## PRODUCT-BASED WEB PAGE DEVELOPMENT

## A Report

Submitted by

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In partial fulfilment for the award of the degree

Of

## **BACHELOR OF TECHNOLOGY**

IN

INFORMATION TECHNOLOGY

# COLLEGE OF ENGINEERING, GUINDY DEPARTMENT OF INFORMATION SCIENCE AND TECHNOLOGY

**ANNA UNIVERSITY: CHENNAI 600 025** 



**AUGUST 2022** 

## **To Whomsoever It May Concern**

# **Sub: Completion of Internship**

This is to certify that Mr.S.Gautham, reg. no. 2020115032, a student of Bachelor of Technology, Anna University CEG campus, Chennai worked under my supervision and has successfully completed his internship in the web development team as an intern at Alten Calsoft Labs Pvt Ltd, Chennai from 25-07-2022 till 26-08-2022.

During the tenure of his internship, his conduct was excellent.

We wish you all the best in your future endeavours.

Badrinarayanan

Team Surpervisor

Alten Calsoft Labs Pvt Ltd

## Anna University, Chennai

## **BONAFIDE CERTIFICATE**

Certified that this Report titled "Product-Based Web Page Development" is the bonafide work of S.Gautham (2020115032) who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

Badrinarayanan

Director – Technology

Alten Calsoft Labs Pvt Ltd

Anna University

Chennai- 600 025

## ORGANIZATION INFORMATION

ALTEN supports its customers' development strategies in the areas of innovation, R&D and technological information systems.

Created more than 30 years ago and based in 30 countries, the Group has established itself as a world leader in Engineering and IT Services. With a financial turnover of more than 2.92 billion euros Alten currently has more than 42,000 employees all over the world.

Helping clients design and build innovative products (AI, Cloud, and Mobile ready), content and commerce-driven platforms, and connected, converged digital experiences for the modern world through a design-led Digital Transformation framework. By integrating our strategic design, engineering, and industry capabilities, we help our clients decode the digital world and accelerate their growth journey.

Headquartered in Silicon Valley, ACL Digital is a leader in design-led digital experience, innovation, enterprise modernization, and product engineering services converging to Technology, Media & Telecom. We are a talented workforce and part of the 46,000+ employee ALTEN Group, spread across more than 30 countries, offering a multicultural workplace and a collaborative knowledge environment.

## **ACKNOWLEDGEMENT**

I would like to thank Mr. Anton Basil (Deputy Director) of Alten Calsoft Labs Pvt. Ltd., for giving me the opportunity to do an internship within the organization.

I also would like to thank all my colleagues at Alten Calsoft Labs Pvt Ltd, Chennai for their patience and openness, providing me an enjoyable working environment. It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals.

I would like to thank my mentor, Mr. Badrinarayanan, my team lead, for his constructive criticism throughout my internship.

S.GAUTHAM

**REG NO 2020115032** 

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## **LEARNING OBJECTIVES**

- 1. To learn about the various stages of developing a production-ready application and testing it.
- 2. To gain knowledge in the intricacies and best practices related to web page development.
- 3. To familiarize myself with the office landscape, learn how to work under pressure and consistently provide good performance.

## **INTERNSHIP OBJECTIVES**

- 1. To develop an interactive web-page that acts as the client's product landing page with the ability to target customers.
- 2. To create and maintain the database that the site will use.
- 3. To perform tests on the application and verify proper functioning of all requested services.

## Introduction

With digital presence becoming a necessity for brands to expand and gain exposure among potential customers, the web development industry is taking off rapidly, and so is the demand for interactive and appealing web pages. As industries continue facing fierce competition among fellow brands and services, the ones keeping up with trends steal the limelight. The severe expansion of digitally engaged audiences has proved that web development is no more a choice but a necessity to reach a broader customer base, increase engagement and promote services. ACL Digital, an ALTEN Group Company, is a digital product innovation and engineering leader. My project was also to create a unique content driven web page for the client using the same API.

This project aims to recreate a pixel perfect design and make a multi-page responsive layout. My tasks included retrieving data from the database, design a product landing page that has the ability to target customers more than any other aspect through its visuals with a wide range of functionalities including login authentication process and links to the client's various other resources and projects.

