PROMOTIONAL EMAIL UNSUBSCRIPTION USING WEB EXTENSION

Project Reference No.: *47S_BE_0514*

College   : *St. Joseph Engineering College, Mangalore*
Branch   : *Department of Computer Science Engineering*
Guide(s)   : *Dr. Harivinod N and Ms. Prajna M*
Student(S) : *Ms. Prerana C Bangera*
             Mr. R Vinay
             Mr. Ramgopal P
             Ms. Rashmitha R

Keywords:

Promotional Email filtration and Unsubscription, Promotional Email Manager, Email Management System, Email Add-on for Promotions filtering and blocking

Introduction:

In a world that thrives everyday communicating via email, we often get a lot of promotional/spam emails that we subscribed to knowingly or unknowingly which keep ringing our phone/laptop for notifications, distracting us from our important work for unimportant emails, that fill up our email service based limited cloud storage (for example Gmail that provides us just with 15GB of free storage) and having to deal with it everyday or getting to stop these emails filling our storage is a task. In response to this challenge, we are proposing an innovative project that aims to deal with the large crowd of people who are fed up of these emails using a web extension that enables them to recognize the promotional mail, unsubscribe from receiving it further and delete for allowing more storage to be free with possibly a single tap on a button. Creating a web extension to streamline the process of identifying, unsubscribing, and deleting such emails with a single click could potentially save users a significant amount of time and frustration.

The aim of this project is to develop a web extension that automates tasks within Gmail, streamlining email management. The extension will use the Gmail API for secure access, enabling features such as detecting and categorizing promotional emails, unsubscribing from mailing lists, deleting or archiving unwanted emails, and labeling and organizing messages. Users will have the ability to customize extension settings via a user-friendly popup interface. The project aims to enhance email productivity, reduce clutter, and offer a more organized Email experience, ultimately saving users time and improving their email workflow.

Objectives:

- Business and Professional Use: Professionals and business users can streamline their

email workflows, categorize and prioritize important messages, and efficiently manage email subscriptions. Sales and marketing teams can automate email categorization and unsubscribe from irrelevant mailing lists, allowing them to focus on meaningful communication.

- Digital Marketing and Outreach: This application is particularly beneficial for digital marketers and businesses that rely on email marketing campaigns. The extension can help marketers organize and categorize incoming emails, making it easier to track campaign performance, manage subscriber lists, and optimize engagement. It streamlines the marketing workflow, ensuring that important emails are prioritized while facilitating the efficient management of subscriptions and communication with customers. This application can significantly enhance the effectiveness of digital marketing efforts.

- Customer Support and Service: Customer support teams in various industries, such as e-commerce, software, and telecommunications, can greatly benefit from the Email automation extension. By automating email categorization and prioritization, support agents can ensure that customer inquiries and issues are addressed promptly. This leads to improved customer satisfaction, quicker problem resolution, and enhanced overall service quality. The extension can be a valuable tool for managing a high volume of customer emails efficiently, contributing to a better customer support experience.

Methodology:

Planning and Requirements:

Define goals, features, and specifications.Gather detailed requirements, user stories, and tech stack selection.

Design and Development:

Architectural design, UI creation, and OAuth 2.0 setup.Code development for extension components.

Testing and Security:

Unit and integration testing.Security and privacy compliance checks.

User Interface and Documentation:

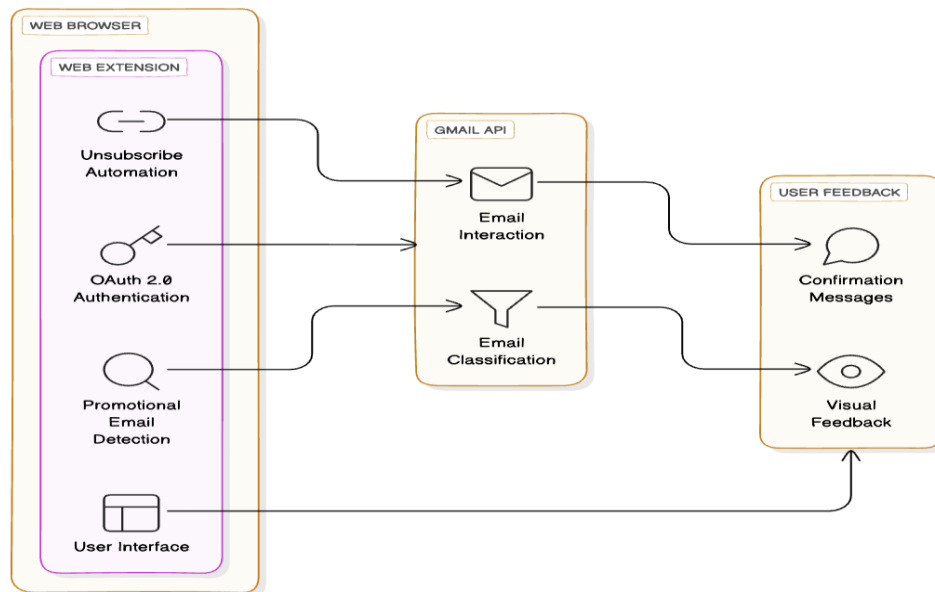Develop a user-friendly UI and comprehensive documentation.

