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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Computer Science Engineering & Information Systems

Department of Software and Systems Engineering

M.Tech Software Engineering

SWE3099-Industrial Internship

INDUSTRIAL INTERNSHIP APPROVAL LETTER

Reg. no. : 20MIS0210

Name of the student : VIKASH CHAND

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Period of training (Tentative): From 15th May 2023 To 30th June
2023

Name of the industry : Centralized Processing cell TDS

Company Address : CPC(TDS), Aayakar Bhawan,

Sector - 3, Vaishali, Ghaziabad, UP

Status :

Guide Signature with Date :

Centralized Processing Cell (TDS) Income Tax Department, Ghaziabad

CERTIFICATE OF INTERNSHIP

THIS CERTIFICATE IS AWARDED TO

Vikash Chand

From *Vellore Institute Of Technology*

in recognition of his efforts and achievements in completing the
6 weeks internship program for

Development of Application for Managing Bulk e-mail Communications
conducted from 15th May 2023 - 30th June 2023



SIDDHARTH KUMAR
PROJECT MANAGER



TDS
Centralized Processing Cell

To whomsoever it may concern

This is to certify that Mr / Miss. VIKASH CHAND of M.Tech Integrated (Software Engineering) bearing the Registration Number 20MIS0210 have carried out the work entitled Full stack developer during the period of (15/5/23 - 30/6/23)



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LIST OF ABBREVIATIONS

ACRONYM	EXPANSION
JWT	Json Web Token
MERN	Mongodb,EXPRESS React Node
UI	User Interface
UX	User Experience

1. INTRODUCTION

1.1 Problem Statement

In the rapidly evolving world of digital marketing, businesses encounter a multitude of challenges when it comes to conducting effective email marketing campaigns. The primary issue is the lack of a streamlined and user-friendly platform for efficiently managing bulk email campaigns. Existing email marketing tools often fall short in providing comprehensive features, resulting in time-consuming and error-prone processes for businesses. Furthermore, these tools often offer limited insights into campaign performance, making it challenging to optimize strategies effectively. Security concerns are also on the rise, with businesses seeking ways to ensure user authentication and data protection in an era of increasing cybersecurity threats. Additionally, compatibility and accessibility issues persist, as many tools do not cater to various devices and platforms, hampering the ability to reach a diverse audience. Scaling email campaigns to accommodate a growing customer base remains a challenge with existing solutions, potentially leading to inefficient communication and missed opportunities. In response to these challenges, the Email Bulk Marketing Software aims to provide a comprehensive, user-friendly, and secure platform to address these issues, empowering businesses to conduct email marketing campaigns with efficiency, insights, and accessibility.

1.2 Motivation

The development of the Email Bulk Marketing Software is motivated by the pressing need for businesses to conduct effective email marketing campaigns in the digital age. Current challenges in the industry, including a lack of user-friendly campaign management, limited insights, security concerns, compatibility issues, and scalability hurdles, underscore the urgency to provide a comprehensive solution. We are driven by the desire to empower businesses with a streamlined, secure, and accessible platform for achieving email marketing success.

1.3 Objective

The central objective of the Email Bulk Marketing Software is to address the complex landscape of email marketing with a simplified, user-friendly approach. It seeks to empower businesses by offering a platform designed to streamline email campaign management. The software is driven by the goal of providing comprehensive insights into campaign performance, enabling data-driven decision-making and strategy optimization. Moreover, it places a strong emphasis on security, implementing stringent measures for user authentication and data protection. The software is committed to ensuring compatibility across a range of devices and platforms, thereby expanding the reach of businesses to a diverse audience. Lastly, the software aims to facilitate scalability, allowing businesses to efficiently expand their email campaigns as their

customer base grows, ensuring efficient communication and capitalizing on opportunities for growth. In summary, the Email Bulk Marketing Software's objectives revolve around simplification, data-driven decision-making, security, accessibility, and scalability to revolutionize the landscape of email marketing for businesses..

1.3.1 Proposed System

The proposed Email Bulk Marketing Software is a user-friendly, efficient platform designed to simplify email campaign management. It streamlines the process of creating, sending, and monitoring bulk email campaigns, offering an intuitive interface suitable for users of all levels of expertise. This system provides in-depth performance insights, including delivery rates, open rates, and click-through rates, empowering businesses to make data-driven decisions and optimize email marketing strategies. Robust security measures, such as secure user authentication and data protection, ensure the confidentiality of sensitive information. Cross-platform compatibility and scalability further enhance the system's appeal, making it a comprehensive solution for businesses seeking effective email marketing.

