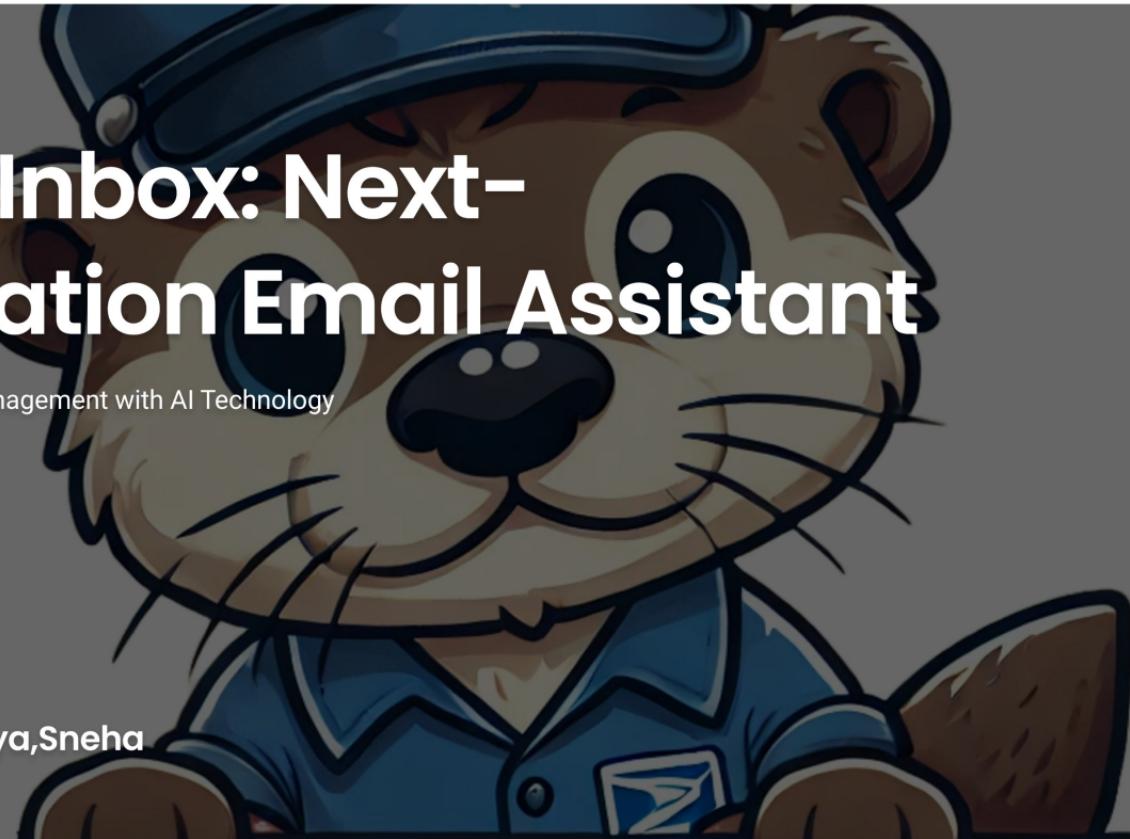


SmartInbox: Next-Generation Email Assistant

Transforming Email Management with AI Technology



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Presenter



SmartInbox Presentation

Exploring the Features and Benefits of SmartInbox

1 Introduction to SmartInbox

An overview of SmartInbox and its purpose in email management.

2 AI-Powered Email Assistant Overview

An overview of SmartInbox and its role in simplifying email management.

3 Core Technology: Retrieval-Augmented Generation (RAG) Model

A breakdown of the RAG model's capabilities in extracting and processing email-related data.

4 SmartInbox Optimizations: The Evolution of Email Automation

An exploration of how SmartInbox refines user context for superior email management.

5 In-house built RAG Model Architecture

A technical look at the microservices architecture underpinning SmartInbox's functionality.

6 Development

Highlights of the key innovations and services offered by SmartInbox.

7 Architecture and Design: Microservices Approach

Comprehensive details about SmartInbox's microservices that streamline email processing.

8 Key Services Overview

A summary of the core services supporting context generation for email automation.

9 Dataflow Diagram

A visual representation of how SmartInbox automates the email response process.

