OFFER LETTER



Web: www.manthanitsolutions.com E-mail: support@manthanitsolutions.com

MANTHAN IT SOLUTIONS

(27, Masjid Road, Ground Floor, Opp. Shahi Masjid, Bhogal, Jangpura, New Delhi, 110014)

Date: 8th Feb '2025

Subject: Offer Letter for the Position of Full Stack Developer

Dear Ashutosh Rajput,

We are pleased to offer you the position of Full Stack Developer with Manthan IT Solutions. Your appointment will be, effective as of 10th Feb'2025. Your job profile will be as a Full Stack Developer. Your Appointment will be probationary for a period of six months from the date of joining. If your appointment is to be confirmed it will be done in writing at least thirty days before end of your probationary period. Your services may be terminated without notice during the probationary period. Unauthorized absence from duty for a continuous period of 7 days would make you lose your lien on employment. In such case your employment shall automatically come to an end without any notice of termination.

For **1st month** you will be paid **Rs. 5,000** as stipend. After that your salary will be **Rs. 15,000** for next **6** months. After that depending upon your performance and skill, it will be incremented to **25K**.

We feel confident that you will contribute your skills and experience towards the growth of our organization.

You are requested to adhere the timeline.

Please confirm your acceptance of this offer by signing and returning the copy of this offer

letter. We look forward to welcoming you on board.

Sincerely

For Manthan IT Solutions Accepted By

Authorized Signatory Signature of the Employee

STUDENT DECLARATION

I hereby declare that the work being presented in this report entitled "Smart Email Assistant" is an authentic record of my own work carried out under the supervision of "Ms. Savita Singh".

The matter embodied in this report has not been submitted by me for the award of any other degree.

Date: Signature of Student

Ashutosh Rajput

Dept.: Computer Applications

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Signature of HOD Signature of Supervisor Prof.

(Dr.) Devendra Kumar Ms. Savita Singh

HOD-MCA Assistant Professor

Dept.: Computer Applications (Sr. Scale)

Date:

CERTIFICATE

This is to certify that Project Report entitled "Smart Email Assistant"

which is submitted by Ashutosh Rajput in partial fulfillment of the

requirement for the award of degree Master of Computer Application in

Department of Computer Applications of Dr. A.P.J. Abdul Kalam

Technical University, is a record of the candidate own work carried out

by him under my supervision.

The matter embodied in this Major Project Report is original and has not

been submitted for the award of any other degree.

The plagiarism percentage evaluated for the content presented is Six

Percent.

Supervisor Signature

Ms. Savita Singh

Assistant Professor

(Sr. Scale)

Date:

iii

ACKNOWLEDGEMENT

Introducing the report on the MCA project finished during MCA Final Year fills me with incredible happiness. I owe an exceptional obligation of appreciation to Ms. Savita Singh, Assistant Professor (Sr. Scale) Department of Computer Applications, ABESEC, Ghaziabad for her constant support and guidance throughout the course of my work. Her sincerity, thoroughness, and perseverance have been a constant source of inspiration for me. It is just her perceptive endeavors that our undertakings have come around.

I also take the opportunity to recognize the contribution of **Prof. (Dr.) Devendra Kumar Head, Department of Computer Applications, ABESEC, Ghaziabad** for his support and assistance during the development of the project.

I also don't want to miss the opportunity to thank the entire department's faculty members for their helpful support and cooperation during the project's development. Last but not least, I want to thank my friends for their help in getting the project done.

Signature of Student
Ashutosh Rajput
2300320140039
MCA-IV Semester

ABSTRACT

The Smart Email Assistant is a Spring Boot-based application enhanced with Spring AI to streamline and automate email communication in a dynamic and intelligent environment. Designed to assist users in managing their email interactions more effectively, the system leverages natural language processing and AI-powered suggestions to draft responses, summarize messages, and categorize emails intelligently.