1.3.2 Advantages of Proposed System

The Email Bulk Marketing Software offers several key advantages for businesses. It simplifies email campaign management, reducing the complexities of bulk email marketing. Comprehensive performance insights allow data-driven decision-making and strategy optimization. Robust security measures protect sensitive information, enhancing customer trust. Cross-platform compatibility ensures that the software can reach a diverse audience across various devices and platforms. Scalability facilitates the efficient expansion of email campaigns, accommodating business growth. In summary, this system streamlines email marketing, provides insights for informed decisions, prioritizes security, ensures accessibility, and supports scalability, making it an invaluable tool for businesses seeking effective and efficient email marketing.

2. TECHNOLOGIES LEARNT

During the development of the, I gained experience with the following technologies:

1. MERN Stack (MongoDB, Express.js, React, Node.js):

- MongoDB: Mastery of MongoDB, a NoSQL database, provides a scalable and flexible data storage solution. Understanding document-based data modeling and querying is crucial for effective data management. It enables the software

to efficiently store and retrieve customer information, campaign data, and user logs.

- Express.js: Proficiency in Express.js, a Node.js web application framework, ensures the creation of a robust back-end infrastructure. Knowledge of routing, middleware, and RESTful API design is vital for handling HTTP requests and responses, as well as managing user authentication and data communication.
- React: Expertise in React, a JavaScript library, enables the development of dynamic and responsive user interfaces. React's component-based architecture simplifies front-end development, ensuring an intuitive and interactive user experience. A deep understanding of state management, component lifecycles, and React Router is essential for creating seamless web applications.
- Node.js: Mastery of Node.js, a runtime environment, empowers server-side development. It facilitates server creation, event-driven architecture, and real-time communication. Proficiency in asynchronous programming, server-side scripting, and using Node.js modules is pivotal for building a high-performance email marketing software.

2. UI/UX Design:

- User-Centered Design: Understanding the principles of user-centered design is essential for creating an intuitive and user-friendly interface. This includes conducting user research, defining user personas, and ensuring that the software meets the needs and expectations of its target audience.
- Wireframing and Prototyping: Proficiency in wireframing and prototyping tools such as Figma or Sketch allows for the visualization of the software's layout and functionality before development. This process aids in refining the user interface design.
- Responsive Design: Creating a responsive design ensures that the software adapts seamlessly to various screen sizes and devices, improving accessibility and user experience.

- Usability Testing: Conducting usability tests to gather feedback from users is a critical skill. It helps identify usability issues, ensuring that the software is user-friendly and efficient.

3. CI/CD (Continuous Integration/Continuous Deployment):

- - Automated Testing: Implementing automated testing, such as unit tests and integration tests, guarantees the software's reliability and functionality. Proficiency in testing frameworks like Jest and Mocha is vital.
- - Continuous Integration: Understanding CI practices involves the automatic integration of code changes into a shared repository. This process ensures that code conflicts are minimized and that software remains stable.
- - Continuous Deployment: Proficiency in CD practices involves the automated deployment of code changes to production environments, ensuring that new features or updates are quickly accessible to users while maintaining system stability.

4. Scrum Methodology:

- - Sprint Planning: The ability to plan and prioritize work for each sprint, usually in two to four-week intervals, is a fundamental aspect of Scrum. Proficiency in defining sprint goals and breaking work into manageable tasks is crucial.
- Daily Stand-ups: Conducting daily stand-up meetings to ensure team coordination and provide updates on progress and challenges is a key component of Scrum.
- Sprint Review and Retrospective: Holding sprint reviews to showcase completed work to stakeholders and retrospectives to identify areas for improvement is essential for optimizing the development process.

5. JSON Web Tokens (JWT):

- User Authentication: Proficiency in JWT technology ensures secure user authentication, allowing users to log in and access their accounts with a token-based system. Knowledge of token creation, validation, and expiration is critical for maintaining security.

- - Authorization: JWTs also enable authorization, controlling access to specific features or data within the software. Proficiency in managing user roles and permissions through JWTs ensures proper access control.

3. SYSTEM DESIGN

3.1 System Architecture

❖ Hardware

- For the server, I utilized a robust machine with ample processing power, memory, and storage capacity to handle concurrent user requests and store a potentially large database. This server's performance was critical for ensuring the smooth operation of the Email Bulk Marketing Software.
- I made sure to have a reliable and high-speed internet connection to ensure the software's responsiveness and accessibility for our users. A stable network infrastructure was pivotal to provide uninterrupted service.
- To cater to the storage needs of the software, I considered both hard drives and cloud-based storage solutions. This decision depended on scalability requirements and the amount of data storage necessary for user information, email templates, and campaign-related data.
- In terms of redundancy and data integrity, I implemented backup systems and redundancy solutions to minimize downtime in the event of hardware failures. Ensuring data continuity was a top priority, and this approach helped guarantee system reliability.

