Project Planning and Requirements Gathering Document

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Project Title: Bulk mail block/unblock
Project ID: 11
Seat No: 171

Project Overview:

The project aims to develop a web application that allows administrators to manage Gmail accounts in bulk by providing features for blocking and unblocking accounts. Additionally, the application will include functionality for scheduling block/unblock actions, automating repetitive tasks for administrators.

Project Objectives:

→ Develop a user-friendly interface for administrators to manage Gmail accounts efficiently.

→ Implement bulk block/unblock functionality to enable administrators to perform actions on multiple accounts simultaneously.

→ Integrate scheduling features to automate block/unblock actions at specified times.

→ Ensure security and reliability in handling user data and interactions with the Gmail API.

Stakeholders:

Administrators: Users responsible for managing Gmail accounts for a group of users (e.g., collage staff, employees).

Functional Requirements:

User Authentication:
1) Administrators must be authenticated before accessing the application.
2) Implement role-based access control to differentiate between administrators and regular users.

Bulk Block/Unblock:
1) Allow administrators to select multiple Gmail accounts and perform block or unblock actions on them.
2) Provide feedback on the success or failure of each action.

Scheduled Block/Unblock:
1) Enable administrators to schedule block or unblock actions for selected Gmail accounts.
2) Implement a scheduling mechanism to trigger actions at specified times.

Gmail API Integration:
1) Integrate with the Gmail API to interact with Gmail accounts programmatically.
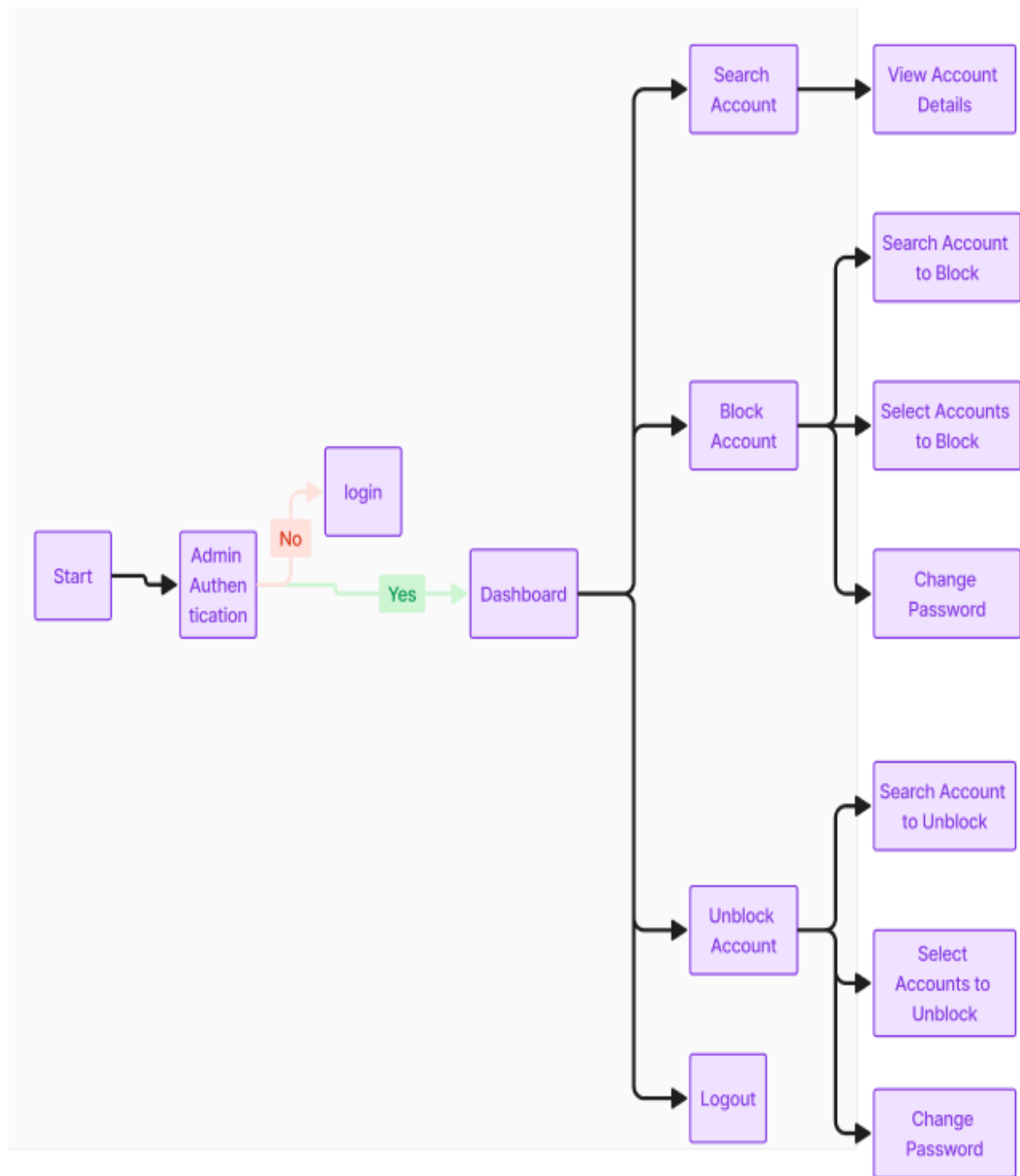2) Obtain necessary permissions to perform actions such as changing passwords and blocking/unblocking accounts.

```mermaid
flowchart LR
    Start --> Admin[Admin Authentication]
    Admin -->|No| login
    Admin -->|Yes| Dashboard
    Dashboard --> SearchAccount[Search Account]
    SearchAccount --> ViewAccountDetails[View Account Details]
    Dashboard --> BlockAccount[Block Account]
    BlockAccount --> SearchAccountToBlock[Search Account to Block]
    BlockAccount --> SelectAccountsToBlock[Select Accounts to Block]
    BlockAccount --> ChangePassword[Change Password]
    Dashboard --> UnblockAccount[Unblock Account]
    UnblockAccount --> SearchAccountToUnblock[Search Account to Unblock]
    UnblockAccount --> SelectAccountsToUnblock[Select Accounts to Unblock]
    UnblockAccount --> ChangePassword2[Change Password]
    Dashboard --> Logout
```

