

A  
Report On

## Internship

(Under- “Industry Internship &Project” Track)

At

**Xchangedata Technologies Pvt Ltd, Sangli**

Submitted

in partial fulfillment of the requirements for the degree of

**Bachelor of Technology**

in

**Computer Science & Engineering**

by

**Mr. Prassana Shivputra Pailwan.**

Under the Guidance of

**Prof. G. G. Shingan**



**Computer Science & Engineering Department**

K. E. Society's

**Rajarambapu Institute of Technology, Rajaramnagar**

(An autonomous Institute, Affiliated to Shivaji University)

**2022-2023**

K. E. Society's  
**Rajarambapu Institute of Technology, Rajaramnagar**  
(An autonomous Institute, Affiliated to Shivaji University)  
**Department of Computer Science & Engineering**

**CERTIFICATE**

This is to certify that the internship under Industry Internship & Project (IIP) track completed at **“Xchangedata Technologies Pvt Ltd”** is the bona fide work submitted by the following student, to the Rajarambapu Institute of Technology, Rajaramnagar during the academic year 2022-23, in partial fulfillment for the award of the degree of B. Tech in **Computer Science & Engineering** under our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree.

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## DECLARATION

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I declare that this report reflects my thoughts about the subject in my own words. I have sufficiently cited and referenced the original sources, referred or considered in this work. I have not plagiarized or submitted the same work for the award of any other degree. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute.

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## ACKNOWLEDGEMENT

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I take this opportunity to thank all those who have contributed to the successful completion of an Internship Under Industry Internship & Project (IIP) track at “**XchangeData Technologies Pvt. Ltd.**”.

I sincerely wish to express my gratitude to Industry Internship & Project (IIP) Mentor Prof. Gautami G. Shingan for full support, expert guidance, and encouragement and kind cooperation throughout the Internship work. I am greatly indebted to him for his help throughout project work. I express my sincere gratitude towards **Dr. Prof. N. V. Dharwadkar**, Head of the Department, **Computer Science & Engineering**, for providing necessary facilities, guidance and support.

I respect and thank **Mr. Ashwin D. Jog** for providing me an opportunity to do a project in XchangeData Technologies Pvt. Ltd. and giving us all support and guidance which made me complete the internship duly. I am extremely thankful to **Mr. Vishal Jadhav & Miss. Prajakta Gadgil** for providing such a nice support and guidance, although he had a busy schedule managing the corporate affairs.

I thank **Prof. Avinash Powar** for providing an internship & Project Opportunity in an Industry. I am thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staff of the Computer Science & Engineering Department, which helped me in successfully completing internship.

Nevertheless, I express my gratitude toward my family members for their kind cooperation and encouragement which helped me in the completion of this internship.

## **ABSTRACT**

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In this report, I share my experience as a Full Stack Developer during my internship at XchangeData Technologies Pvt. Ltd. Throughout the internship, my primary focus was to solve change requests for an existing websites and applications. I leverage my knowledge of .NET Web Forms, JavaScript and SQL Server to tackle these tasks effectively.

As a Full Stack Developer, I worked on the front-end of the application using HTML , CSS and .NET Web Forms. On the back-end, I utilized SQL Server and .Net. Version control was managed using Source Tree. Throughout the internship, I received guidance and support from experienced mentors who helped me solve complex problems. In addition, working in a team environment helped me develop my communication, teamwork, and time management skills.

Overall, the internship was a valuable experience that allowed me to enhance my technical skills and gain practical experience in a real-world application. I am confident that the skills and knowledge I acquired during this internship will be useful in my future career.

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# 1. INTRODUCTION

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## 1.1 Overview

I joined XchangeData Technologies Pvt. Ltd. as a Full Stack Development Intern where I learned how an application functions and how front-end and back-end can be linked to give out a hassle-free user-friendly application. When I joined, I learned about .Net framework, JS, Wordpress and Php and their life cycles and real time use. After a few days, I was assigned to the ongoing website development . I learned all the Forwarding and Customs clearance concepts and after a thorough go-through of the pages and forms in the Forwarding and Customs Module, I was repeatedly given CRs to work on. I got a chance to understand the sprints that development teams work on to deliver their work on the date specified to the customers.

Apart from working on several CRs of the live project, I also solved Issues raised by the QA team.

