



**Tribhuvan University**

**Faculty of Humanities and Social Sciences National College**

**AN INTERNSHIP REPORT**

**On**

**BULK MESSAGING SYSTEM**

**At**

**Wolfmatrix Pvt. Ltd.**

**Submitted to**

**Department of Computer Application**

**National College**

**In partial fulfillment of the requirements for the Bachelors in Computer Application**

**Submitted by**

**Suyashaa Vaidya**

**TU Regd. 6-2-366-35-2018**

**April, 2023**

**Under the Supervision of**

**Mr. Prakash Kafle**

## **Mentors' Recommendation**



**Tribhuvan University**

**Faculty of Humanities and Social Sciences**

**National College**

## **Supervisor's Recommendation**

I hereby recommend that this internship project prepared under my supervision by Suyashaa Vaidya entitled “BULK MESSAGING SYSTEM” at “Wolfmatrix Pvt. Ltd.” in partial fulfillment of the requirements for a degree of Bachelor of Computer Application is recommended for the final evaluation. I have thoroughly looked over the works she has done during his internship period. Her work at Wolfmatrix Pvt. Ltd. has satisfied the particulars mentioned in this report.

### **Signature**

Mr. Prakash Kafle

### **Supervisor**

Bachelor of Computer Application (BCA) National College

Lainchaur, Kathmandu



**Tribhuvan University**

**Faculty of Humanities and Social Sciences**

**National College**

## **Letter of Approval**

This is to certify that this internship report prepared by Suyashaa Vaidya entitled “BULK MESSAGING SYSTEM” at “Wolfmatrix Pvt. Ltd.” in partial fulfillment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

<hr/> <b>Mr. Prakash Kafle</b> <b>Academic Supervisor</b> National College, Lainchaur	<hr/> <b>Mr. Bishal Udash</b> <b>Mentor</b> Senior Developer (Wolfmatrix Pvt. Ltd.)
<hr/> <b>Mr. Nava Raj Heka</b> <b>HOD/ Coordinator</b> National College, Lainchaur	<hr/> <b>External Examiner</b>

## **Acknowledgement**

I want to express my heartfelt appreciation to my academic director, Mr. Nava Raj Heka, and internship supervisor, Mr. Prakash Kafle, for their unwavering guidance and assistance during my internship. Their vast knowledge and expertise in the field have been instrumental in helping me comprehend the industry and apply my skills in a professional setting.

I am thankful to Er. Nirajan Panthee, the CEO of Wolfmatrix Pvt. Ltd., for giving me the chance to work with your esteemed company. His encouragement and assistance have motivated me to work harder and achieve the best possible outcomes.

Furthermore, I wish to acknowledge the efforts of Er. Suman Humagain, the CTO of Wolfmatrix Pvt. Ltd., whose leadership and direction have played a crucial role in defining the company's values. It has been an honor to work alongside such a competent and proficient professional.

I would also like to express my gratitude to my company mentor, Mr. Bishal Udash, for his guidance and support during my tenure at Wolfmatrix Pvt. Ltd. His willingness to impart his knowledge and expertise has been crucial to my learning and development as a developer.

Lastly, I am thankful to the senior developers at Wolfmatrix Pvt. Ltd. for their support and mentorship, which have been a source of inspiration and guidance in developing my skills as a developer. I am grateful for the opportunity to work with such a skilled and dedicated team, and I look forward to continuing to learn and grow as a developer in the future.

## **Abstract**

This internship report details about the "Bulk Messaging System," which was developed to address the challenges faced by businesses and individuals when communicating with multiple contacts. The system aimed to simplify the process of sending bulk messages by providing a platform that allows users to send customized messages with tags and tokens from an uploaded file in a very cheap cost. Additionally, the system allowed users to save message templates and attach various file types such as images, audio and documents along with messages. The report includes a detailed description of the system's features, as well as its implementation and testing process. The "Bulk Messaging System" has been implemented and is currently being used on a local basis within the office as it undergoes the beta testing phase. The system's Chrome extension was created using React.js and Node.js programming languages. Additionally, during the internship, I designed a mock-up of the mobile interface for an existing Office Management system and participated in other projects. As a result, the internship offered valuable experience in both project management and software development, contributing to my professional growth. The system's implementation has resulted in faster and more efficient message transfer, and its testing phase will continue until all potential bugs and issues have been resolved.