10 Future Developments and Enhancements

A discussion on how Docker and Kubernetes ensure the scalability and efficiency of SmartInbox.

11 Outputs

An overview of the security measures implemented in SmartInbox.

Introduction to SmartInbox

Revolutionizing Email Management

1

Overview of SmartInbox

SmartInbox is an AI-powered email assistant designed to enhance email management.

2

Purpose

The purpose of SmartInbox is to revolutionize email management for both individuals and organizations.

3

Key functionalities

Key functionalities include streamlined workflows, enhanced productivity, and seamless operations.



AI-Powered Email Assistant Overview

Exploring SmartInbox's Technology and Features

SmartInbox Technology

Description of SmartInbox's technology and automation capabilities.

1

Gmail Integration

Integration with Gmail using OAuth2 authentication.

2



Secure Feature Access

Secure access to features: automated replies, sorting.

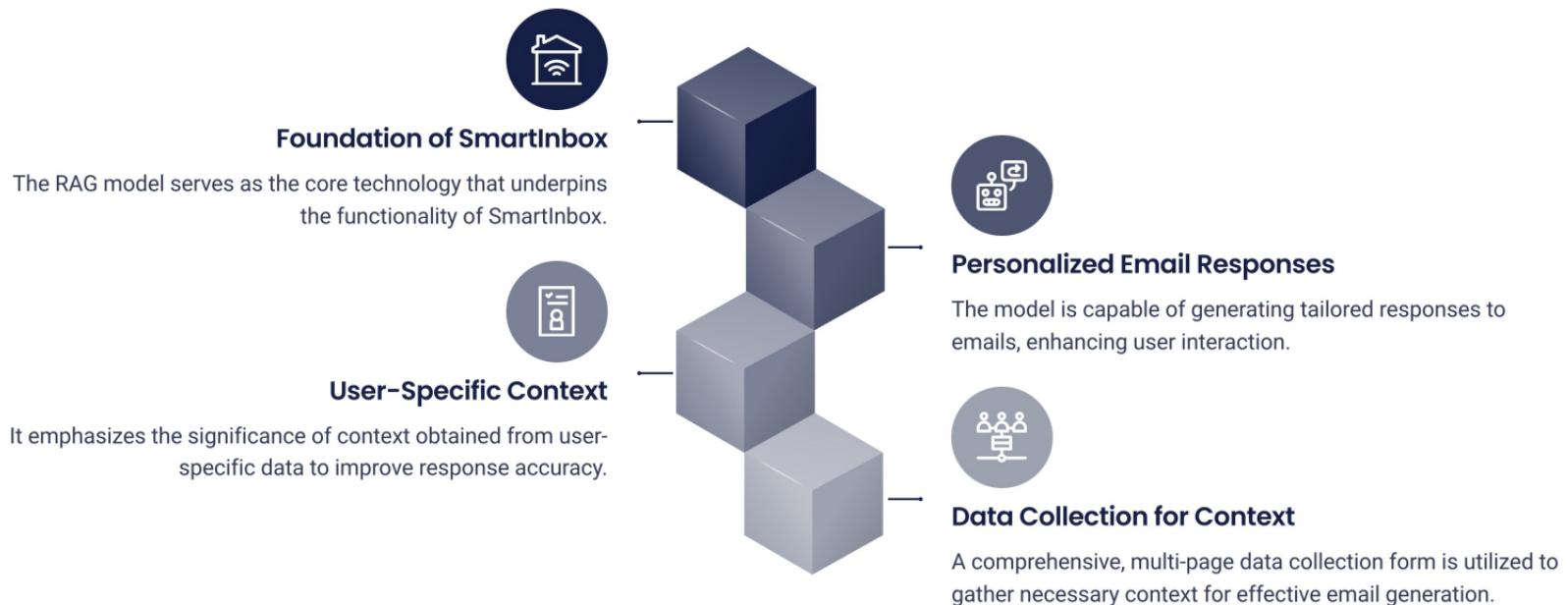
3

Privacy Focus

Emphasis on privacy and data security.