The Internship has helped me a lot to grow as a developer and understand how a product-based Company functions.

## 1.2 Objectives

- **Gain Practical Experience:**

The primary objective is to acquire hands-on experience in developing end-to-end web applications as a Full Stack Developer.

- **Expand Technical Knowledge:**

Aim to apply and enhance knowledge of front-end and back-end technologies, frameworks, and tools, such as WordPress, HTML/CSS, .NET, Laravel databases (SQL/NoSQL), etc.

- **Understand the Development Process:**

Develop a deeper understanding of the entire software development life cycle, including requirements gathering, design, implementation, testing, deployment, and maintenance.

- **Problem-solving Skills:**

Sharpen problem-solving abilities by tackling real-world challenges and finding efficient solutions within the context of web development.

- **Learn Best Practices:**

Acquire industry best practices for coding standards, security, performance optimization, version control (Git), and documentation, ensuring high-quality and maintainable code.

- **Collaborative Teamwork:**

Actively contribute to a team by communicating effectively, participating in discussions, and collaborating with colleagues on projects, learning from experienced professionals along the way.

- **Creative Contribution:**

Utilize creativity and innovative thinking to develop user-friendly and visually appealing web applications, while considering usability and user experience (UX) principles.

- **Adaptability:**

Adapt quickly to new technologies, tools, and project requirements, showcasing the ability to learn and grow within a fast-paced and dynamic development environment.

- **Strong Communication Skills:**

Leverage excellent verbal and written communication skills to effectively collaborate with team members, discuss ideas, present solutions, and document technical processes.

- **Long-term Career Goals:**

Use the internship opportunity to lay a strong foundation for a successful career as a Full Stack Developer, gaining the necessary skills and experience to excel in future professional endeavors.



# **1. Company Background And Structure**

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XDT started its journey in the year 2009, with the vision of simplifying the operations of the complex and dynamic Software industry. Over two decades of industry experience has enabled them to become the pioneer who can proactively forecast changes to help logistics players & prepare them for the upcoming challenges. Their emphasis has always been to develop a system that provides efficient solutions. XDT has developed products like Bends & Curves, Officemate, PNG Website and many more.

XDT is the leading software provider. At present, XDT has served more than 8 different countries. Their global operations are handled by more than 30+ highly experienced employees. XDT carries a legacy of over two-decade of domain knowledge & experience in Software Development.

XDT, in these 13 years, has grown up from 2 designers to 25 as a team. A good interesting mix of seniors and juniors makes the environment healthy and energetic by every means. We are now having 2 different sectors, IT and Engineering. We have touched major countries like the US, Canada, England, Singapore, and New Zealand so far. Different time zones and cultures are always excited to work more enthusiastically.

## **2.1 Area of Operations & Services Rendered**

XDT is delivering enhanced software solutions and mobile & desktop applications to our clients globally. Through our services, clients can create, manage & optimize the whole business process. XDT follows the process of Design, Build & Run. This eventually helps the clients grow their business more & expand into a new market.

### **1. Mobile Application Development**

There are over 3.5 billion smartphone users worldwide, so there is no doubt that the industry is healthy & thriving. Recognizing this current need, business-headed minds wish to build or develop a mobile app for their convenience. And, XDT for the last 13 years is giving the state of the art mobile apps to clients through iOS & Android platforms.

### **2. Web Site and Application Development**

Our web development team invests dedicated time to the building, creating & maintaining of websites. It includes aspects such as web design, web publishing, web programming &

database management. It is the creation of an application that works over the internet. This cycle includes Frontend development & backend development.

### **3. Desktop Application Development**

XDT also has expertise in a software program that can be run on a standalone computer to perform a specific task by an end user. XDT believes in the digital adoption for this current era which involves the process of integrating new technology into the business strategy and enabling users to make the most of the solution.

### **4. Lumber home Drafting, Designs and take offs**

We have a good amount of projects done in Timber construction. All the different building elements like wall panels, decks, flooring, and roofs for timber and composite construction material that we carry out. We use several estimating and drafting tools along with some customized software as per the need of the industry.

### **5. Timber Structural Truss Designing**

We have experts in Timber truss designs. ample experience for take-offs of Timber Trusses, Timber decks, and Floor Trusses by using various software and tools. We use and operate major leading software across the globe. we receive/need your Architectural plans as Input and then we process those and revert you with final designs and quantities.