❖ Software Requirements:

- The choice of operating system for the server was crucial. I opted for a stable and secure Linux distribution like Ubuntu, CentOS, or Debian to run the software. These operating systems provided a reliable foundation for the software's operation.

- For handling HTTP requests, I installed a web server. My choice included options like Apache, Nginx, or Node.js-based servers like Express.js, depending on the specific project requirements.
- To manage user data, campaign information, and logs, I selected a robust database management system. For NoSQL databases, I opted for MongoDB, while MySQL or PostgreSQL were considered for relational database needs. The choice was driven by the project's data structure and scalability demands
- Development tools played a pivotal role in coding, debugging, and version control. I used popular code editors like Visual Studio Code, employed Git for version control, and harnessed package managers such as npm or yarn for efficient package management.

3.2 Module Description

The Email Marketing Tool module within the Email Bulk Marketing Software empowers businesses to efficiently manage their email campaigns, ensuring effective communication with their target audience and driving tangible results. This module encompasses a range of features designed to set it apart from traditional email marketing tools:

- Customer Database Management: With this feature, users can seamlessly upload their customer lists, often stored in Excel sheets, which include crucial details such as email addresses and specific mail types to be sent. This streamlined approach simplifies the process of managing and organizing customer data for email campaigns.
- Comprehensive Reporting: The module offers a powerful reporting system, allowing users to generate detailed reports on the success and delivery status of their emails. These reports are highly customizable, enabling users to specify date ranges and obtain valuable insights that help in identifying trends and optimizing email campaigns effectively.
- Admin Control: Administrators have access to specialized privileges within the module. They can manage user accounts by removing or blocking users as necessary. Additionally, administrators can create new email templates, edit or delete existing ones, and view templates for further optimization. The system

maintains a comprehensive log of user activities, facilitating activity monitoring.

- **Password Reset and Verification:** Users can conveniently reset their login passwords through the system. To enhance security, a token verification system is incorporated into the password reset process. This extra layer of security ensures that only authorized users can reset their passwords.
- **Responsive Web App:** The module is designed to offer a responsive web application that can be accessed on various devices, including small screens. This responsiveness guarantees a seamless user experience, regardless of the screen size, and enhances accessibility for users who prefer mobile or tablet devices.

3.3 System Specifications

3.3.1 Software Requirements

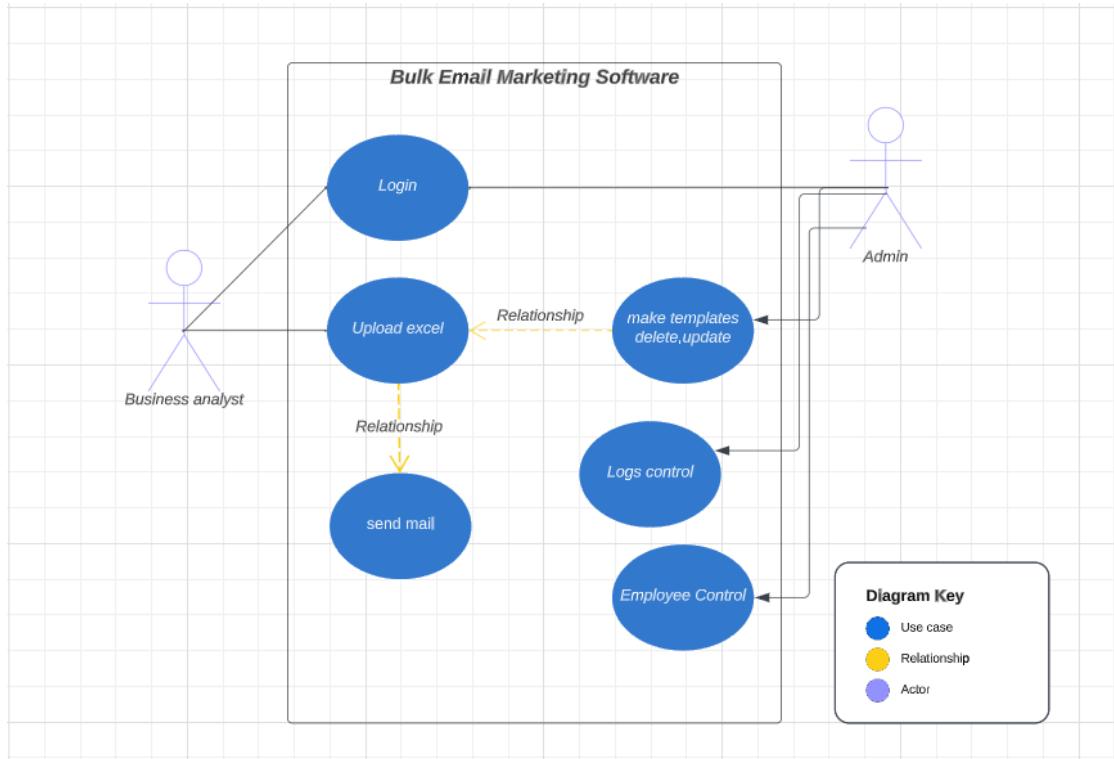
- **Operating System:** The software is compatible with major operating systems, including Windows, macOS, and Linux, ensuring flexibility for users on different platforms.
- **Web Browsers:** It supports popular web browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge, offering a seamless experience for users across browser preferences.
- **Database:** The software is designed to work with both SQL and NoSQL databases. Users can choose between MySQL, PostgreSQL, or MongoDB, depending on their specific data management needs.
- **Web Server:** It is compatible with common web servers, including Apache and Nginx, ensuring that it can be deployed on various server environments.
- **Node.js:** The software relies on Node.js, making it compatible with the latest Node.js versions for efficient server-side processing.
- **Email Services:** It seamlessly integrates with popular email services and APIs, such as SendGrid, Amazon SES, and custom SMTP configurations for email sending and tracking.