## The Vision

Your website is also a place where you can nurture your bottom of the funnel leads to get conversions. However, you cannot afford to have a website fail which can cause your prospective consumers who visit your website to bounce off

In setting your website design goals and objectives, you must ensure that your website design is a SMARTER website. Setting a smarter website means that your website goals must be:

- 1. S- Specific, so you can work on how you can achieve it.
- 2. M- Measurable, which is the only way to track the progress.
- 3. A– Attainable, it should be achievable and realistic.
- 4. R- Relevant which should match the priorities of your business.
- 5. T- Timely which should be achievable within a specific timeframe.
- 6. E- Evaluated to see if you are getting closer to the purpose
- 7. R- Reviewed at any time to see any lapses on the website.

There must be coherence in your website goals and a solid desired business outcome else it will fail.

With regards to your websites, here are some things you would need to in place whilst setting your objectives. However, here are some of the goals and objectives that a website design should be designed around. They include:

- 8. Brand Image
- 9. Colour
- 10. Layout
- 11. Font and Typography
- 12. Website Accessibility
- 13. Site Navigation.
- 14. Sales
- 15. Customer Service
- 16. Reducing in Costs
- 10. Customer Interaction
- 11 Brand Building (Social Media Post, Facebook Ads, Google Ads
- 12. Retaining clients

## Languages and applications used

## Xampp:

XAMPP is an abbreviation where *X stands for Cross-Platform, A stands for Apache, M stands for* MYSQL, *and the Ps stand for PHP and Perl*, respectively. It is an open-source package of web solutions that includes Apache distribution for many servers and command-line executables along with modules such as Apache server, MariaDB, PHP, and Perl.

XAMPP is one of the widely used cross-platform web servers, which helps developers to create and test their programs on a local webserver. It was developed by the Apache Friends, and its native source code can be revised or modified by the audience. It consists of Apache HTTP Server, MariaDB, and interpreter for the different programming languages like PHP and Perl. It is available in 11 languages and supported by different platforms such as the IA-32 package of Windows & x64 package of macOS and Linux.

## Components used in Xampp:

- Cross-Platform: Different local systems have different configurations of operating systems installed in it. The component of cross-platform has been included to increase the utility and audience for this package of Apache distributions. It supports various platforms such as packages of Windows, Linus, and MAC OS.
- 2. Apache: It is an HTTP a cross-platform web server. It is used worldwide for delivering web content. The server application has made free for installation and used for the community of developers under the aegis of Apache Software Foundation. The remote server of Apache delivers the requested files, images, and other documents to the user.

- 3. MariaDB: Originally, MySQL DBMS was a part of XAMPP, but now it has been replaced by MariaDB. It is one of the most widely used relational DBMS, developed by MySQL. It offers online services of data storage, manipulation, retrieval, arrangement, and deletion.
- 4. PHP: It is the backend scripting language primarily used for web development. PHP allows users to create dynamic websites and applications. It can be installed on every platform and supports a variety of database management systems. It was implemented using C language. PHP stands for Hypertext Processor. It is said to be derived from Personal Home Page tools, which explains its simplicity and functionality.
- 5. Perl: It is a combination of two high-level dynamic languages, namely Perl 5 and Perl 6. Perl can be applied for finding solutions for problems based on system administration, web development, and networking. Perl allows its users to program dynamic web applications. It is very flexible and robust.
- 6. phpMyAdmin: It is a tool used for dealing with MariaDB. Its version 4.0.4 is currently being used in XAMPP. Administration of DBMS is its main role.
- 7. OpenSSL: It is the open-source implementation of the Secure Socket Layer Protocol and Transport Layer Protocol. Presently version 0.9.8 is a part of XAMPP.
- 8. XAMPP Control Panel: It is a panel that helps to operate and regulate upon other components of the XAMPP. Version 3.2.1 is the most recent update. A detailed description of the control panel will be done in the next section of the tutorial.

## **HTML Scripting:**

HTML stands for Hyper Text Markup Language. It is the standard markup language for creating Web pages.HTML describes the structure of a Web page.HTML consists of a series of elements. Its elements tell the browser how to display the content.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as <img/> and <input/> directly introduce content into the page. Other tags such as surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content.