### **6. Quantity Take-Off's & Estimation for Concrete and Steel projects**

Being one of the crucial steps in a construction project cycle, XDT gives perfect estimation for materials. To ensure the project runs smoothly & is not getting over budgeted, our dedicated Estimation team mobilizes current software technologies to achieve the goals. No matter how large or small the construction project is, Quantity Take-Offs & Estimation play a vital role

## **2.2 Different Product/Scope of Work:**

### **i. Bends & Curves**

Bends & Curves simplifies the work of a structure engineer as this software fetches data directly from a .ebk file which is created by a one of the civil software called ETABS.

ETABS is generally used to analyze and design multi-story buildings.

Bends & Curves directly takes data from ebk file and gives us all the data in well organized way so that a entry level engineer can also read the data very easily. We get all the beam and

column details with their dimensions and names. We can also change names and dimensions as per our understanding.

We can create different arrangements like vertical and horizontal arrangements and similar and mirror beam arrangements etc. By using all the beams and columns available

- **Module of Bends & Curves:**

1. Project Details: The application, with its simple and user-friendly dashboard displays the basic framework of the drawing it gives details about the stories and which stories are similar to each other and which are ignored or there is any master story

2. Beam Numbering : In beam numbering tab you will get to see all the beam details with width depth and height and names and a custom name field for every beam

3. Colum Numbering: In column numbering tab you will get to see all the column details with width depth and height and names and a custom name field for every column

4. Beam Arrangement: In beam arrangement one can create arrangements according to the need which can be vertical and horizontal arrangements

5. Similar mirror beam : In this one has to select the parent beam arrangement and then define the similar arrangements and mirror arrangements.

6. Beam Design : In beam design tab we can see the minimum AST required and add steel of different Dia as per the need and fulfill the req AST to get proper strength.

7. Draw: In draw tab there is option to draw the drawing whenever the draw button is clicked the Autocad instance in fired and automatic drawing in drawn as per the arrangement set in arrangement tab

## **ii. OfficeMate:**

OfficeMate is a windows application which can be used to do simplify the admin's task employees can used this application for many reasons like apply for leave chat with admin

apply for reimbursement , apply for any other request and admin can accept and reject this request as per his decision.

- **Modules of OfficeMate**

1. Leave Application: In this Employee panel employees can apply for leaves as per their need and it will be submitted to the admin for review. If the leave is accepted it will be highlighted to green if rejected then in red.

2. Request Application: In this Employee panel employees can apply for Request's as per their need and it will be submitted to the admin for review. If the Request is accepted it will be highlighted to green if rejected then in red. Request refers to any hardware, stationary or any other requirements.

3. Reimbursement Application: In this Employee panel employees can apply for Reimbursement as per their need and it will be submitted to the admin for review. If the Reimbursement is accepted it will be highlighted to green if rejected then in red. Reimbursement refers to the expenses done by a employee for office or company and company need to pay him back.

4. Chat: Employee can chat only with the admin and not with other employees but admin can chat with all the employees.

## 2. Weekly Job Summary

Weeks No.	Dates		Tasks
1	15/01/2023	21/01/2023	<ul style="list-style-type: none"><li>• Introduction<ol style="list-style-type: none"><li>1. Got to know about the company structure and was introduced to all the employees.</li><li>2. Introduced to Technologies used in the company</li><li>3. Had a small interaction regarding all the on going projects.</li><li>4. Introduced to wordpress and was given website for understanding how it works.</li><li>5. Given small tasks to perform using wordpress.</li></ol></li></ul>
2	23/01/2023	28/01/2023	<ul style="list-style-type: none"><li>• Live Project<ol style="list-style-type: none"><li>1. A small meet on the website given for reviewing. Small Q&amp;A about the website</li><li>2. Introduced to a live project that was related to food details were provided.</li><li>3. Did all the setup required for the project</li><li>4. Started development and got used to the environment</li></ol></li></ul>
3	30/01/2023	04/02/2023	<ul style="list-style-type: none"><li>• Research and Development<ol style="list-style-type: none"><li>1. Explored more websites to better the understanding what has to be done.</li><li>2. Shown the website to mentor and made some changes accordingly</li><li>3. Played with some plugins</li></ol></li></ul>