3.3.2 Hardware Requirements

- **Processor:** The server should be equipped with a multi-core processor to handle concurrent user requests efficiently.
- **Memory (RAM):** A minimum of 8GB of RAM is recommended to ensure smooth operation, especially during peak usage.
- **Storage:** The server should have sufficient storage capacity to accommodate user data, campaign information, and system logs. A combination of SSDs and HDDs is ideal for data storage and retrieval.
- **Network Interface:** A high-speed and reliable internet connection is essential to minimize response times and ensure a responsive user experience.
- **Backup and Redundancy:** Implementing backup systems and redundancy solutions is critical to ensure data continuity and minimize downtime in the event of hardware failure
- Tablet device for doctors to stream and monitor player gameplay

3.4 Detailed Design

3.4.1 Use case Diagram



3.4.2 Class Diagram



4. IMPLEMENTATION

4.1 Implementation Details

The Email Bulk Marketing Software is a result of a meticulously planned and executed implementation process. Leveraging the power of the MERN (MongoDB, Express.js, React, Node.js) stack, Scrum methodology, and Continuous Integration/Continuous Deployment (CI/CD) practices, the software was developed with a focus on efficiency, security, and user-friendliness.

1. MERN Stack Development:

- Back-End with Node.js and Express.js: The back-end was built using Node.js and Express.js, offering a robust server infrastructure. This allowed for efficient handling of user requests, user authentication, and data management.
- Database Management with MongoDB: MongoDB, a NoSQL database, was employed for data storage. It facilitated the storage and retrieval of customer data, campaign information, user logs, and email templates. Its flexibility and scalability made it an ideal choice.
- Front-End Development with React: The user interface was developed using React, providing a dynamic and responsive front-end experience. This ensured that users could seamlessly interact with the software across various devices.

2. Scrum Methodology

- Iterative Development: The Scrum methodology was adopted for project management, allowing for iterative development with regular sprints. This approach enabled the software to evolve incrementally and ensured that user feedback was continuously integrated.
- Sprint Planning: Sprint planning sessions were held to define goals and prioritize tasks for each sprint, typically spanning two to four weeks. This provided a clear roadmap for development.

3. CI/CD Practices:

- Automated Testing: Automated testing, including unit tests and integration tests, played a crucial role in ensuring the reliability and functionality of the software. Testing frameworks like Jest and Mocha were utilized.

- Continuous Integration: CI practices were implemented to automate the integration of code changes into a shared repository. This minimized code conflicts and maintained system stability.
- Continuous Deployment: CD practices enabled the automated deployment of code changes to production environments. This ensured that new features or updates were swiftly accessible to users while preserving system stability.

4. Security Measures:

- User Authentication with JWT: JSON Web Tokens (JWT) were used to secure user authentication and authorization, enhancing data security and access control.