## **Bootstrap CSS:**

Bootstrap is an HTML, CSS & JS Library that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of colour, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap

to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-coloured tables, page headings, more prominent pull quotes, and text with a highlight.

Bootstrap also comes with several JavaScript components which do not require other libraries like jQuery. They provide additional user interface elements such as dialog boxes, tooltips, progress bars, navigation drop-downs, and carousels. Each Bootstrap component consists of an HTML structure, CSS declarations, and in some cases accompanying JavaScript code. They also extend the functionality of some existing interface elements, including for example an auto-complete function for input fields.

## **MySQL:**

MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of cofounder Michael Widenius's daughter My, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

## The Project

The project consists of four modules which are:

- 1. Product Marketing portal.
- 2. Product info and design.
- 3. Networking / Contact portal.
- 4. Career Search implementation.
- 5. Form validation and Application.

## 1. Product Marketing Portal

A site featuring a suite of commonly used services, serving as a starting point and frequent gateway to the Web (Web portal) or a niche topic (vertical portal).

A marketing portal is a dedicated online space for marketing teams to store, search, create, and manage their digital assets for marketing campaigns across multiple digital and physical channels. It's a single solution for digital assets that allows you to control who has access to them, where they are dispersed, and how they are used. A marketing portal is the path your digital assets travel through to get to their various marketing campaigns.



#### **5G Networks**

5G is expected to offer innovative solution to its consumers due to its ability to offer higher data rates at ultra low latencies. This next-generation mobile network infrastructure designed to be fully programmable and interoperable to provide innovative applications that need to be tailored to provide unique services.

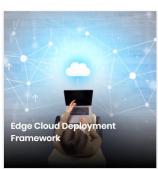
ACL Digital uses open development techniques and programming tools to deliver end-to-end 5G portfolio (Mobile Core Network Re-architecture, End-to-End Orchestration, Edge Cloud Deployment, etc) to the networks of the future.



## Offerings

5G technology innovations and capabilities changing the way the world connects and communicates. ACL Digital offers Mobile Core Network Re-architecture, End-to-End Orchestration, Edge Cloud Deployment, etc to the networks of the future.







#### **Featured Work**



Semiconductor
5G Radio ASICs

>



5G Data Path Enhancement and Validation

 $\rightarrow$ 



VIEW ALL

Deployment and Orchestration of vEPG for 5G Network

7

## **Prototype Codes:**

#### 5G banner

```
cdiv class="collumn">

div class="collumn">

div class="collumn">

collumn">

collumn collum
```

#### Network introduction

```
div class="testimonials">

div class="swiper-container mySwiper">

div class="swiper-wrapper">

div class="swiper-slide">

d
```

### Offerings Carousel Implementation

## 2. Product Information and Design

Product design is the process of identifying a market opportunity, clearly defining the problem, developing a proper solution for that problem and validating the solution with real users. Every design project needs a product vision that sets the direction and guides the product development team. Vision captures the essence of the product — the critical information that the product team must know in order to develop and launch a successful product. Vision helps build a common understanding of "what we are trying to build here and why." Vision also helps you to define what you are not building. Being clear about the boundaries of your solution will help you to stay focused when crafting your product.

For a new product, a product team typically starts by writing a future press release announcing the finished product. Such a press release describes, in a simple way, what the product does and why it exists. As with any other press release, the goal is to explain to the public what the product (or new feature) is and why it matters to them. The press release should enable each team member to envision the future product.

Product Information Page 1:



5G Radio ASICs IP Development, Verification, Emulation and Top Level Verification of Complex ASICs

Industry Semiconductor , Telecom Service

#### Overview

The Client is a leading multinational networking equipment manufacturer involved in design8 development of 5G Radio ASICs. Our Semiconductor practice team contributed in thedevelopment of multiple components of 5G Radio ASICs. This includes IP Development(Ethernet, CPR, RFIC Control 8. Digital Interfaces), Radio IO Control systems, 5G Soc ASIC Frontend, RF ASIC Integration and Emulation of Radio Baseband.