**Keywords:** messaging, customized, software, API, bulk, extension, application.

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## List of Abbreviations

API	Application Programming Interface
BE	Back End
BMS	Bulk Messaging System
CEO	Chief Executive Officer
CSS	Cascading Style Sheet
CTO	Chief Technical Officer
FE	Front End
HTML	Hyper Text Markup Language
ISO	International Organization for Standardization
JS	JavaScript
JSON	JavaScript Object Notation
PC	Personal Computer
SDK	Software Development Kit
UI	User Interface

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# **Chapter 1: Introduction**

## **1.1 Introduction**

This internship report aims to provide a detailed account of my experience working at Wolfmatrix Pvt. Ltd. During my internship, I was assigned to work on a project called the Bulk Messaging System. The project's objective was to develop a system to streamline the process of sending bulk messages through WhatsApp for businesses and individuals.

The messaging system was created as a Chrome extension, which made it easy to use for users. We chose to use React and Node.js for development as it helped us build an application that could scale and be easily maintained. The extension's interface was simple to navigate, and users could quickly compose and send customized messages to their contacts. The messaging system also included a user-friendly interface that allowed users to input message content, select recipients from their contacts list, and send messages with a single click. The combination of React.js, Node.js and the Chrome browser helped us create an effective and user-friendly messaging system.

In addition to my work on the messaging system, I also had the opportunity to contribute to other projects in the company. One such project involved designing the mockup for an office management system using Figma (web-based design and prototyping tool). This project allowed me to develop my design skills and gain a deeper understanding of the importance of user experience and interface design.

During my internship, I had the pleasure of working alongside a team of skilled professionals who provided me with guidance and support throughout the project. Collaborating with other interns also provided me with the opportunity to develop my communication and teamwork skills.

This report provides an in-depth analysis of the bulk messaging system project, including the technologies used, my contributions to the project, and the skills I developed throughout the

internship. It is my hope that this report will provide valuable insights into my experience and showcase the skills and knowledge I have gained during my time at Wolfmatrix Pvt. Ltd.

## **1.2 Problem Statement**

1. Sending customized messages to multiple contacts at the same time can be challenging and time-consuming.
2. The current process lacks an efficient way to send personalized messages with tags, tokens from an uploaded file.
3. The process of sending bulk messages can be expensive, especially if SMS is used as the medium.
4. Lack the feature for attaching files like images, audio, videos and documents along with the message.
5. There is a need for a feature that allows users to save message templates for future use, reducing the time and effort required to send personalized messages which lacks in current messaging systems.

## **1.3 Objectives**

The objectives of application developed during internship at Wolfmatrix Pvt. Ltd. are:

1. Simplify bulk messaging process with user-friendly platform.
2. Enable efficient personalized messaging with tags and tokens from uploaded file, at cost-effective rates.

## **1.4 Scope and Limitations**

### **1.4.1 Scope**

- The Bulk Messaging System will provide an efficient and cost-effective way of sending personalized messages to multiple contacts at once.
- It will have a user-friendly interface and provide the ability to upload a file with tags and tokens for customization.

- The system will be able to handle different types of message formats, including images, audio, and documents.
- It will include a feature to save message templates for future use, reducing the time and effort required to send personalized messages.
- The system will be scalable and flexible, allowing for customization and integration with other systems.

#### **1.4.2 Limitations**

- The Bulk Messaging System will be limited to the number of contacts that can be messaged at once, depending on the messaging platform's restrictions.
- The system will require an internet connection to send messages, which may not be available in some areas or during certain times.
- The system will not guarantee message delivery success rates, as this is dependent on the messaging platform and recipient's device settings.

### **1.5 Report Organization**

The report comprises of five extensive chapters, which are briefly discussed below:

#### Chapter 1: Introduction

The first chapter of the report is dedicated to providing a comprehensive introduction to the entire system. It encompasses background information regarding the internship, including the project details, duration of the internship, and objectives. The problem statement and scope & limitations of the project are also discussed in this chapter. Moreover, this chapter clarifies on the specific work done during the internship.

#### Chapter 2: Organization Details

The second chapter of the report is aimed at providing a detailed overview of the organization where the internship was undertaken. It includes the working domains of the organization and talks about the hierarchy and intern department or unit.

#### Chapter 3: Literature Review

The third chapter of the report is entirely devoted to the literature review and background study related to the project undertaken during the internship. It covers the research work done before the start of the project.

#### Chapter 4: Roles and Responsibilities

The fourth chapter is all about the roles and responsibilities of the participants who were involved in the project. It outlines the tasks and activities performed during the project and provides a detailed description of the project. It also includes weekly logs of the participants during the internship.