4

Core Technology: Retrieval-Augmented Generation (RAG) Model



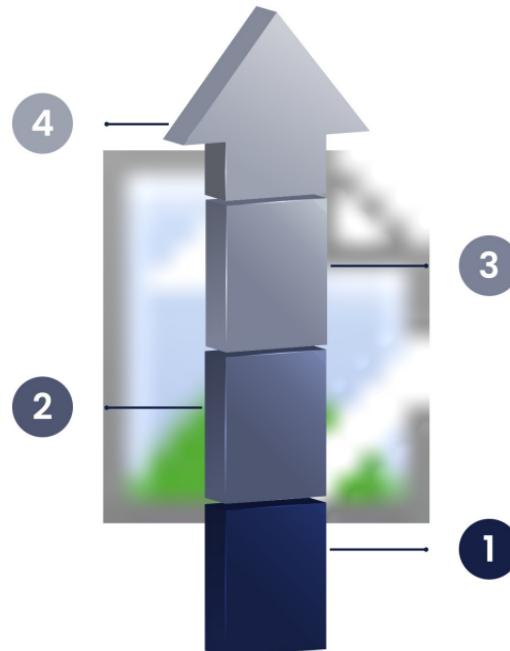
SmartInbox Optimizations: The Evolution of Email Automation

RAG Model for Contextual Email Responses

Our latest optimization employs a Retrieval-Augmented Generation (RAG) model. This innovation uses context generation to craft precise and context-aware responses for every email, ensuring unparalleled personalization and relevance.

Introduction of Ollama for Improved Performance

Moving beyond Gemini's API, we transitioned to using Ollama, which significantly improved the response quality and flexibility of email generation.



Ollama Model File for Personalized Memory

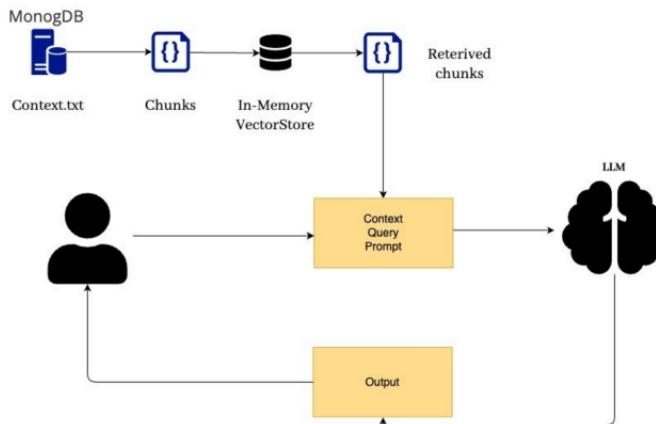
To enhance personalization and context retention, we implemented Ollama's model file capabilities. This allowed us to create a customized Ollama model with built-in memory for more accurate and user-specific email generation.

Gmail API with Gemini's API for Initial Responses

Our journey began by integrating Gmail API with Gemini's API to generate automated email responses. This provided a foundation for basic email automation.

In-house built RAG Model Architecture

Made with
VisualParadigm
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SmartInbox Development Workflow



Building Automation with Microservices

We began by designing SmartInbox with a microservices architecture instead of a monolithic approach. This allowed us to decouple services, making updates and scalability seamless. The automation services were created as independent modules to streamline email processing.

Integrating User Interaction via Front-End Services

After introducing the RAG model for contextual responses, we developed a user interface to enable seamless input and interaction. A dedicated service was created to handle user requests, ensuring a secure and isolated communication channel separate from the backend automation servers.

Optimizing Queue Management with Exchanges

As the services grew, managing queues became complex. To address this, we transitioned to using RabbitMQ exchanges, which efficiently manage queues and simplify routing through work-specific keys, enhancing system performance and reliability.

Scalable Deployment on Kubernetes

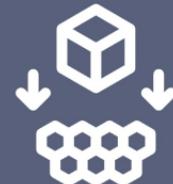
Powerful collaboration tools that help you create, organise, review and publish your content to any screen. Finally, we deployed the project on Kubernetes, enabling effortless scaling and robust management of containerized services. This deployment ensures the system is fault-tolerant, scalable, and ready to handle dynamic workloads efficiently.