#### Value Delivered

- Formation of a highly competent team with a broad expertise in 5G ASIC design, verification, SOC emulation and Top-level Verification
   Faster product realization with lower R&D expenditure
   Realization of a complex SG Radio ASIC on time with better quality and performance



## Product Information Page 2:



Data Path Enhancement and Validation for a Network **Equipment Manufacturer** 

Network Infrastructure , Telecom Service

Product Innovation & Engineering , Network Transformation

#### Overview

Customer is a \$100mn US Multinational, Software based Telecommunication Networking Provider. Customer wanted to enhance the functionality of control plane and user plane separation architecture of EPC nodes.

#### Challenges

- Not being able to create new services on Mobile network due to Scalability limitations of packet core Gateway
  Delay in the network deployments as Mobile Network was not supporting the bandwidth@intensive services

### **Outcomes**



Optimization of control to fast path communication by leveraging VPP platform using shared memory



Feature implementation based on Control and User Plane Separation (CUPS architecture) of EPC nodes

## **Prototype Code:**



Page 1 head

## Page 1 Overview

```
div class="coles="0.ol=d=9 col=d=9 col
```

## Page 1 Value Delivered

Page 2 image

## Page 1 Overview

```
div class="claimit text-formatted field field-name-field-content-grid field--type-text-with-summary field--label-hidden field_item"><a href="https://div.class="col:as-6 col:as-6 col:a
```

## Page 2 content

```
cp:Optimization of control to fast path communication by leveraging VPP platfore using shared memory/pp

cdiv class="col-set-4 col-end-4 col-2">

cdiv class="col-set-4 col-end-4 col-3">

cdiv class="co
```

Page 2 Carousel

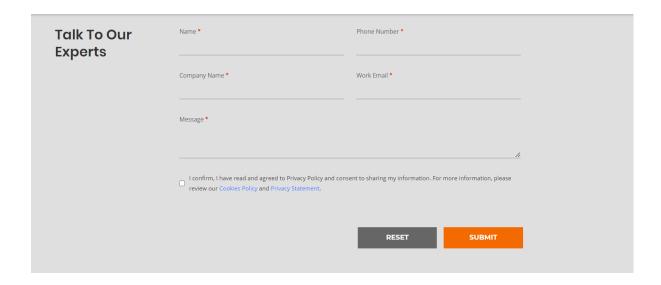
## 3. Surveys or contact form:

A functionality allowing clients to leave their email and other relevant information for the technical team to reach back and address the request. By implementing this, retention of customers is increased and networking is made possible and effective.

Customers can enquire about the company and services provided and wait for a representative to take the query from the Xampp database and contact the customer using the details provided.

Surveys and questionnaires enable the researcher to get a larger volume of responses, which can open up the opportunity for more detailed analysis. While online surveys are commonly used for quantitative research, they also can be used for qualitative research. It's possible to gather qualitative data by asking open-ended questions (for example, "What motivates you to make a purchase?" or "How do you feel when you need to return the item you purchased from us?"). The answers to such questions will be very individualized and in general cannot be used for quantitative analysis.

Online surveys can be relatively inexpensive to run. The downside of this method is that there's no direct interaction with respondents, and, thus, it's impossible to dive more deeply into answers provided by them.



## **Prototype Code:**

Form that validates the email and accepts the info into the Database.

## 4. Career Search implementation.

Any modern day company requires a recruitment portal to take in applicants and assign a recruiter to them in a structured and efficient way. Thus making the recruitment and application process hassle free and sustainable.

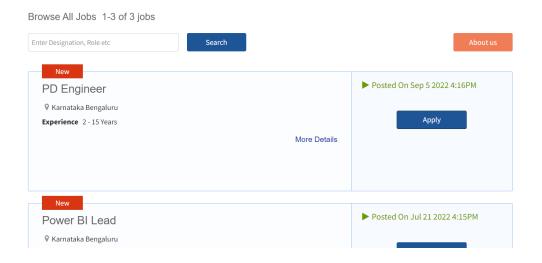
Job websites serve as the modern equivalent of classified ads by compiling and listing available telecommute, remote, and local openings. Equipped with millions of listings and additional resources using a job website is one of the best and most efficient ways to search for and apply to dozens of opportunities.