#### Chapter 5: Conclusion and Learning Outcome

The final chapter of the report focuses on the conclusion and learning outcome of the project. It provides an overall evaluation of the project and summarizes the key findings. This chapter also highlights the skills and knowledge acquired during the internship period and how they will be beneficial in the future. Additionally, this chapter presents recommendations for future work that can be carried out based on the findings of the project.

In conclusion, this report is a comprehensive analysis of the work done during the internship period. It includes a detailed description of the organization and its hierarchy, literature review, and background study. It also highlights the roles and responsibilities of the participants and concludes with the learning outcome and future recommendations.

## Chapter 2: Introduction to Organization

### 2.1. Organization Details



**Figure 1 Logo of Wolfmatrix Pvt. Ltd.**

Organization Name: Wolfmatrix Pvt. Ltd.

Location: Sanepa, Lalitpur

Wolfmatrix Pvt. Ltd. is a software development company based in Sanepa, Lalitpur, Nepal. The company is committed to providing the best offshore software development, web development and mobile application development services to its clients. Established in 2014, Wolfmatrix has been serving clients from various industries and has become a leading provider of software development services in Nepal.

At Wolfmatrix, the team of experienced software engineers, designers, and project managers works closely with clients to understand their specific requirements and deliver customized solutions that meet their needs. The company's expertise in mobile and web development is supported by a wide range of technical skills and knowledge. Wolfmatrix has experience in building applications for iOS and Android platforms, as well as web applications using a variety of programming languages and frameworks such as Node, Symfony, AngularJS, React, React Native and NestJS.

One of the key strengths of Wolfmatrix is its commitment to agile methodology, which allows for flexibility, collaboration, and rapid iteration in software development projects. By using agile methodology, the company can provide frequent communication with clients, rapid iteration and feedback, and a focus on delivering working software as quickly as possible. The company's offshore location in Nepal allows it to offer competitive pricing for its services while still maintaining a high level of quality and customer satisfaction.



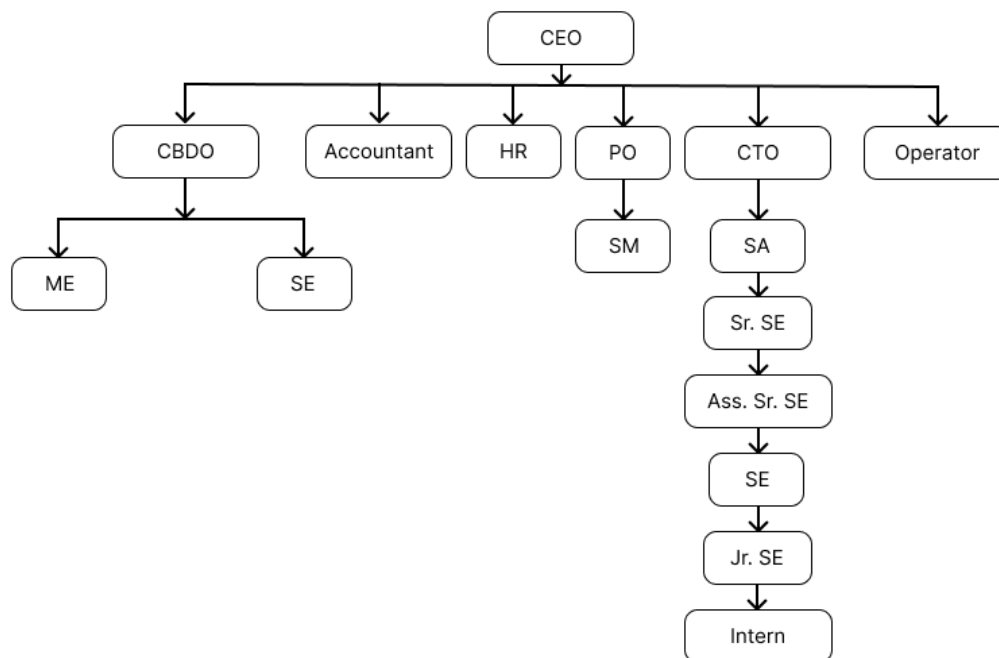
Overall, Wolfmatrix Pvt. Ltd. is a reputable and experienced software development company that specializes in mobile and web development using agile methodology. Its offshore location in Nepal makes it an attractive option for clients looking for cost-effective software development services without sacrificing quality. The company has a proven track record of delivering high-quality software solutions and has become a trusted partner for many businesses looking to leverage technology to achieve their goals.

