attendedFromMonth = \getMonth($mastersDegreeDetails[0]->AttendedFrom, true);
    $attendedFromYear - \getVear($mastersDegreeDetails[0]->AttendedFrom);
    $attendedFillMonth = \getMonth($mastersDegreeDetails[0]->AttendedFill, true);
    $attendedTillYear = \getMonth($mastersDegreeDetails[0]->AttendedTill);
        SecurityOuestion....
                                                                                          $graduationMonth = \getMonth($mastersDegreeDetails[0]->GraduationDate, true);
$graduationYear = \getYear($mastersDegreeDetails[0]->GraduationDate);
                                                                                          $anticipatedCompletionMonth = \getMonth($mastersDegreeDetails[0]->AnticipatedCompletion, true);
$anticipatedCompletionYear = \getYear($mastersDegreeDetails[0]->AnticipatedCompletionYyate Windows
```

Fig 4.3 PHP function executing SQL query to get Education Data of employees

## 4.5 System Designs

### **4.5.1** Use Case Diagram

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case diagram shows the functional requirements of this application.



Fig 4.4 Use Case Diagram of Neutroline System

There are three actors namely Admin, Employees and Visitors. Among them, the Admin has the

privilege of accessing the database and also add new jobs and employees and manage all the data.

All the employees can access their profile and view their timesheets. Similarly, Visitor can view

the site and job vacancies as well as apply for jobs.

Use case UC1: Register to the system

Primary Actor: Employee

Secondary Actor: Admin

Description: The employee register to the system and is managed by admin.

Success Scenario: The employee successfully can login to the system.

Failure Scenario: The employee cannot login to the system if the requirement does not

fulfilled.

Use case UC2: Login to the system

Primary Actor: Employee and Admin

Secondary Actor: None

Description: The admin and employee login to the system.

Success Scenario: The admin and employee successfully login to the system.

Failure Scenario: The admin and employee cannot login to the system if the username and

password does not match.

Use case UC3: Add/Remove Job

Primary Actor: Admin

Secondary Actor: None

Description: The admin can add job to the system to be posted to the site.

Success Scenario: The admin successfully add job to the system.

Failure Scenario: The admin cannot add job to the system if the system fails.

Use case UC4: Apply for job

Primary Actor: Visitor

Secondary Actor: None

Description: The visitor can apply for job through the system.

Success Scenario: The visitor successfully apply for the job.

Failure Scenario: The visitor cannot apply for the job if the system fails.

**Use case UC5: Update Timesheet** 

Primary Actor: Employee

Secondary Actor: Admin

Description: The employee can enter the time he/she started to work.

Success Scenario: The employee successfully updates the timesheets.

Failure Scenario: The admin cannot update their timesheet if the system fails.

Use case UC6: Add and edit employee details

Primary Actor: Admin

Secondary Actor: None

Description: The admin can add and edit the employee's details.

Success Scenario: The admin successfully add and edit employees/users of the system.

Failure Scenario: The admin cannot add and edit employees/users of the system if the system fails.

Use case UC7: Profile

Primary Actor: Employee

Secondary Actor: None

Description: The employee can view and update their profile in the system.

Success Scenario: The employee successfully view and update their profile in the system.

Failure Scenario: The customer cannot view and edit their profile in the system if the system fails.

## **4.6 System Development**

System Development is the procedure followed to develop the system that fulfills various requirements of user. Different feasibility studies have been done such as System Development consists of development tools, testing tools and other technical and behavioral feasibility.

### **4.6.1 Development Tools**

Developing this system different development tools are used. This system is a web based application so I have used tools related to web based application development. I have used PHP and CSS for frontend design. I have also used MySQL for database communication. Here are some development tools that I have used to develop this system:

- 1. PHP
- 2. CSS
- 3. MySQL
- 4. JQuery
- 5. Bootstrap
- 6. Git Bash
- 7. JavaScript

## 4.7 Testing

Testing is the process of analyzing and evaluating a system and its components with the intent of finding errors, gaps and missing requirements. Software testing can also provide an objective, independent view of the software to allow the organization to appreciate and understand the risks of software implementation. Test techniques include the process of executing a program with the intent of finding bugs and errors and verify that the software is usable or not.