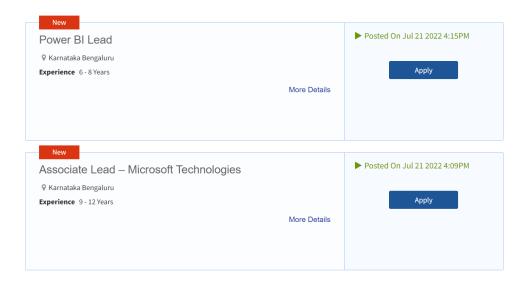
A career site is a way to show off your employer brand, communicate your company values, tell employee stories, and post open jobs. Career sites are used in recruitment marketing strategies to build employer brand and engage candidates.

Career sites are a way to build your employer brand and recruit top talent.

They're a window into your company culture – its values, diversity, news, and more. These sites will help engage candidates during their research and application process. A career site is the best way to communicate with candidates your employer value proposition as well as gain leads for open roles.

The best career sites offer customization to fit your needs as well as other benefits. Your site should reflect your employer brand and a place for candidates to learn about your company and apply for open positions. A great career site should include many perks.





## **Prototype Code:**

Each div is accompanied with a href that directs to application page

## 5. Form validation and Application.

Each job listing is directed to an application page where the roles, responsibilities and required skills are specified for that particular role. This page is dynamic and fetches query data from the Xampp database using PHP queries.

An information portal for all the job listing is essential both for the recruiters and the applicants. The job specific data is fetched and loaded.

#### PD Engineer

Experience Range 2 - 15 Years

## Open

#### APPLY WITHOUT REGISTRATION

**LOGIN AND APPLY** 

Share with your connect



#### **Job Description**

As a Physical Design Engineer, you will work with microarchitecture, RTL design, CAD, block level and top level physical design teams to run, analyze timing and drive timing closure.

#### Responsibilities:

- Responsible for high performance microprocessor blocks RTL to GDSII implementation
- Perform block level synthesis, floor planning, placement and routing.
- Close the design to meet timing, power budget and area. Implement ECO's to address functional bugs and timing violations.
- Team player, with good problem solving and communication skills.
- Good knowledge and hands on experience in physical design methodology which include logic synthesis,
- placement, clock tree synthesis, routing.
  Should be knowledgeable in physical verification ( LVS,DRC.. etc) ,Noise analysis, Power analysis and electro migration.
- Good knowledge and hands on experience in static timing analysis (closing timing at chip level), good understanding of timing constraints.

#### Desired Skills:

- PD, Floor Planning, CTS. LVS, DRC.

#### Associate Lead - Microsoft Technologies

- ♥ Location Karnataka Bengaluru
- Experience Range 9 12 Years Qualification BE, Btech, MCA (Computers)

We are looking to hire an Associate Lead who will oversee all activities within the team and has a hands-on development experience in .Net and other Microsoft technologies.

The role includes all technical challenges associated with analysing, defining and documenting specification requirements, designing & developing. Net applications to meet needs for better business process management and solutions that are aligned with the business needs.

Job Description

- Lead and manage a team of .NET developers of varied experience levels and guide them through technical issues and challenges.
   All people management responsibilities of the role as defined above.
- Work assignment, distribution, task estimation, goal planning and conducting performance reviews as per company policy.
   Empowering team members with skills to improve their confidence, product knowledge, and communication

- skills.

  Analyse, debug/troubleshoot and resolve technical issues.

  Participate in the planning/analysis of business requirements for system changes and enhancements.

  Create testing and implementations plans, including user training, UAT and documentation.

  Active participation through all phases of the development lifecycle.