## **2.2. Organizational Hierarchy**

The organizational hierarchy of Wolfmatrix has the following positions, listed in order of highest to lowest authority:

- CEO: The top executive who oversees the strategic direction and management of the company.
- CTO: Responsible for the company's technical strategy and development.
- CBDO: A high-level executive responsible for identifying and pursuing new business opportunities to drive growth and profitability.
- Marketing Executive: In charge of developing and implementing marketing strategies to promote the company's products and services and generate leads.
- Sales Executive: Responsible for generating revenue by identifying and pursuing sales opportunities and building strong customer relationships.
- Accountant: Manages the company's financial operations and transactions, ensuring compliance with accounting standards and regulations.
- HR Officer: Manages employee relations, recruitment, training and development, compensation and benefits, and compliance with employment laws and regulations.
- Product Owner: Responsible for ensuring that project goals align with company objectives and managing the project team to deliver on time, within budget, and with the required quality.
- Scrum Master: Facilitates the Agile development process and ensures adherence to the Scrum framework.

- Solution Architecture (SA): Designs and implements technology solutions that meet business needs and align with overall company strategy.
- Operator: Monitors and maintains computer systems and networks for optimal efficiency.
- Senior Software Engineer: An experienced developer who leads the development of new software applications and mentors junior developers.
- Assoc. Sr. Software Engineer: A mid-level developer who supports senior software engineers in designing, developing, and testing software applications while gaining experience in project management.
- Junior Software Engineer: A less experienced developer who assists in the development of new software applications under the guidance of senior developers.
- Intern: A temporary employee who gains hands-on experience in software development by working with a senior developer as a mentor.



**Figure 2 Organizational Hierarchy of Wolfmatrix Pvt. Ltd.**

### **2.3. Working Domains of Organization**

During my internship at Wolfmatrix Pvt. Ltd., I had the opportunity to work in several different domains. These included:

- **Software Development:** I was part of the team responsible for designing, developing and maintaining software applications. I learned about different software development methodologies, coding best practices and testing techniques. I was able to work with various programming languages and technologies, and I learned about the software development life cycle and agile methodologies.
- **Research and Development:** I was part of the R&D team and assisted in conducting market research, developing new products and services. I was able to apply the knowledge learned in my coursework to real-world problems and contribute to the organization's growth.
- **Operations:** The operations team is a crucial part of any organization, responsible for ensuring that all aspects of the business run smoothly. As an intern, I had the opportunity to assist this team with logistics. Overall, my time with the operations team provided me with valuable insights into the workings of a business and the importance of effective coordination and planning.
- **IT Support:** I assisted the IT support team with troubleshooting and resolving technical issues for employees. I learned about the importance of effective communication and problem-solving skills in providing effective IT support.
- **Web Application Development:** I had the opportunity to work in the web application development team. This team is responsible for designing, developing and maintaining web applications for the organization's customers. I learned about the web app development life cycle, user interface and user experience design, and mobile app designing.
- **Mobile Development:** This team is responsible for designing, developing, and maintaining mobile applications for the organization's customers. Although I did not work directly on mobile development, but I had the opportunity to work with this team and gain hands-on experience in mobile development. I learned how to create mockup designs for mobile apps using tools such as Figma, and was able to contribute to the

development of a new app by designing a mockup for it.

- DevOps Engineer: I had the opportunity to work with the DevOps team. This team is responsible for managing and automating the software development and deployment process. My tasks included assisting with continuous integration, continuous deployment, and infrastructure as code. I learned about various DevOps tools and methodologies such as Git, Bitbucket & so on.

Overall, my internship experience allowed me to gain hands-on experience in various domains, and helped me to develop a well-rounded understanding of the organization and its operations.

## **2.4. Description of Intern Department/Unit**

During my internship at Wolfmatrix Pvt. Ltd. I was part of the web application development department. The department is responsible for designing, developing, and maintaining web applications for the organization and its clients. The team works with a variety of programming languages and frameworks to create interactive, user-friendly, and responsive applications. I was assigned to work with a mentor, who was a senior developer with several years of experience in the industry.

The mentor provided guidance and support throughout the internship, and helped me to understand the organization's development processes and best practices. I also had the opportunity to work with other senior developers on various projects, which gave me valuable insights into the different aspects of software development.

My responsibilities as an intern included working on both front-end and back-end development tasks. On the front-end, I worked with ReactJs to create the user interface and make sure it's responsive and accessible. On the back-end, I worked with Node Js to develop the server-side logic and connect the front-end with the database. Along with it I also worked with react redux, typescript and nest js.