			4. Wrote some content related to the project as it also a important part of the project .
4	06/02/2023	11/02/2023	<ul style="list-style-type: none"> <li>• Development               <ol style="list-style-type: none"> <li>1. Completed the website by giving the final touch.</li> <li>2. Learnt about the migration of website from local to hosting.</li> <li>3. Done the migration including database</li> <li>4. New project was assigned it was related to workout and gym.</li> <li>5. Got details, did some research.</li> </ol> </li> </ul>
5	13/02/2023	18/02/2023	<ul style="list-style-type: none"> <li>• Development               <ol style="list-style-type: none"> <li>1. Completed some part and reported to mentor</li> <li>2. Redesigned according to the requirements and reported to mentor</li> <li>3. Completer the project and submitted it.</li> <li>4. Session was held on database migration and hosting.</li> </ol> </li> </ul>
6	20/02/2023	25/02/2023	<ul style="list-style-type: none"> <li>• Introduction to Laravel               <ol style="list-style-type: none"> <li>1. Self learnibg on php.</li> <li>2. Overview on php Laravel 8.</li> <li>3. Small CRUD Operation Project for understanding.</li> <li>4. Small changes made to onging Laravel project.</li> </ol> </li> </ul>
7	27/02/2023	04/03/2023	<ul style="list-style-type: none"> <li>• Introduction to C# WPF .NET               <ol style="list-style-type: none"> <li>1. Self learning on WPF</li> <li>2. Got new project on WPF C# which was a office management windows application.</li> </ol> </li> </ul>

			3. Had a expert session with a Sr. Developer regarding WPF C#
8	06/03/2023	11/03/2023	<ul style="list-style-type: none"> <li>New Project Development               <ol style="list-style-type: none"> <li>Started designing different pages such as login</li> <li>Discussed some logic with another developer about login as they needed login for different roles</li> <li>Implemented logic and tested it.</li> </ol> </li> </ul>
9	13/03/2023	18/03/2023	<ul style="list-style-type: none"> <li>Ongoing Project Development               <ol style="list-style-type: none"> <li>Learnt basics of Civil software called ETABS</li> <li>As project was big, gone through the code file structure.</li> <li>Worked on simple tasks on the new project.</li> <li>Pushed changes on source tree after reviewing it.</li> </ol> </li> </ul>
10	20/03/2023	25/03/2023	<ul style="list-style-type: none"> <li>Ongoing Project Development               <ol style="list-style-type: none"> <li>Worked on civil project as there was urgent requirement from client side.</li> <li>Side by side continued with office application</li> </ol> </li> </ul>
11	27/03/2023	01/04/2023	<ul style="list-style-type: none"> <li>Ongoing Project Development               <ol style="list-style-type: none"> <li>Fixed view part bugs which was reported by client.</li> <li>Explored some new things in C#.</li> <li>Pushed changes to master branch.</li> </ol> </li> </ul>
12	03/04/2023	08/04/2023	<ul style="list-style-type: none"> <li>Ongoing Project Development</li> </ul>

			<ol style="list-style-type: none"> <li>1. Worked on similar beam arrangement module</li> <li>2. Resolved some bungs reported by tester</li> <li>3. Pushed the changes to source tree</li> </ol>
13	10/04/2023	15/04/2023	<ul style="list-style-type: none"> <li>• Ongoing Project Development               <ol style="list-style-type: none"> <li>1. Introduced to Trello which is similar to jira to manage tasks</li> <li>2. Worked on beam data view as per client requirement.</li> </ol> </li> </ul>
14	17/04/2023	22/04/2023	<ul style="list-style-type: none"> <li>• Ongoing Project Development               <ol style="list-style-type: none"> <li>1. There were some loop holes started working on it after discussing it with the another developer</li> <li>2. Tested it in every possible condition.</li> </ol> </li> </ul>
15	24/04/2023	29/04/2023	<ul style="list-style-type: none"> <li>• Discussion and development               <ol style="list-style-type: none"> <li>1. Meet with mentor regarding phase II if civil project</li> <li>2. Studied code structure of the project</li> <li>3. Cleared some doubts regarding the project</li> <li>4. Started working on phase II</li> </ol> </li> </ul>
16	30/04/2023	06/05/2023	<ul style="list-style-type: none"> <li>• Office Management Application               <ol style="list-style-type: none"> <li>1. Started working on Office management project as there was no any requirement from client on phase II.</li> <li>2. Research on Notification parts.</li> </ol> </li> </ul>
17	08/05/2023	13/05/2023	<ul style="list-style-type: none"> <li>• Office Management Application               <ol style="list-style-type: none"> <li>1. Completed major part of the office management project and reported to mentor</li> </ol> </li> </ul>
18	15/05/2023	20/05/2023	<ul style="list-style-type: none"> <li>• Office Management Application</li> </ul>