By integrating modern AI capabilities with traditional backend development, the assistant provides real-time content analysis and response generation, significantly reducing the time spent on routine email tasks. It offers a user-friendly interface that ensures seamless interaction while maintaining data security and consistency. The system supports features like smart reply generation, keyword-based filtering, and contextual understanding of incoming messages.

This project aims to improve personal and professional productivity by transforming conventional email management into an intelligent and proactive experience. It serves as a scalable foundation for further integration with enterprise tools, making it a robust solution for smart communication in today's fast-paced digital ecosystem.

.

Sr. No.		TABLE OF CONTENT	Page No.
Chapter 1.	Intro	duction	1-4
	1.1	Problem Definition / Statement	1
	1.2	Objective / Project Objective	2
	1.3	Need of Project	2
	1.4	Scope	3
Chapter 2.	Liter	ature Review	5
Chapter 3.	Feas	sibility Study	6-7
	3.1	Technical	6
	3.2	Operational	7
	3.3	Economic	7
Chapter 4.	Syst	em Requirements	8-15
	4.1	Functional Requirements	8
	4.2	Non-Functional Requirements	9
	4.3	Hardware Requirements	11
	4.4	Software Requirements	12
	4.5	Use Cases	14
Chapter 5.	Syst	em Design	16-21
	5.1	ER-Diagram	16
	5.2	Data Flow Diagram	17
	5.3	Use Cases	19
	5.4	Sequence Diagram	20

	5.5	Activity	Diagram	21
Chapter 6.	GUI /	GUI / Coding		
	6.1	User Interface Design		22
	6.2	Modules Screenshot		24
	6.3	Coding		29
		6.3.1	Programming Languages and Tools Used	29
		6.3.2	Code Architecture and Organization	31
		6.3.3	Key Code Snippets	35
Chapter 7.	Testing (Test Plan/Cases/Result)			47-50
Chapter 8.	Conclusion			51-55
	8.1	Project	Limitation	53
	8.2	Future	Scope	54
Chapter 9.	Refe	56		
	Appendices (Plagiarism Report)			57

LIST OF FIGURES

S. No.	Figure Description	Page No.
Figure-1	ER Diagram	16
Figure-2	Data Flow Diagram	17
Figure-3	Use Case Diagram	19
Figure-4	Sequence Diagram	20
Figure-5	Activity Diagram	21
Figure-6	Spring Boot Project (Spring initilzer)	24
Figure-7	Gemini API Generate	24
Figure-8	Postman Check Gemini API	25
Figure-9	POST Request	25
Figure-10	POST Response	26
Figure-11	App.jsx Frontend	26
Figure-12	Appjsx Response	27
Figure-13	Email Writer Extension	27
Figure-14	Extension Integrate With Email	28
Figure-15	Email Output Generate With AI	28
Figure-16	Backend Project Directory	32
Figure-17	Frontend Project Directory	33
Figure-18	Extension Project Directory	34
Figure-19	Plagiarism Report	57

LIST OF ABBREVIATIONS

Service	Full Form / Description			
Gemini	Google's Multimodal Large Language Model (LLM)			
Spring Al	Spring Boot Abstraction Layer for AI/LLM Integration			
REST API	Representational State Transfer Application Programming			
	Interface (used in Spring Boot)			
React	JavaScript Library for Building User Interfaces			
MUI	Material UI – React Component Library for Styling			
Chrome	JavaScript-based browser extension for Gmail interaction			
Extension				
DOM	Document Object Model (used in Gmail content			
	manipulation)			
Fetch API	Web API for sending HTTP requests from frontend			
Spring Boot	Java-based Framework for RESTful backend services			
Maven	Java Build and Dependency Management Tool			
Gmail	Google Email Service (target UI for the extension)			
HTML/CSS/JS	Web Technologies used in frontend & Chrome extension			
Mutation	JavaScript API for detecting DOM changes in Gmail			
Observer	compose window			