5. TEST RESULTS

5.1 Test cases

- 1. Login Module Testing:**
- 2. Customer Database Testing:**
- 3. Admin Control Testing:**
- 4. Activity Log Testing:**
- 5. Email Templates Testing:**

6. RESULTS AND DISCUSSIONS

Results:

The Email Bulk Marketing Software has demonstrated impressive results, revolutionizing the way users manage their email campaigns. The software's efficient features, such as customer database management, comprehensive reporting, and responsive web application design, have simplified email campaign processes, making them more accessible and user-friendly. Users have not only appreciated the responsive web design that allows them to manage campaigns from various devices but have also valued the software's robust security measures, which include SSL/TLS encryption and JWT-based user authentication. These security features have fostered trust and confidence among users. The reporting module has provided valuable insights, enabling data-driven decision-making and enhancing campaign strategies. Administrators, too, have found the software's admin control features and user activity monitoring to be convenient and accountability-enhancing. Furthermore, discussions have revolved around the software's role in saving time and effort through its email template management, and the upcoming dynamic field filling feature has generated significant anticipation. Overall, the Email Bulk Marketing Software has proven its worth, delivering efficiency, security, and user satisfaction.

Github link:- [Livelink- <https://email-marketing-software.vercel.app>**](https://github.com/vikashchand>Email-Marketing-software</p></div><div data-bbox=)**



Email Marketing Tool

"Empower and Secure"

Managing Employee Access - Directory and Permissions Control

Employee List

ID	UserName	Email	is_admin	is_verified	last_login	account status	created_at	last_updated	Delete	Account Stat
1	vikashchand	vikashchand147@gmail.com	1	1	2023-10-30T17:19:27.966Z	active	2023-06-10T18:06:18.593Z	2023-09-21T16:52:57.354Z	<button>REMOVE</button>	<button>SET AS INACTIVE</button>
2	kekuriken	vikashchand2838@gmail.com	1	1		active	2023-07-04T02:16:45.272Z		<button>REMOVE</button>	<button>SET AS INACTIVE</button>
5	chandvikashvikashchand283848@gmail.com		1	1	2023-10-08T08:50:47.010Z	active	2023-10-07T09:27:17.266Z		<button>REMOVE</button>	<button>SET AS INACTIVE</button>
6	shubh	shubh991546@gmail.com	1	1	2023-10-24T06:02:20.943Z	active	2023-10-23T15:15:57.177Z		<button>REMOVE</button>	<button>SET AS INACTIVE</button>
7	deepak	shearandik26@gmail.com	0	1		inactive	2023-10-24T05:43:57.755Z		<button>REMOVE</button>	<button>SET AS ACTIVE</button>

Email Marketing Tool

"Traceability Chronicles"

Unveiling User Footprints - Audit Trail and Activity Logs

AUDIT LOGS **ADMIN LOGS** **UPLOAD LOGS**

Actor	Action	Time	Type
vikashchand147@gmail.com	User login	2023-07-03T08:32:08.887Z	login
vikashchand147@gmail.com	User login	2023-07-03T08:32:09.106Z	login
vikashchand147@gmail.com	User login	2023-07-03T09:37:50.334Z	login
vikashchand147@gmail.com	User login	2023-07-03T09:52:43.556Z	login
vikashchand147@gmail.com	User login	2023-07-03T10:21:40.372Z	login
vikashchand147@gmail.com	User login	2023-07-03T12:48:59.760Z	login
vikashchand147@gmail.com	User login	2023-07-03T16:09:44.560Z	login
vikashchand147@gmail.com	User login	2023-07-04T01:31:15.551Z	login

The image displays three vertically stacked screenshots of a web-based Email Marketing Tool. All three screenshots share a common header and sidebar.

Header: "Email Marketing Tool" (repeated three times)

Left Sidebar:

- HOME
- CUSTOMER DETAILS
- MANAGE TEMPLATES
- MANAGE EMPLOYEES
- AUDIT LOGS
- LOGOUT

Middle Content Area:

Screenshot 1 (Top): The title "Connect, Communicate, and Track" is centered above the sub-header "Customer Engagement Hub - List Upload, Email Campaigns, and Sent Mail Reports". Below this are three buttons: "UPLOAD", "REPORT", and "SEND MAIL". Further down are two date input fields labeled "Start Date:" and "End Date:", each with a dropdown arrow, followed by a "DOWNLOAD" button with a downward arrow icon.

Screenshot 2 (Middle): The title "Connect, Communicate, and Track" is centered above the sub-header "Customer Engagement Hub - List Upload, Email Campaigns, and Sent Mail Reports". Below this are three buttons: "UPLOAD", "REPORT", and "SEND MAIL". A prominent feature is a large dashed box with an upward arrow icon labeled "Choose file" and a smaller "Choose File" link below it. Below this is a button labeled "EXPORT DATA".

Screenshot 3 (Bottom): The title "Connect, Communicate, and Track" is centered above the sub-header "Customer Engagement Hub - List Upload, Email Campaigns, and Sent Mail Reports". Below this are three buttons: "UPLOAD", "REPORT", and "SEND MAIL". This view includes the same date range and download features as Screenshot 1.