			<ol style="list-style-type: none"> <li>1. Supposed to complete the project and give it for testing.</li> <li>2. Pushed changed and handed it over to mentor and asked for tester to test</li> </ol>
19	22/05/2023	27/05/2023	<ul style="list-style-type: none"> <li>• Civil Project Phase II</li> </ul> <ol style="list-style-type: none"> <li>1. Phase II was challenging as it was to draw arrangements in Autocad with the help of C# code</li> <li>2. There were many brainstorming activities</li> <li>3. Adding Dimensions to the line with the arrows was one of the challenging task</li> </ol>
20	29/05/2023	03/06/2023	<ul style="list-style-type: none"> <li>• Civil Project Phase II</li> </ul> <ol style="list-style-type: none"> <li>1. Completed Assigned task and pushed the changes after reviewing it.</li> </ol>

## 4. Technical Content/Report

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### 4.1 Technologies Used

#### 1. WordPress

WordPress, also known as WP or WordPress.org, is a popular web content management system originally developed for blogging purposes but has since expanded to support various types of websites, online stores, forums, and more. It is free and open-source software written in PHP and utilizes a MySQL or MariaDB database.

1. Themes play a crucial role in WordPress, allowing users to change the appearance and functionality of their websites without altering the core code or content. Themes can be installed and switched easily, with options available in the WordPress dashboard or by directly copying theme folders into the designated directory. Themes are categorized as either free or premium, and users can also create their own custom themes.
2. Plugins are another key aspect of WordPress, providing additional features and capabilities to enhance websites. There is a vast selection of plugins available, both free and premium, with the ability to extend functionalities such as search engine optimization, content management systems, widgets, and more. However, compatibility with the latest WordPress versions may vary, and caution should be exercised when selecting plugins.
3. Elementor is a popular plugin for WordPress that offers a drag-and-drop page builder, enabling users to design visually appealing websites quickly. It provides a wide range of elements such as text editors, headings, image boxes, buttons, and more.
4. Elementor Pro is an extension of Elementor, offering professional tools and features to streamline the design process. It includes the Theme Builder for comprehensive theme customization, a visual form builder, professional templates and blocks, and various widgets and elements for creating attractive websites.

WordPress development encompasses several areas, including theme development, plugin development, customization of the admin panel, integration of third-party services, responsive design, performance optimization, SEO optimization, and security measures. These aspects involve working with HTML, CSS, JavaScript, and PHP to tailor the website's design, functionality, and user experience to meet specific requirements.

**WordPress development encompasses various aspects, including**

1. **Plugin Development:** Developing custom WordPress plugins or making changes to existing ones to add specific features and functionality. Plugins expand the core capabilities of WordPress, such as integrating contact forms, social media, e-commerce, and more.
2. **Customization:** Tailoring the WordPress backend (admin panel) to meet the specific requirements of clients. This customization involves adjusting the dashboard, user roles, and permissions, enabling clients to easily manage and update their website content.
3. **Integration:** Integrating third-party services and APIs into a WordPress site, such as payment gateways, email marketing platforms, CRM systems, and social media platforms. This integration allows for seamless data exchange and enhances the website's functionality.
4. **Responsive Design:** Ensuring that the WordPress site is optimized for mobile devices and responsive across various screen sizes. This guarantees an optimal user experience for visitors accessing the website from different devices.
5. **Performance Optimization:** Implementing techniques to enhance website performance, such as optimizing images, implementing caching, minification, and utilizing content delivery networks (CDNs).
6. **SEO Optimization:** Optimizing the structure, meta tags, URLs, and content of the website to improve search engine visibility and rankings. This may involve using SEO plugins and following best practices for on-page optimization.