The department followed Agile methodologies and had daily stand-ups, sprint planning and retrospectives. The team was also using a variety of tools to help with development, testing, and deployment.

In addition to technical skills, I also learned about project management, agile methodologies, and software development life cycle. This internship gave me a comprehensive understanding of the mobile and web development process, and helped me to develop the skills needed to create professional and high-quality applications.

Overall, my internship experience in the software development department was extremely valuable. I was able to learn from experienced professionals and gain hands-on experience in the field. I am grateful for the opportunity to work with such a great team and mentor, and I feel that I have grown both professionally and personally as a result of this experience.

## **Chapter 3: Background Study & Related Work**

### **3.1. Background Study**

The project is the design and implementation of an interactive web application-based which is a chrome extension for sending bulk messages. The system allows users to send customized bulk messages to other recipients all at once. In a similar manner, one of the main benefits of the system is its ability to create and save templates for future use. Users can therefore create messages only once, save them as templates, and use those templates to deliver messages to a variety of recipients in the future. For businesses that frequently send out a large volume of mail, in particular, this can save a great deal of time and effort. Additionally, utilize pre-made templates. These are pre-made templates for sending messages that were created by the system's developers or other users and are available right away.

This application can be quite useful for businesses who routinely send messages but don't have the time or resources to create their own templates. By introducing the capability to quickly deliver numerous messages to intended recipients with reliability, the bulk messaging system has increased that communications power.

The benefits of bulk messaging can be used at colleges and universities to establish a virtual community as a public relations system and improve classroom engagement. With their students, lecturers can administer mobile tests with a variety of question formats. Also, it has a lot of potential as a marketing tool. The system can be used by companies and organizations to communicate with stakeholders, including customers and clients. Building relationships with customers and clients while promoting goods, services, and events may all be done in this manner.

Therefore, the bulk messaging system is an all-around effective and adaptable technology that may be applied in a range of contexts. It has a number of features that can assist users deliver messages more effectively and is made to be user-friendly and simple to use. The technology can be utilized to enhance communication and foster relationships and is anticipated to be a great asset for corporations, organizations, and individuals.

### **3.2. Related Works**

I reviewed several bulk messaging systems and services to create a powerful yet straightforward application that could be used for a range of contexts. To understand the various features and capabilities of different bulk messaging tools, I researched and assessed various options, including bulk SMS, email, and WhatsApp messages.

For bulk SMS, I reviewed the website bulksms.com, which provides a reliable and efficient platform for sending SMS messages. Additionally, I researched AakashSMS, which offers bulk SMS services in Nepal.

Regarding bulk email, I reviewed SendBlaster, a software that allows for mass email sending. I also looked at Sendinblue, which offers bulk email services.

For WhatsApp bulk messaging, I researched the WhatsApp API and found a helpful blog post on Respond.io titled "WhatsApp Bulk Message: How to send bulk messages on WhatsApp." I also looked at pre-existing WhatsApp bulk messaging software, including WAMessages and WASelf Sender, which automate the process of sending personalized mass messages with attachments.

Furthermore, I read The Balance's article "Best Bulk Text Message Services" by Matt Kurko to gain insights on various bulk text messaging services.

Lastly, I found AlibabaCloud's short message service helpful in connecting to the world via SMS. I also reviewed Sparrow SMS, a messaging platform that provides mass text messaging services which is one of the leading bulk messaging platform in Nepal. These references were instrumental in developing an all-around effective and adaptable bulk messaging application.

## **Chapter 4: Internship Activities**

### **4.1. Roles and Responsibilities**

In an internship phase in Wolfmatrix Pvt Ltd, I involved in various activities and tasks as per the requirement of the organization and the project. Firstly, I had to learn and research about the basic web-based application structure and then I learned React Js for frontend and Node Js for backend. Then, I had to review the codebase of some projects to understand the structure of react and node applications. But my major task was to learn about the overall usage of the react js library in a systematic way. I was involved in web application development where mentor Mr. Bishal Udash continuously guided and supervised to understand the workflow of the web-based application, structure of android application and other basic concept which is essential for me to complete this project. Also, he helped to analyze and learn about different design, debug and testing tools.