Architecture and Design: Microservices Approach



Overview of SmartInbox's architecture

Focuses on scalability and modularity.



Explanation of the microservices design principle

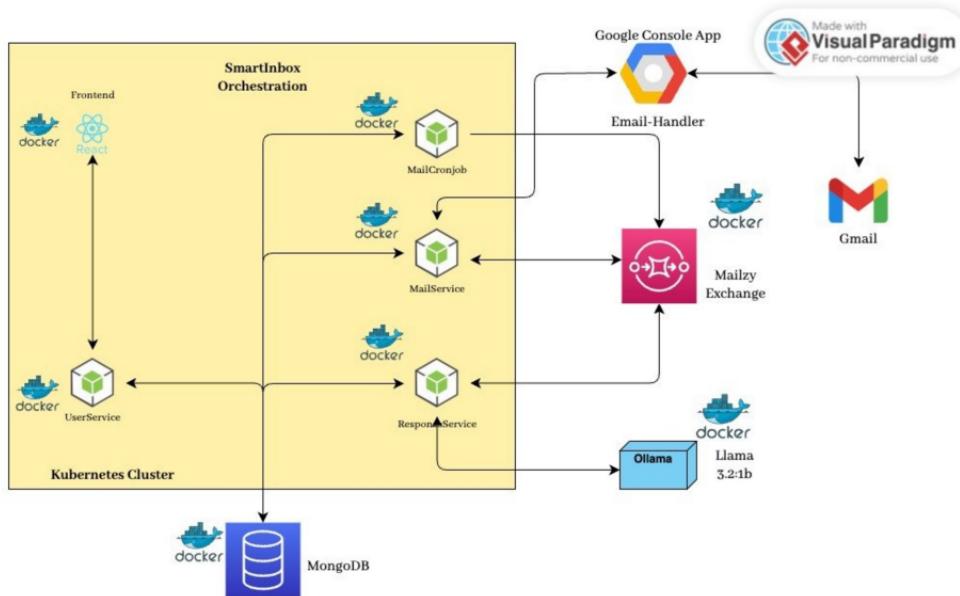
A core concept in modern software architecture.



Benefits of dividing functionalities

Improves management by creating distinct services.

SmartInbox Orchestration



Key Services Overview

Introduction to SmartInbox Services



Mail CronJob Service

This service efficiently manages and organizes incoming emails to enhance user productivity.



Mail Service

This service automates responses to common inquiries, saving time and improving efficiency.

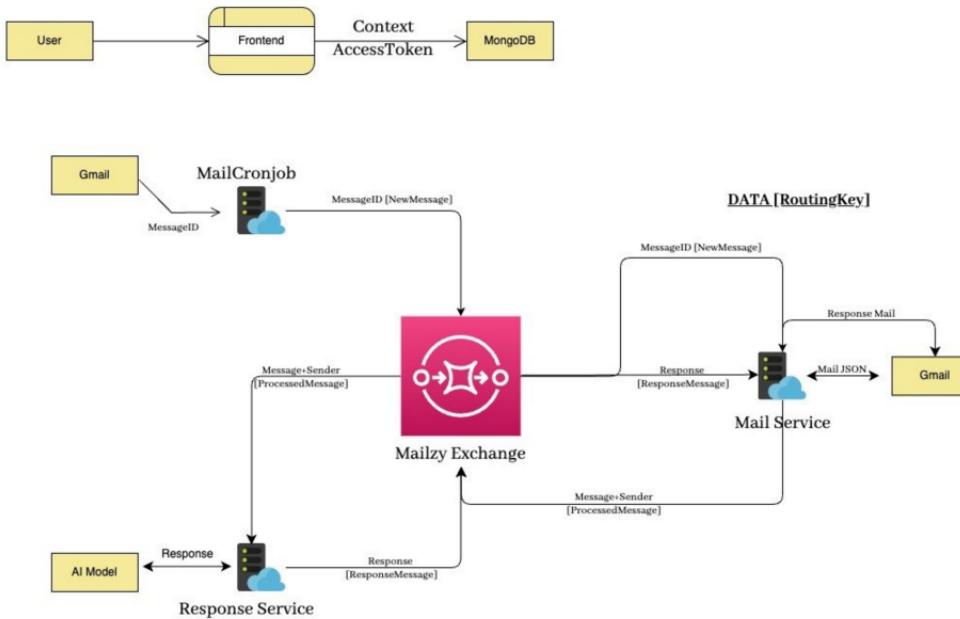


Response Service

This service creates relevant context for emails, enabling better understanding and response.