### 4.7.1 Unit Testing

Unit testing is a software testing method that tests source code individually. Unit testing is carried by testing each module such as login module, admin module and so on.

Table 4.1: Test case for admin login

Test case id	1
2 000 0000 100	
Module to be tested	Login module for admin
<b>Pre-Condition</b>	
Admin has his username	and password which is admin and admin.
Test data	Username="Admin" password="admin"
	Username="admin" password="admin"
Test steps	SELECT * FROM tblemployee WHERE email = email and
	password = password
<b>Expected Output</b>	False
	True
<b>Actual Output</b>	False
	True
Result	Pass
Comments	Login is validated through the database table.

Table 4.2: Test case to insert employee into database (Success)

Test case id	2	
Module to be tested	Add Employee	
<b>Pre-Condition</b>		
Admin logs in through a	Admin logs in through admin username and password and clicks on the add Employee	
tab.		
Test Steps	1. Login as Admin.	
	2. Enter all the required information in the form.	
	3. Click Submit button.	
Test Data	Employee_id="1" Employee name="Suraksha Guragain"	
	gender="female" Employment type="intern"	
	DOB="1999/9/9" Project Name="Website Development"	
<b>Expected Output</b>	Employee Inserted	
Result	Pass	

Comments	Employee Inserted into database and is followed up display
	of Employee List.

Table 4.3: Test case to view and edit employee by admin.

Test case id	3		
Module to be tested	View employee		
Pre-Condition	Pre-Condition Pre-Condition		
Admin logs in through adr	Admin logs in through admin username and password and clicks on the "Employee list" and		
further clicks on the "manage" button after the name of employee.			
Test Steps	1. Open Admin panel.		
	2. Click on Manage Employee tab.		
<b>Expected Output</b>	Displays records of all employees from the database.		
Actual Output	Error Displaying records.		
Result	Pass		
Comments	Record not displayed from database.		

#### CHAPTER FIVE

## SUMMARY AND CONCLUSION

## 5.1 Findings

This internship program was indeed a great opportunity for me to get an industrial exposure at organizational settings. The internship program not only introduced me to the real working environment but it also provided me a platform to learn and perceive many new ideas, skills and values. Under the span these three and half months, I learned a lot which will surely help me in my career. Some of the core findings during the internship period are:

- Learned how to face and plan in the real life working scenario.
- Understood the way to link the theoretical knowledge to practical way of doing things.
- Learned how to value clients.
- Learned to work in accordance to requirements, and to develop product as close as possible to the requirement.
- Understood actual real office environment and their interactions.
- Understood importance of coordination, communication and cooperation in working environment.
- Learned to balance the work life and student life simultaneously.

Moreover, the best part of the project was to get familiar to the MVC framework of PHP and deploy a system under it. It was a little tricky to understand the work-flow at the beginning. So I also developed a "Blog" system based on MVC, OOP PHP to get the picture and it was really helpful.

#### **5.2 Limitations**

- Required more manpower
- Required more time
- Low pay for interns
- Difficult to make a problem understandable solely via computer without seeing eachother

### 5.3 Conclusion

The internship program has provided me with a practical exposure to the actual environment resulting in gaining more and improved skills and knowledge. Internship at Neutroline Pvt Ltd has provided me a platform to gain more information about real working situation. Being a part of the company as an intern has truly been a learning experience to remember.

I was not familiar with version control systems before the internship. I learned to work in different branches of Github along with other colleagues and to use the commands provided by the version control system.

Although we had studied a lot at college, it requires very different, practical knowledge to work in real environment. I would have never known this if it was not for this internship. I also understood that we might need a lot of help at the beginning. I got to know that it takes time to form a working, productive mindset.

With the internship program, I got an opportunity to explore myself in the organization setting at the actual market that has helped to increase and strengthen the skills and values. Also, through the internship program, I got a chance to get familiar with how IT is actually adopted and also idea about the real time work processing.

It helped me in learning new programming concepts, solving and debugging errors, getting familiar with new modules, methodologies. I also learned how to stay in a schedule, how to maintain social relationships with other employees.

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## Annex

Some Screenshots of the parts of the system I worked on:

