BANNARI AMMAN INSTITUTE OF TECHNOLOGY
An Autonomous Institution Affiliated to Anna University - Chennai, Accredited by NAAC with A+ Grade
Sathyamangalam - 638401 Erode District, Tamil Nadu, India

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Project ID: 10

Project title: (Faculty Log) IQAC Mailer

Technical Components

Component	Tech Stack
Backend	NODE JS,EXPRESS JS
Frontend	VUE JS
Database	MongoDB
API	RESTful services

PROBLEM STATEMENT:

Educational institutions often face challenges in efficiently managing and distributing email communications to students and faculty. The current manual process for verifying, prioritizing, and organizing emails is time-consuming and error-prone, leading to delays and miscommunication. Additionally, the lack of personalization in email distribution results in important messages being overlooked.

To address these issues, we propose developing a communication management system that enables administrators to verify and prioritize emails, personalize distribution based on recipient preferences, and ensure secure storage and dissemination. This system will streamline communication processes, reduce administrative workload, and ensure timely and effective dissemination of important information within the institution.

SCOPE OF THE PROJECT:

The scope of the project involves developing a communication management system for an educational institution. This system will facilitate the sending of emails from various workstations to students and faculty. It includes email verification by administrators, prioritization of emails based on urgency, ordering them accordingly, and sending them out to recipients while considering their preferences. The project aims to streamline communication processes and ensure timely dissemination of important information within the institution.

SYSTEM OVERVIEW:

- **Admin Panel**: The Admin Panel equips administrators with powerful tools to manage communications efficiently. Administrators can verify and prioritize emails, organize them based on urgency, and distribute them accordingly. This robust platform enables admins to streamline communication processes, ensuring timely and organized dissemination of important information to students and faculty.

- **User Interface:** Users receive notifications when new emails are available, facilitating prompt attention. Through their dashboard, users can securely access and review emails, with options to provide feedback or additional comments if necessary. Users can also view their communication history, fostering transparency and engagement. This structured feedback mechanism encourages active participation and helps improve the overall communication environment.

Features:

1. Customizable Email Verification for Admin:

- Admins can verify emails for accuracy and relevance.
- Options to categorize emails based on various criteria (e.g., urgency, recipient group).
- Customization of email templates for consistent and professional presentation.

2. Email Distribution through Platform:

- Efficient distribution of emails to students and faculty via the platform.

3. Integration with User Dashboard:

- Seamless integration of email notifications into users' dashboards.
- Clear notifications indicating new emails available for review.

4. User Interaction with Emails:

- Flexibility for users to prioritize emails based on preferences and availability.
- Clear prompts and options provided for reviewing or archiving emails.

5. Secure Storage of Email Communications:

- Secure storage of email communications in the database to ensure data integrity and confidentiality.

6. Data Analysis and Graphical Representation:

- Generation of graphical representations such as charts and graphs on the admin communication report page.
- Visualizations offer insights into communication trends, facilitating informed decision-making for administrators.

Special Feature:

Identification of Important Communications using NLP:

- Leveraging Natural Language Processing (NLP) Techniques:
- The system utilizes advanced NLP algorithms to automatically analyze email content.
- Semantic Analysis and Keyword Detection:
- NLP algorithms parse through email content to detect keywords, sentiment, and context indicative of important messages.
- Highlighting of Significant Communications:
- Identified important emails are pinned and highlighted within the admin interface for easy reference and prioritized attention.
- Focused Analysis and Action:
- Admins can quickly navigate to pinned communications, facilitating focused analysis and action on key issues raised by users.

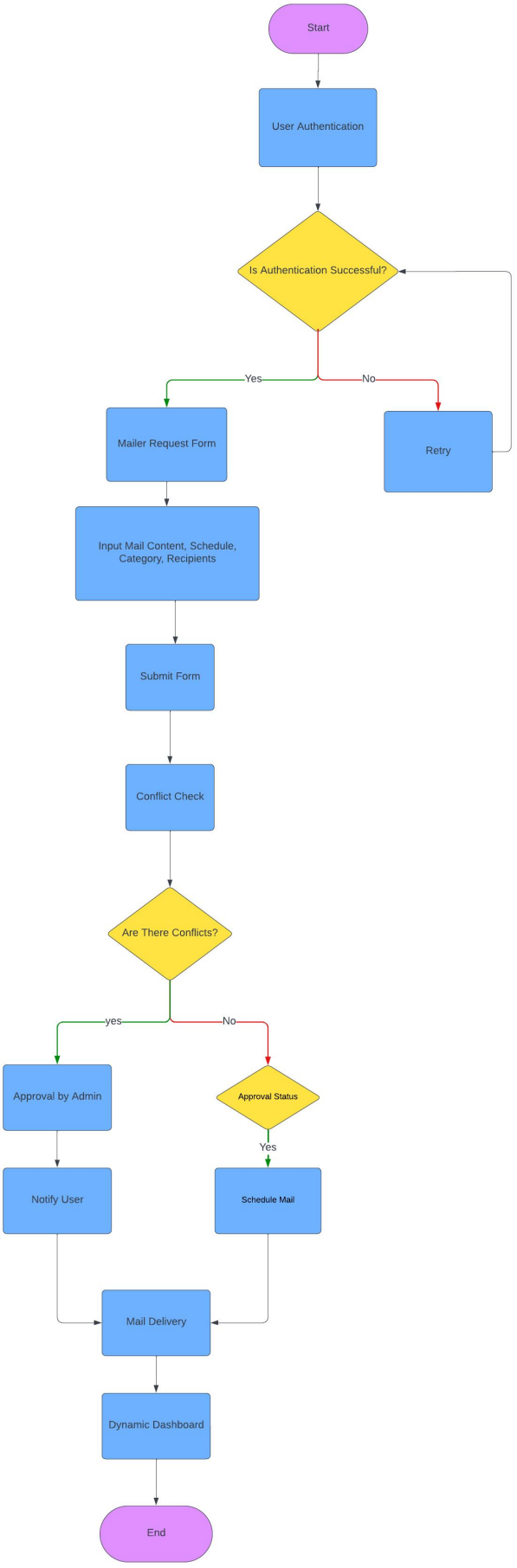
Functional Requirements:

1. **User Authentication:**
- Enable secure login using Google OAuth for user authentication.
2. **Email Verification Interface**:
- Provide an intuitive interface for admins to verify emails.
- Support options for categorizing, rearranging, and deleting emails as needed.
3. **User Communication Management:**
- Allow users to securely access their emails.
- Provide the option for users to prioritize emails based on urgency.
4. **Dynamic Dashboard:**
- Offer a dynamic dashboard for real-time email viewing and interaction.
- Ensure smooth navigation and user-friendly interface.
5. **Priority Algorithm:**
- Implement an automated prioritization algorithm based on NLP for analyzing and prioritizing emails.

Non-Functional Requirements:

1. **Security:**
- Adhere to industry-standard security protocols to safeguard sensitive user data.
- Ensure confidentiality and integrity of data.
2. **Performance:**
- Handle concurrent user interactions and email submissions efficiently.
- Optimize response times for loading emails, submitting responses.

FLOW CHART


Start
User Authentication
Is Authentication Successful?
Yes
No
Mailer Request Form
Retry
Input Mail Content, Schedule, Category, Recipients
Submit Form
Conflict Check
Are There Conflicts?
yes
No
Approval by Admin
Approval Status
Yes
Notify User
Schedule Mail
Mail Delivery
Dynamic Dashboard
End