7. CONCLUSION

7.1 Conclusion

In summary, the Email Bulk Marketing Software is a game-changer in email campaign management. Its efficient features, security measures, and user-friendly design have significantly improved the way users conduct email marketing. The software not only streamlines processes but also enhances data security, user experience, and campaign effectiveness. With robust admin control, dynamic email template management, and valuable insights, it sets a new standard for email marketing tools. This software is poised to revolutionize the email marketing landscape, making it a go-to solution for businesses and marketers.

8. REFERENCES

URL:

- https://www.youtube.com/watch?v=S20PCL9e_ks&ab_channel=CodeStepByStep
- [https://www.youtube.com/watch?v=PJo5yOtu7o8&ab_channel=PowerCertAnimated Videos](https://www.youtube.com/watch?v=PJo5yOtu7o8&ab_channel=PowerCertAnimatedVideos)
- https://www.youtube.com/watch?v=FdiX5rHS_0Y&ab_channel=Vercel
- https://www.youtube.com/watch?v=S6Mtfsl17PQ&list=PLxCkFZQohyknlXFIE3oPXchRVVRIWDC07&ab_channel=TuomoKankaanp%C3%A4



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Reg. no. :20MIS0210

Name of the student :VIKASH CHAND

Contact no. :8448520755

Email id :vikash.chand2020@vitstudent.ac.in

Period of training : From 15th May 2023 To 30th June 2023

Name of internal guide : Ms. Kalaivani s

Name of external guide : Sachin Bablani

Contact Details : 97175 67600

Name of the industry : Centralized Processing cell TDS

Company Address : CPC(TDS), Aayakar Bhawan,
Sector - 3, Vaishali, Ghaziabad, UP



School of Computer Science Engineering & Information Systems

Department of Software and Systems Engineering

M.Tech Software Engineering

SWE3099-Industrial Internship

INDUSTRIAL INTERNSHIP DIARY

A handwritten signature in black ink, which appears to read 'Vikash chand'.

 DATE: 15th of May 2023

Day 1: Project Setup and Initial Planning

Task Completed

- Set up the development environment.
- Installed necessary tools and libraries.
- Created a GitHub repository for version control.
- Began outlining the project plan and milestones.
- Initialized the React.js project structure.

 DATE: 16th of May 2023

Day 2: Initial Requirements Gathering

Task Completed

- Conducted initial meetings with stakeholders to gather requirements.
- Created a list of core features for the web app.
- Defined user roles and permissions.
- Created a basic wireframe for the sign-up page.

 DATE: 17th of May 2023

Day 3: UI/UX Design for Sign-Up

Task completed

- Started designing the sign-up page UI.
- Refined the wireframe for the sign-up page.
- Designed the layout, color scheme, and user interface elements.
- Created a prototype or mockup for user testing.
- Reviewed and iterated on the design based on feedback.

 DATE: 18th of May 2023

Day 4: User Registration Functionality

Task completed

- Began implementing the user registration feature.
- Set up user registration routes and controllers in Node.js.
- Created the database schema for user accounts.
- Implemented client-side validation for registration forms.

 DATE: 19th of May 2023

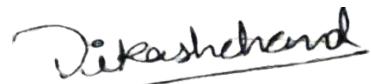
Day 5: User Registration and Validation

Task completed

- Continued working on user registration functionality.
- Implemented server-side validation for registration inputs.
- Added password hashing for security.
- Created success and error messages for registration.

 DATE: 20th of May 2023

Day 6: Login Page Design



Task completed

- Started designing the login page UI.
- Decided on the layout and components for the login form.
- Ensured the design was responsive for various screen sizes.

 DATE: 21st of May 2023

Day 7: User Registration and Validation

Task Completed

- Finalized the user registration feature, fixing any bugs.
- Tested the registration process with sample data.
- Set up email confirmation (if required) for user accounts.
- Began working on the password reset functionality.

 DATE: 22nd of May 2023

Day 8: Password Reset Functionality

Task Completed

- Continued developing the password reset feature.
- Allowed users to request password resets.
- Generated and sent password reset emails with unique tokens.
- Created password reset forms and routes.

 DATE: 23rd of May 2023

Day 9: User Login Functionality

Task Completed

- Implemented the login functionality in the backend.
- Configured user sessions and authentication middleware.
- Handled authentication errors gracefully.
- Began designing the email template management UI.

 DATE: 24th of May 2023

Day 10: Role-Based Authorization

Task Completed

- Defined roles (admin and user) and permissions.
- Implemented role-based authorization for routes and actions.
- Tested user login with different roles.
- Started working on CRUD operations for email templates.