Start → **Admin Authentication**
- No → login
- Yes → **Dashboard**

Dashboard:
- Search Account → View Account Details
- Block Account
  - Search Account to Block
  - Select Accounts to Block
  - Change Password
- Unblock Account
  - Search Account to Unblock
  - Select Accounts to Unblock
  - Change Password
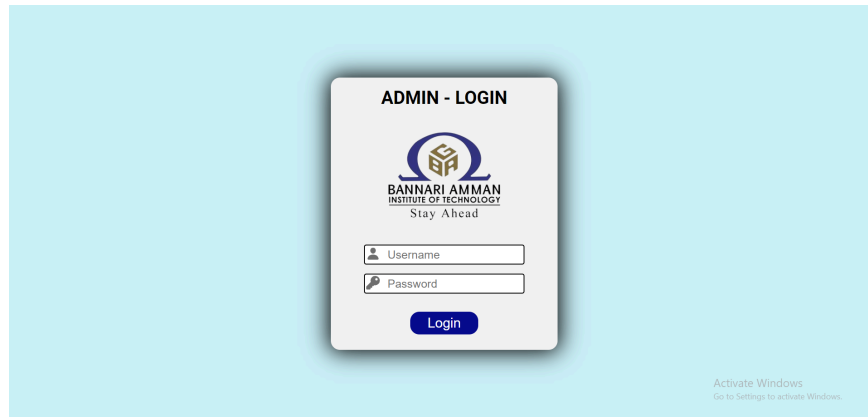- Logout