  Active participation in hiring and training

  Keep up to date with emerging applications, technologies, and standards in the field

#### Desired skills

- Entity Framework Restful API
- Restful API
  Angular 7 or above
  SQL/T-SQL/Stored Procedures
  JavaScript/ECMAScript 6+
  jQuery
  HTML5
  CSS3
  AWS
  .NET Core

- ASP.NET MVC and Web API frameworks

APPLY WITHOUT REGISTRATION

Open

LOGIN AND APPLY

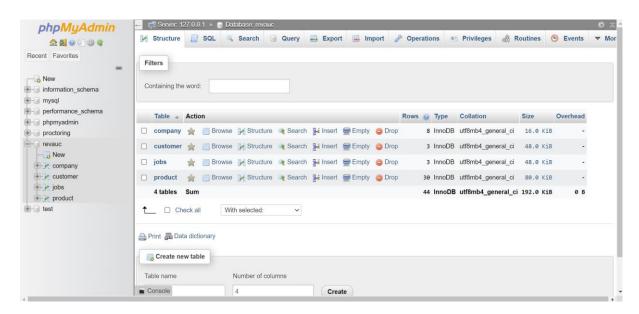
Share with your connect



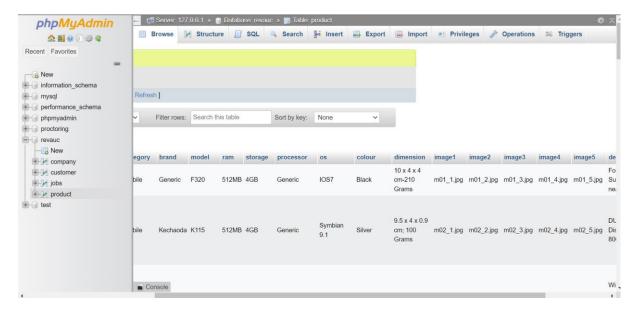


## **Prototype Code:**

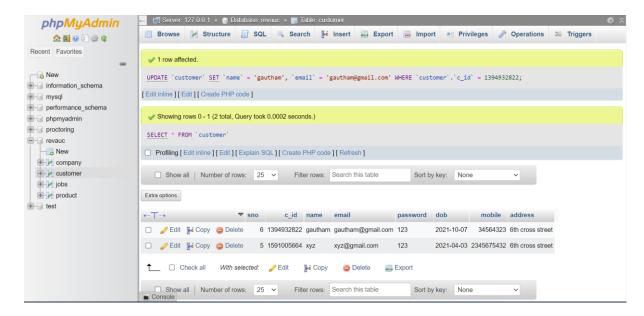
## **Example Database**



#### **Basic Database Structure**



Products table



#### Customer/Applicant table

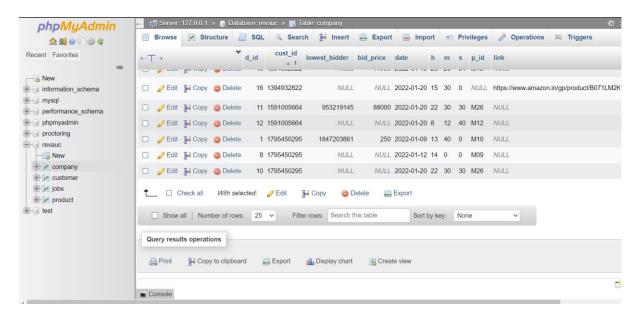


Table for company details

## **LEARNING OUTCOMES**

On completion of this internship, I've gained an enormous amount of knowledge in front-end as well as back-end web development and testing. I have learned how to design and develop web pages that use extensive Bootstrap applications and integrating them with HTML. I have learnt MySQL and have familiarised myself with maintaining a database and retrieving data from it. I studied how to implement a dynamic web page using sqli connect and php that retrieves data directly from the database. I learnt the various best practices while developing pixel perfect industry level web pages. To summarize, I have gained an understanding of the various skill and tool required for developing a market-ready web page.

- 1. The intern has learnt the basics of developing a market-ready web page from scratch.
- 2. The intern is familiarized with the functioning of the corporate world including maintaining deadlines and reporting to the project heads.
- 3. The intern has understood the various stages involved in developing an application from planning, coordinating, building to deployment.

## **CONCLUSION**

In summary, this internship was an extremely useful and enjoyable learning experience. I achieved all of my learning goals and more. I got an insight into professional web development and it has helped me become aware of my strengths and weaknesses. It gave me a chance to practice what I had been taught in college to solve a real time issue under the pressure of a strict deadline. It enabled me to find more confidence in myself as a programmer. I experienced that professional life comes with many more problems and consequences. I also learned how to develop the right mindset and attitude to tackle those problems.