7. **Security:** Implementing security measures to safeguard the WordPress site against potential vulnerabilities and attacks. This includes regularly updating the software, using secure plugins, employing strong passwords, and implementing security plugins to protect the website and its data.

## **2. Php Laravel**

PHP Laravel is a popular web development framework that follows the Model-View-Controller (MVC) architectural pattern. It provides developers with a structured and efficient way to build web applications using PHP.

### **Key Features of Laravel:**

1. **Routing:** Laravel offers a powerful routing system that enables developers to define clean and intuitive URLs for their application routes. It supports various HTTP methods and allows for route parameterization and route grouping.
2. **ORM (Object-Relational Mapping):** Laravel includes an ORM called Eloquent, which provides a simple and expressive syntax for interacting with databases. It allows developers to define database models as PHP classes and perform common database operations using Eloquent's intuitive methods.
3. **Templating Engine:** Laravel's Blade templating engine offers an elegant way to separate HTML code from PHP logic. It provides features like template inheritance, conditional statements, loops, and more, making it easy to create reusable and dynamic views.
4. **Database Migrations:** Laravel's migration system simplifies the process of managing database schema changes. Developers can define database migrations using PHP code, allowing for version control and easy collaboration among team members.
5. **Authentication and Authorization:** Laravel provides built-in authentication and authorization functionality, making it straightforward to implement user

registration, login, and access control in web applications. It includes features like password hashing, remember me functionality, and middleware for protecting routes.

6. **Caching:** Laravel offers a flexible caching system that supports various cache drivers, including popular options like Memcached and Redis. Caching helps improve application performance by storing frequently accessed data in memory.
8. **Error Handling and Logging:** Laravel provides robust error handling and logging capabilities. It includes a detailed logging system that records application errors and exceptions, making it easier to debug and troubleshoot issues.
9. **Testing:** Laravel encourages test-driven development by providing an intuitive testing environment. It offers built-in testing tools and utilities for writing unit tests, integration tests, and functional tests to ensure the application's stability and reliability.
10. **Task Scheduling:** Laravel's task scheduling feature allows developers to automate recurring tasks within the application. It provides a fluent interface for defining scheduled tasks, such as sending emails, generating reports, or performing database backups.

### **3. C# WPF (Windows Presentation Foundation)**

WPF (Windows Presentation Foundation) is a graphical subsystem in the .NET framework developed by Microsoft for building Windows desktop applications. C# (C Sharp) is a programming language also developed by Microsoft and widely used in the .NET framework. MVVM (Model-View-ViewModel) is a design pattern that facilitates the separation of concerns in WPF applications, promoting a clean and maintainable code structure.

When developing WPF applications using C# and following the MVVM pattern, the following key components are involved:

1. **Model:** The model represents the data and business logic of the application. It encapsulates the data and provides methods to manipulate and access it.
2. **View:** The view represents the user interface (UI) of the application. It defines the visual elements and layout that users interact with. In WPF, views are typically defined using XAML (eXtensible Application Markup Language), a markup language that allows the declarative definition of UI elements.
3. **ViewModel:** The view model acts as an intermediary between the model and the view. It contains the presentation logic and exposes properties and commands that the view can bind to. The view model communicates with the model to retrieve and update data, and it notifies the view of any changes through data binding.

The MVVM pattern promotes separation of concerns by decoupling the UI logic from the business logic. This separation allows for easier maintenance, testing, and extensibility of the application. The view and the view model communicate with each other through data binding and commands. Data binding enables automatic synchronization of data between the view and the view model, while commands handle user actions and trigger actions in the view model.

In the .NET framework, developers can leverage various tools and libraries to implement MVVM in WPF applications. For example, the Prism library provides a set of features and guidance for building modular and maintainable applications using the MVVM pattern. It includes features like dependency injection, event aggregation, and navigation.

Overall, using WPF with C# and MVVM in the .NET framework allows developers to create powerful and visually appealing desktop applications with a clean and organized code structure. This combination of technologies provides a robust foundation for building Windows applications with rich user experiences.