I had to carry out activities listed below:

- Conduct research and review other project formats and libraries.
- Design and develop a user-friendly web application.
- Provide daily reports to mentors and team members through daily standup meetings.
- Follow guidelines and workflows provided by mentors.
- Develop the ability to identify errors and debug them.
- Utilize version control tools for managing code changes.
- Collaborate with team members for effective project management.
- Participate in daily standup meetings according to agile methodology.
- Gain experience in designing and maintaining the required database for the application.
- Learn to write clean, maintainable code and adhere to software engineering best practices.
- Utilize Trello for project management and organization.



## 4.2. Weekly log (Technical Details of Activities)

A weekly log of internship is a document that records the activities, tasks, and accomplishments of an intern on a weekly basis. It is typically used to document the intern's progress, and to ensure that they are meeting the objectives and expectations of the internship.

### Weekly Internship Log

#### Weekly Internship Log: Week 1

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 1 First week log sheet**

<b>Week: 1</b>	<b>Date: 2022 August 05</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Get familiar with the organization and its working.</li><li>● Understand the tools and technology stack being used.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Learned about organization structure.</li><li>● Setup device for working environment.</li><li>● Learned about different development tools.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Device compatibility issues.</li><li>● Software compatibility of npm, Node &amp; Ubuntu version.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Understand the coding conventions and work flow.</li><li>● Join bitbucket repositories.</li><li>● Setup projects locally.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Satisfactory</li></ul>

#### Supervisor's Approval

Name: Prakash Kafle

Signature:

## Weekly Internship Log: Week 2

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 2 Second week log sheet**

<b>Week: 2</b>	<b>Date: 2022 August 12</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Setup software and different platforms on working device.</li><li>● Clone different projects.</li><li>● Setup projects in local device.</li><li>● Install and configure different platforms.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Successfully cloned and setup different projects.</li><li>● Reviewed codes of codebase.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Version compatible issue of Node.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● UI design of Office Management System.</li><li>● Research for Bulk Messaging Apps</li><li>● Trello board setup and create cards.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Satisfactory</li></ul>

### Supervisor's Approval

Name: Prakash Kafle

Signature:

### Weekly Internship Log: Week 3

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 3 Third week log sheet**

<b>Week: 3</b>	<b>Date: 2022 August 19</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Trello board and clocify logins.</li><li>● Create list, card, activities and subtasks.</li><li>● Create UI using references of web-based application.</li><li>● Make a system requirement for bulk messaging system.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Designed user interface of office management system mobile.</li><li>● Made system requirements for bulk messaging system.</li><li>● Created a Trello boards with cards, activities and subtasks.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Design compatible and responsive user interface.</li><li>● Getting familiar with figma for designing.</li><li>● Find out all the system requirements of BMS</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Design a chrome extension for BMS</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Good job explore more features of Figma.</li></ul>

### Supervisor's Approval

Name: Prakash Kafle

Signature:

### Weekly Internship Log: Week 4

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 4 Fourth week log sheet**

<b>Week: 4</b>	<b>Date: 2022 August 26</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Research about chrome extension.</li><li>● Design a chrome extension for BMS.</li><li>● Approve the design and system requirements with the mentor.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Researched about the chrome extension</li><li>● Created the design for BMS</li><li>● Approved the design and system requirements with mentor</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Learn about the implementation of a chrome extension</li><li>● Designing the system iteratively until mentor's feedback were met</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Start the frontend development.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● You have to complete project in given time frame.</li></ul>

### Supervisor's Approval

Name: Prakash Kafle

Signature:

## Weekly Internship Log: Week 5

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 5 Fifth week log sheet**

<b>Week: 5</b>	<b>Date: 2022 September 10</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Develop the frontend of the BMS.</li><li>● Research for Whats App free API plugin.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● The frontend was developed according to the design.</li><li>● Found multiple libraries like WhatsApp-web, wbm etc.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Free valid Whats App api plugin difficult to find.</li><li>● Could not upload file in a chrome extension when using ubuntu, extension was auto closing whenever tried to upload a file.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Build the backend for BMS.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Make use of components and built a systematic project structure.</li><li>● Add comments to code.</li></ul>

### Supervisor's Approval

**Name: Prakash Kafle**

**Signature:**

### **Weekly Internship Log: Week 6**

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 6 Sixth week log sheet**

<b>Week: 6</b>	<b>Date: 2022 September 17</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Build the backend of BMS</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Implemented Whats App Api plugin.</li><li>● Backend built using node express js.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Finding the correct plugin and creating the API's using it.</li><li>● Saving the user session and templates in user's browser as cookies.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Testing of BMS</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Satisfactory</li></ul>