Deployment and Maintenance:

Package for deployment on Chrome Web Store.Continuous maintenance, updates, and analytics implementation.

Legal and Ethical Compliance:

Monitor compliance with API policies and regulations.Address any legal or ethical issues promptly and responsibly.

Architecture Diagram:

- Gmail Environment Integration:Provides a user-friendly interface within Gmail.
- Core Logic Management:Manages overall functionality of the extension.
- Specialized Modules:Promotional Email Detection
- Auth 2.0 Authentication:Ensures secure communication with Gmail API.
- User Interface (UI) / User Feedback: Offers popup interfaces and visual feedback. Includes confirmation messages to streamline user experience.

Result:

- ●Streamlined Efficiency: The system effectively optimizes email organization, enabling users to swiftly identify and prioritize important correspondence while relegating less critical messages to secondary categories. This streamlined approach enhances overall productivity and time management.
- Precision in Classification: Leveraging advanced machine learning algorithms, the system exhibits remarkable accuracy in categorizing emails based on predefined criteria. This capability significantly reduces the need for manual sorting and ensures consistent and reliable classification.
- Boosted Productivity: By automating repetitive tasks such as filtering promotional emails or routing messages to specific folders, the system empowers users to allocate their time and focus more efficiently. This automation leads to tangible productivity gains and a reduction in inbox clutter.
- ●Seamless Integration: The Chrome extension seamlessly integrates with the Gmail interface, providing users with a familiar and intuitive platform to access the system's features. This cohesive integration ensures a seamless user experience without the need for external applications.
- Positive User Feedback: Feedback from test users has been overwhelmingly

positive, with many expressing satisfaction with the system's ability to simplify email management workflows and improve overall efficiency. Users appreciate the system's user-friendly interface and its effectiveness in addressing their email-related challenges

Conclusion:

In conclusion, this project presents a comprehensive solution for efficient email management and classification within the Gmail environment. By leveraging the power of machine learning techniques, specifically natural language processing, coupled with seamless integration with the Gmail API, the system offers users a streamlined experience for organizing and prioritizing their emails.

Through the development of a Chrome extension, users can access the functionalities seamlessly from their web browser, enhancing their email productivity without the need for external applications or services. The system's architecture, characterized by its modular components and clear interactions, ensures reliability and scalability, accommodating potential future enhancements and adaptations.

The successful implementation and testing of the system demonstrate its effectiveness in accurately classifying emails based on user-defined criteria and preferences, thereby reducing the time and effort required for manual email management tasks. Furthermore, the project's innovation lies in its ability to harness machine learning capabilities to adapt to users' evolving needs and preferences over time.

Looking ahead, there is immense potential for further enhancements and refinements, including the integration of additional machine learning models for more sophisticated email classification, as well as the incorporation of user feedback mechanisms to continuously improve system performance. Overall, this project signifies a significant step forward in redefining email management paradigms, offering users a more intelligent and personalized approach to handling their inbox clutter.

What is the innovation in the project?

Our project introduces an innovative approach to email management through advanced parsing techniques and intelligent filtering mechanisms. By leveraging sophisticated algorithms, we have developed a system that goes beyond traditional keyword matching to accurately identify and categorize promotional emails. This ensures that users can easily distinguish between important messages and promotional content cluttering their inbox. What sets our solution apart is its seamless integration with popular email platforms and its user-friendly interface, which simplifies the process of managing emails. Moreover, our project offers an efficient unsubscribe automation feature, allowing users to quickly and effortlessly unsubscribe from promotional emails with just a few clicks. This innovation not only enhances the user experience but also addresses the growing need for effective email management solutions in today's digital age.

Scope for future work:

In the realm of email management, the project stands as a pioneering effort, leveraging cutting-edge machine learning algorithms to revolutionize the way users interact with their inboxes. By employing advanced natural language processing techniques, the system adeptly categorizes and filters incoming emails, streamlining the user experience and enhancing productivity. The innovation lies in its dynamic adaptation to user behavior, continually refining its classification accuracy and personalizing email prioritization based on individual preferences. Looking ahead, the project presents a vast scope for future exploration and development. There's immense potential in further refining machine learning models, integrating additional email platforms, and expanding language support to cater to a global audience. Moreover, the system's scalability opens doors for integration with external services, introduction of customizable filtering rules, and implementation of real-time analysis for instant feedback. As the project paves the way for a new era in email management, continuous research and development efforts promise to unlock even greater efficiency, effectiveness, and user satisfaction in the digital communication landscape.