## **4.2 Tools and Software:**

### **1. SQL Server**

SQL Server is a popular relational database management system (RDBMS) developed by Microsoft. It provides a secure and scalable platform for storing, managing, and retrieving data. SQL Server supports various editions, including Express, Standard, and Enterprise, catering to different needs and budgets. It offers robust transactional processing, ensuring data integrity and ACID compliance. SQL Server supports advanced features like stored procedures, triggers, and views, enhancing data manipulation and retrieval capabilities. It includes powerful query optimization and indexing mechanisms to optimize performance. SQL Server supports high availability and disaster recovery solutions, such as clustering, mirroring, and Always On Availability Groups. It integrates with other Microsoft products and technologies, enabling seamless data integration and analysis. SQL Server provides comprehensive security features, including authentication, encryption, and auditing, to protect sensitive data. It offers a range of tools, including SQL Server Management Studio (SSMS), for efficient database administration and development tasks.

### **2. Visual Studio 2022**

SQL Server is a popular relational database management system (RDBMS) developed by Microsoft. It provides a secure and scalable platform for storing, managing, and retrieving data. SQL Server supports various editions, including Express, Standard, and Enterprise, catering to different needs and budgets. It offers robust transactional processing, ensuring data integrity and ACID compliance. SQL Server supports advanced features like stored procedures, triggers, and views, enhancing data manipulation and retrieval capabilities. It includes powerful query optimization and indexing mechanisms to optimize performance. SQL Server supports high availability and disaster recovery solutions, such as clustering, mirroring, and Always On Availability Groups. It integrates with other Microsoft products and technologies, enabling seamless data integration and analysis. SQL Server provides comprehensive security features, including authentication, encryption, and auditing, to protect sensitive data. It offers a range of tools, including SQL Server Management Studio (SSMS), for efficient database administration and development tasks.

## 5. Findings & Suggestions

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### 5.1 Finding: Lack of Effective Communication

Many team projects suffer from a lack of effective communication among team members. Communication breakdowns lead to misunderstandings, delays, and inefficiencies in project execution.

#### *Suggestion:*

Encourage the use of collaborative project management tools that facilitate communication and information sharing. Promote regular team meetings and open channels of communication to ensure all team members are on the same page. Provide communication training or workshops to enhance interpersonal skills and foster effective collaboration

Giving interns exposure to a range of technologies, frameworks, and tools aids in the expansion of their skill set and flexibility. Their adaptability is increased and they are better equipped for future responsibilities by working on a variety of projects using diverse technologies.

### 5.2 Finding: Inadequate Domain Knowledge

Students sometimes lack deep domain knowledge, limiting their ability to deliver high-quality solutions. Insufficient understanding of the problem domain can result in ineffective requirements gathering and suboptimal project outcomes.

#### *Suggestion:*

Encourage students to explore and deepen their knowledge in relevant domains through research, case studies, and real-world applications. Promote interdisciplinary collaboration to expose students to various domains and foster a holistic understanding of problems. Provide opportunities for students to engage in industry projects or internships to gain practical domain expertise.

Create a solid foundation Concentrate on developing a solid base of fundamental



knowledge in your area of expertise. Master the fundamental ideas, rules, and guidelines that underlie your industry. This will provide you a strong foundation for increasing your knowledge and comprehending harder subjects.

## 6. Conclusion

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Based on my internship experience, I found it to be an invaluable learning opportunity that allowed me to acquire practical experience in the software development industry. It provided a platform for me to apply the knowledge and skills I gained during my coursework in a real-world setting, aiding in the further development of my technical and problem-solving abilities.

Throughout the internship, I actively engaged in handling various change requests for the Bends & Curves Application and OfficeMate Application, actively contributing to its improvement. This experience granted me insight into the complete software development process, encompassing requirements gathering, design, development, testing, and deployment. Collaborating with a team of experienced developers, I had the privilege of learning from their expertise and expanding my skill set.

One of the key takeaways from the internship was recognizing the significance of effective communication and collaboration within a team. The successful completion of a project relies on seamless coordination among team members, necessitating clear and timely communication of project updates and any challenges encountered. I gained a profound understanding of the importance of fostering a collaborative team environment, ensuring efficient achievement of project goals.

In conclusion, the internship provided me with a deeper understanding of the software development industry, equipping me with the essential skills and knowledge required for success in this field. It allowed me to bridge the gap between classroom learning and real-world application, honing my problem-solving and communication skills. Overall, the experience was immensely valuable in shaping my professional growth and preparing me for future endeavors in software development.

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