### **Supervisor's Approval**

**Name: Prakash Kafle**

**Signature:**

## Weekly Internship Log: Week 7

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 7 Seventh week log sheet**

<b>Week: 7</b>	<b>Date: 2022 September 31</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Testing of BMS system.</li><li>● Publish app for internal testing.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Done test of BMS.</li><li>● Publish app in internal testing.</li><li>● Run application in all devices which are available in organization.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Upload file successfully without the extension closing.</li><li>● Testing the device in all possible ways.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Learn Typescript, React redux and Nest Js.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Test in different scenarios as well.</li></ul>

## Supervisor's Approval

Name: Prakash Kafle

Signature:

### Weekly Internship Log: Week 8

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 8 Eighth week log sheet**

<b>Week: 8</b>	<b>Date: 2022 October 07</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● R &amp; D Typescript</li><li>● R &amp; D React redux.</li><li>● R &amp; D Nest Js.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● R &amp; D Typescript and implement it in simple programs.</li><li>● R &amp; D React redux implement it in simple programs</li><li>● R &amp; D Nest Js implement it in simple programs</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Build simple applications using these.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Build application FE.</li></ul>
Mentor's Comment	Satisfactory

### Supervisor's Approval

Name: Prakash Kafle

Signature:



## Weekly Internship Log: Week 9

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 9 Ninth week log sheet**

<b>Week: 9</b>	<b>Date: 2022 October 14</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Build application FE.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Build application FE.</li><li>● Learnt to create generic code and maintain standard folder structure.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Usage of redux store and maintaining the folder structure.</li><li>● Create generic code and use it for reoccurring designs.</li></ul>
Goals for the next week	<ul style="list-style-type: none"><li>● Build application BE.</li></ul>
Mentor's Comment	Satisfactory

## Supervisor's Approval

Name: Prakash Kafle

Signature:

## Weekly Internship Log: Week 10

Name: Suyashaa Vaidya

Project: Bulk Messaging System (BMS)

**Table 10 Tenth week log sheet**

<b>Week: 9</b>	<b>Date: 2022 October 14</b>
Task and Activity to perform	<ul style="list-style-type: none"><li>● Creating database and required tables.</li><li>● Build application BE.</li><li>● Create and maintain generic code and standard folder structure.</li></ul>
Accomplishments	<ul style="list-style-type: none"><li>● Created database and connected the backend with it.</li><li>● Creating DTO's and entities</li><li>● Creating Api's.</li><li>● Completing backend and connecting it to frontend.</li></ul>
Challenges and Issues	<ul style="list-style-type: none"><li>● Build the BE with nest js and connect it with MySQL database.</li></ul>
Mentor's Comment	<ul style="list-style-type: none"><li>● Good now maintain the structure and continue with further development</li></ul>

### Supervisor's Approval

**Name: Prakash Kafle**

**Signature:**

During the eleventh and twelfth weeks of my internship period, I was assigned to work on a project that was being carried out in the office. To maintain the confidentiality of the project, I am unable to disclose the details of the work that I carried out. However, I can assure that my contributions were aimed at building the project with the team moreover improving the system's overall efficiency. As a result, I was able to enhance my problem-solving, critical thinking, and communication abilities while gaining valuable insights into the industry's best practices and emerging trends.

### **4.3. Description of the Project(s) Involved During Internship**

During my internship as a full stack developer at Wolfmatrix IT company, I had the opportunity to work on a project called "WhatsApp Bulk Messaging System" which was a web-based application. The main purpose of this project was to provide an efficient and user-friendly way for send bulk messages, also customized ones. Here, is a list of the work done by me during the internship period in the project I worked on:

- The application was built using React and Node.js.
- The project aimed to provide a convenient and user-friendly way for users to send bulk messages, including customized ones.
- Users could use pre-existing message templates to save time and effort.
- Users could save new message templates, providing them with the flexibility to create messages that met their specific needs.
- The project allowed users to send customized messages, allowing them to tailor messages to specific audiences.
- The application allowed users to preview messages before sending them, ensuring that they were satisfied with the message's content.
- The project focused on creating an intuitive and user-friendly interface that made sending bulk messages straightforward and hassle-free.
- The application was responsive and worked seamlessly across different devices and platforms.
- Testing and debugging techniques were used throughout the project to ensure that the application was error-free and functioned seamlessly.
- The project required collaborative teamwork, effective communication, and alignment around shared objectives and goals.
- The project provided valuable experience in web development, user experience, testing, debugging, and team collaboration.
- The skills acquired during the project are essential for a successful career in software development and can help you excel in future endeavors.