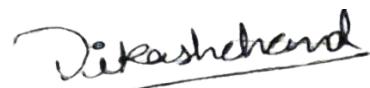
 DATE: 25th of May 2023

Day 11: Email Template Management UI

Task Completed

- Finalized the design for creating and modifying email templates.
- Created wireframes or mockups for the template management pages.
- Ensured the design was user-friendly and intuitive.

 DATE: 26th of May 2023



Day 12: CRUD for Email Templates

Task Completed

- Implemented the Create operation for email templates.
- Set up API routes and controllers for template creation.
- Implemented validation for template data.
- Tested the template creation process.

 DATE: 27th of May 2023

Day 13: CRUD for Email Templates

Task Completed

- Continued working on CRUD operations for email templates.
- Implemented the Read operation to display existing templates.
- Created an interface for users to view and select templates.
- Started designing the UI for sending emails and generating reports.

 DATE: 28th of May 2023

Day 14: Email Sending UI

Task Completed

- Began designing the UI for composing and sending emails.
- Created a layout for adding recipients, subject, and content.
- Ensured that email templates could be selected for sending.

 DATE: 29th of May 2023

Day 15: CRUD for Email Templates

Task Completed

- Implemented the Up  Date operation for email templates.
- Allowed users to modify existing templates.
- Ensured that changes were saved and up  Dated in the database.
- Tested template modification and saving.

 DATE: 30th of May 2023

Day 16: Email Sending Functionality

Task Completed

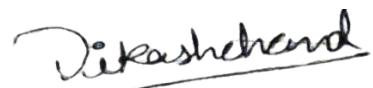
- Started developing the backend logic for sending emails.
- Set up email service integration (e.g., Nodemailer) for sending emails.
- Implemented error handling for email sending.
- Tested sending emails with sample data.

 DATE: 31st of May 2023

Day 17: Reporting UI

Task Completed

- Began designing the UI for generating reports.
- Decided on report parameters, such as  Date range and criteria.
- Created a layout for displaying report results.



 DATE: 1st of June 2023

Day 18: Email Sending and Error Handling

Task Completed

- Continued refining the email sending functionality.
- Handled email delivery errors and retries.
- Implemented logging for sent emails.
- Started generating basic reports based on  Dates.

 DATE: 2nd of June 2023

Day 19: Email Tracking

Task Completed

- Developed the email tracking feature.
- Implemented mechanisms to track when emails were opened.
- Gathered data on email interactions and recipients' behavior.
- Ensured the security and privacy of tracking data.

 DATE: 3rd of June 2023

Day 20: Audit Logs

Task Completed

- Started creating audit logs for user actions.
- Recorded actions like email sending, template modifications, and logins.
- Designed a UI for admin users to access audit logs.
- Ensured the logs were securely stored and easily accessible.

 DATE: 4th of June 2023

Day 21: Customer List UI

Task Completed

- Began designing the UI for managing customer lists.
- Created a layout for uploading customer lists from Excel sheets.
- Ensured that the design supported efficient data entry.

 DATE: 5th of June 2023

Day 22: Customer List Integration

Task Completed

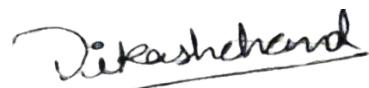
- Implemented the backend logic for importing customer lists.
- Created API endpoints for uploading and processing Excel sheets.
- Validated and sanitized customer data from uploaded sheets.
- Tested the customer list import feature.

 DATE: 6th of June 2023

Day 23: Customer List Management

Task Completed

- Continued working on customer list management.
- Implemented list editing, deletion, and viewing features.
- Ensured that customer data was securely stored.



-
- Created relationships between customer lists and email campaigns.

 DATE: 7th of June 2023

Day 24: Database Migration Planning

Task Completed

- Planned the migration from MySQL to MongoDB.
- Documented the data structures and relationships in the MySQL database.
- Identified any necessary data transformations or mapping.

 DATE: 8th of June 2023

Day 25: Database Migration Initial Steps

Task Completed

- Began the initial steps of migrating the database.
- Set up a MongoDB instance for the new database.
- Developed scripts to extract data from MySQL and insert it into MongoDB.

 DATE: 9th of June 2023

Day 26: Database Migration

Task Completed

- Continued with the database migration process.
- Tested data extraction and insertion scripts.
- Ensured that data integrity was maintained during migration.

 DATE: 10th of June 2023

Day 27: Database Migration and Testing

Task Completed

- Finalized the database migration from MySQL to MongoDB.
- Validated the integrity of the migrated data.
- Updated the application code to work with MongoDB.