Fig1.1: Flowchart for Frontend
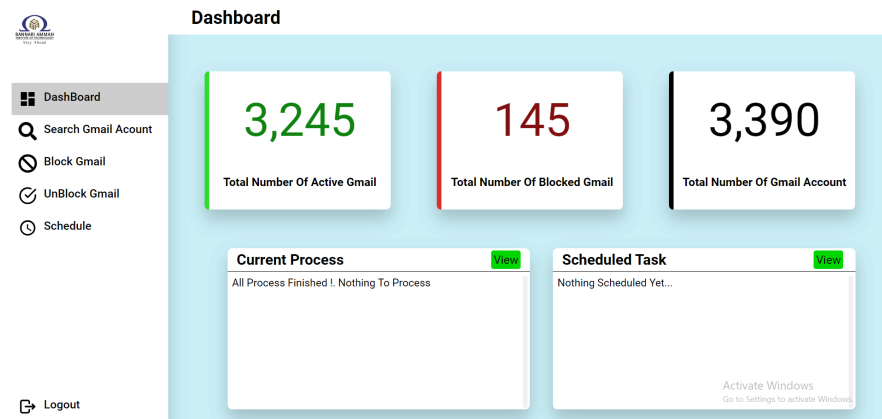

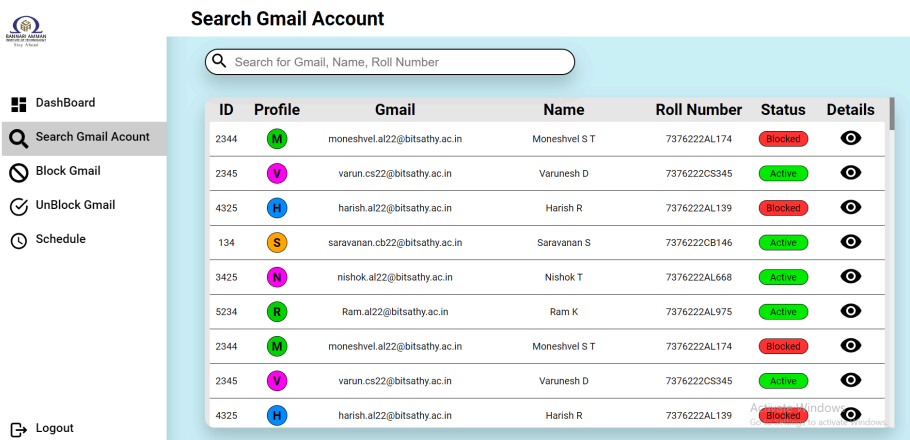*Fig: 1.2: login page*

Fig 1.3: Admin Dashboard

Fig 1.4: Search Account

Non-Functional Requirements:

Security:
1) Ensure that user authentication mechanisms are secure and protect sensitive user data.
2) Use encryption and secure protocols when interacting with the Gmail API.

Performance:
1) Ensure the application can handle bulk operations efficiently without significant performance degradation.
2) Optimize backend processes to minimize response times for administrators.

Scalability:
1) Design the application to handle a potentially large number of Gmail accounts and administrators.
2) Use scalable infrastructure and database solutions to accommodate growth.

User Interface:
1) Design an intuitive and responsive user interface that simplifies the process of managing Gmail accounts.
2) Provide clear feedback to users on the status of their actions and any errors encountered.

Risks and Assumptions:

Gmail API Limitations: There may be limitations or rate limits imposed by the Gmail API, which could affect the performance of the application.

Google Super Admin Account Requirement:

Description: The developer requires access to a Google super admin account associated with the college domain to utilize certain functionalities of the Google API, specifically those related to managing user accounts. To change the password of the student's gmail account, Without super admin account the application can't work.

Justification: The Google super admin account possesses elevated access privileges within the Google Workspace domain, enabling the application to execute actions such as password changes and account blocking/unblocking on behalf of administrators.

Conclusion:

This document outlines the planning and requirements gathering phase for the bulk Gmail block/unblock project. By clearly defining the objectives, stakeholders, functional and non-functional requirements, risks, assumptions.