This project helped me to gain experience in developing a web-based application. I learned about the importance of user experience, and the importance of seamless integration of

different modules in a mobile application. It was a challenging but a great learning experience for me.

#### **4.4. Tasks / Activities Performed**

During my internship as a full stack web application developer at Wolfmatrix IT company, I was responsible for performing a variety of tasks and activities, including:

- Developed a bulk messaging system using React.js and Node.js, which allowed for the efficient and cost-effective sending of personalized messages to multiple contacts at once.
- Designed and developed a user-friendly web application that included features such as customizable text messages and message templates.
- Collaborated with a team on the overall development of the project, including testing and debugging to ensure the application performed well on different devices and operating systems.
- Participated in code reviews and followed best practices for software development.
- Designed a mockup for a mobile version of the office management system and presented it to stakeholders for feedback and iteration.
- Contributed to the deployment and publishing of the bulk messaging system as a Chrome extension on the Chrome Web Store.
- Kept up to date with the latest trends and best practices in web application development and incorporated them into the development process.

Overall, my internship experience as a full stack developer was challenging and rewarding. I was able to gain hands-on experience in the field, work on various projects and learn from experienced professionals. I am grateful for the opportunity to work on web-based application development and it helped me to have a broader understanding of the application development process.

## **Chapter 5: Conclusion and Learning Outcomes**

### **5.1. Conclusion**

In the internship phase, many useful and essential things were learned by me, which are necessary for developers in the IT world. The experience in Wolfmatrix, as an intern, was found to be wonderful and amazing. A lot of things about web application development and the working process in an IT company were learned. Different coding and research techniques for the development process were taught, along with experiencing new ways for dealing with errors and using debug techniques. A chance was given to use a project management system that controlled and traced all of the activities and user stories, which helped in checking the development progress report and time management, among other things. An opportunity was given to learn about the development, management, and controlling process in a development field, which helped in improving my skills, knowledge, and abilities in programming fields. The problems and research techniques were dealt with by my seniors and mentors, who helped me. Working in Wolfmatrix was considered a great experience and opportunity to build my professional developer career.

### **5.2. Learning Outcomes**

In my three-month internship periods, I learned about many professional and easy development techniques. These techniques are helpful for grow my skills and knowledge. Also, I learned many tools and methods to handle the project development. The things that I learned during my internship and this project listed below:

- Developed group work skills and techniques, and utilized developer community forums for problem-solving.
- Practiced time management using tools like Clockify and learned research and problem-solving techniques.
- Improved communication skills and gained understanding of front-end and back-end concepts in application development.
- Learned to work under time pressure and deal with customer requirements.

- Gained experience with version control systems and project management tools like Trello.
- Developed activities, logs, cards, and scope points in Trello.
- Acquired knowledge of web application development process using React and Node, and learned to work with APIs, JSON data, and model classes.
- Used Postman for API calls and responses.

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## Appendices

### WA Auto Messaging Tool

**Enter Number**[Sample Excel](#)

UPLOAD EXCEL

Enter numbers with countrycode(Seperate with commas)...

**Message**

ATTACH FILES

Enter your message here...

SEND MESSAGE

Select Templates ▼

ADD TEMPLATE

Figure 3 Bulk Messaging System

WA Auto Messaging Tool

Enter Number

[Sample Excel](#)

UPLOAD EXCEL

9779863481896

Message

ATTACH FILES

Hello friend

SEND MESSAGE

Select Templates ▼

ADD TEMPLATE

Figure 4 Adding the number and message

WA Auto Messaging Tool

Enter Number

[Sample Excel](#)

UPLOAD EXCEL

9779863481896, 9779818483933, 9779860516752, 9779862382137, 9779840133095, 639558539253

Message

ATTACH FILES

Hello {{Name}}|

NAMEADDRESSNUMBERSEMAIL

SEND MESSAGE

Select Templates

ADD TEMPLATE

Figure 5 Uploading excel file

WA Auto Messaging Tool

Enter Number

[Sample Excel](#)

UPLOAD EXCEL

9779863481896,9779818483933,9779860516752,9779862382137,9779840133095,639558539253

Message

ATTACH FILES

×

Hello {{Name}}  
from {{Address}},  
Email: {{Email}}

NAME

ADDRESS

NUMBERS

EMAIL

SEND MESSAGE

Hello {{Name}} fr

▼

ADD TEMPLATE

Figure 6 Adding Template