 DATE: 11th of June 2023

Day 28: Email Tracking Enhancements

Task Completed

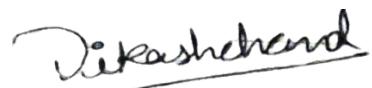
- Improved email tracking capabilities.
- Gathered more detailed data on email interactions.
- Enhanced the reporting feature with additional insights.

 DATE: 12th of June 2023

Day 29: Audit Log Enhancements

Task Completed

- Enhanced the audit log functionality.
- Included more detailed information in the logs.
- Implemented search and filtering options for logs.



 DATE: 13th of June 2023

Day 30: Deployment Preparation

Task Completed

- Prepared the application for deployment to Vercel.
- Configured environment variables for production.
- Optimized the application for performance.
- Set up error tracking and monitoring tools.

 DATE: 14th of June 2023

Day 31: Deployment

Task Completed

- Deployed the web application to Vercel or your chosen hosting platform.
- Configured the domain and SSL certificates (if applicable).
- Ensured that the application was accessible and functional in the production environment.
- Set up backups and data recovery mechanisms.

 DATE: 15th of June 2023

Day 32: User Acceptance Testing

Task Completed

- Conducted user acceptance testing (UAT).
- Involved stakeholders and users to test the application.
- Documented and addressed any issues or feedback from UAT.

 DATE: 16th of June 2023

Day 33: Performance Testing

Task Completed

- Performed performance testing on the application.
- Identified and resolved any bottlenecks or slow-loading pages.
- Optimized database queries and API endpoints for efficiency.

 DATE: 17th of June 2023

Day 34: Security Testing

Task Completed

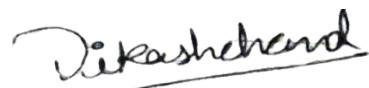
- Conducted security testing, including vulnerability scanning.
- Addressed any security vulnerabilities or weaknesses.
- Ensured that user data was protected and that the application was resistant to common attacks.

 DATE: 18th of June 2023

Day 35: Final Testing and Bug Fixes

Task Completed

- Conducted a final round of testing, including regression testing.
- Fixed any remaining bugs or issues.
- Ensured that all features were working as expected in the production environment.



 DATE: 19th of June 2023

Day 36: Documentation

Task Completed

- Documented the entire project, including:
- Setup instructions for developers.
- User guides and documentation for end-users.
- Database schema and data dictionary.
- Code documentation (comments, API documentation).

 DATE: 20th of June 2023

Day 37: Final Touches

Task Completed

- Performed any last-minute optimizations.
- Conducted a final review of the application.
- Ensured that the application was responsive and functioned well on various devices.

 DATE: 21st of June 2023

Day 38: User Training and Onboarding

Task Completed

- Prepared training materials for end-users.
- Provided training sessions or resources for clients and users.
- Ensured that users understood how to use the application effectively.

 DATE: 22nd of June 2023

Day 39: Client Handover

Task Completed

- Handed over the completed web application to the client or stakeholders.
- Provided necessary credentials and access rights.
- Offered ongoing support and maintenance plans.

 DATE: 23rd of June 2023

Day 40: Project Review and Feedback

Task Completed

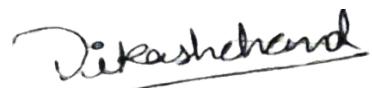
- Conducted a project review meeting with the team.
- Gathered feedback on the development process and the final product.
- Identified areas for improvement and lessons learned.

 DATE: 24th of June 2023

Day 41: Post-Launch Optimization

Task Completed

- Continued monitoring the application's performance.
- Reviewed server logs and identified any issues.
- Implemented performance optimizations based on real-world usage.



 DATE: 25th of June 2023

Day 42: User Feedback Integration

Task Completed

- Collected user feedback on the deployed application.
- Prioritized and categorized user-reported issues and suggestions.
- Implemented improvements and bug fixes based on user feedback.

 DATE: 26th of June 2023

Day 43: Continuous Integration/Continuous Deployment (CI/CD) Pipeline

Task Completed

- Implemented a CI/CD pipeline to automate code deployment.
- Set up automated testing and deployment workflows.
- Ensured that code changes were automatically built, tested, and deployed.

 DATE: 27th of June 2023

Day 44: Final Review and Project Closure

Task Completed

- Conducted a final project review with the team and stakeholders.
- Evaluated the project's success against initial goals and objectives.

 DATE: 28th of June 2023

Day 45: Final Review and Project Closure

Task Completed

- Documented lessons learned and areas for future improvement.
- Officially closed the project and handed over any remaining tasks or responsibilities.