Dataflow Diagram

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Visual Paradigm
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Future Developments and Enhancements

Upcoming Features and Improvements



CI/CD Pipeline Implementation

Implementation of a CI/CD pipeline to facilitate streamlined updates and deployments for improved efficiency.

Expansion of Email Platform Support

Plans for expanding support to other email platforms to enhance user reach and accessibility.



User Dashboard Introduction

Introduction of a user dashboard aimed at providing insights and analytics tracking for better user experience.

Outputs

INTRODUCTION TO COURSE



Vivek Shaurya

Sun, Nov 10, 8:58 PM (11 days ago)



Good morning sir, Please let me know about your course of AI. I am new to your class

irctcvivek62@gmail.com

Sun, Nov 17, 7:01PM (4 days ago)



undefined Hi vivekshaurya62@gmail.com, I'm glad you're interested in Computer Networks. The course objectives for Introduction to Artificial Intelligence are as

irctcvivek62@gmail.com

Sun, Nov 17, 7:02 PM (4 days ago)



to vivekshaurya62 ▾

undefined

Good morning vivekshaurya62@gmail.com. I'm happy to provide you with an overview of our course on Introduction to Artificial Intelligence (CSE2401A25). Our class will delve into the fundamental concepts of AI, including search algorithms, knowledge representation, machine learning, and problem-solving techniques. We'll also explore AI applications and ethical considerations in the field. If you have any questions or concerns, feel free to reach out to me directly.

Best regards, Vivek Shaurya

Reply

Forward



Outputs

About doubt in your yesterday class Inbox x



Vivek Shaurya

to me ▾

Wed, Nov 20, 10:47 PM (2 hours ago)



Good morning sir,

I am Ansh, a student in your AI class.

yesterday I was unable to understand a topic you thought can you please help me with it.



ircrvivek62@gmail.com

to vivekshaurya62 ▾

undefined

Thank you for reaching out, Ansh. I'd be happy to help clarify the concept you're struggling with in our Introduction to Web Technology course. Can you please describe the specific topic or question that's causing you concern? I'll do my best to provide a concise and relevant response.

Best regards, Vivek Shaurya

Wed, Nov 20, 10:57 PM (2 hours ago)



Outputs

```
sender: "Nemo",
input: "Good morning Sir, I am having some trouble in my
college, Yesterday i was ragged by my seniors?",

answer: '(\n' +
' "subject": "Concerns about your well-being",\n' +
' "greeting": "Dear Nemo",\n' +
` "body": "I want to acknowledge that you've reached out and
express your concerns. I'm truly sorry to hear about the ragging
you experienced yesterday. Bullying and harassment can be
incredibly distressing, and it's not okay for anyone to be treated
this way. I want you to know that you're not alone, and there are
people who care about you and want to support you. If you feel
comfortable, could we schedule a meeting to discuss how I can
best support you during this challenging time? Please let me
know if this is something you'd like to explore further.",\n` +
' "signature": "Best regards, Vivek Shaurya"\n' +
'`'
```

Impact on Productivity and Email Management

Enhancing Efficiency through SmartInbox



User Efficiency

Overall impact on user efficiency in handling email communications.

Time-Saving Features

Explanation of time-saving features and benefits of automated email management.

Boosting Productivity

Discussion on how SmartInbox boosts productivity for professionals and organizations.

Conclusion and Summary of Benefits

Emphasizing the Value of SmartInbox



Recap of SmartInbox's capabilities

SmartInbox combines advanced AI, a robust microservices architecture, and a user-centric design to revolutionize email management.

1

Final thoughts on SmartInbox

SmartInbox stands as a transformative tool for achieving efficient, automated email management.

2

Empowerment of users

With SmartInbox, users gain the power to manage email communications seamlessly and with confidence.

3