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Email Alerts on WhatsApp

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Abstract: ***Email Alerts on WhatsApp is a cutting-edge system that is meant to make communication easier by sending email alerts directly to users through WhatsApp. The solution saves users time and effort by making them receive important notifications immediately without having to keep checking their mailboxes. The system connects to email servers to scan incoming messages and utilizes automated scripts to transfer relevant notifications to the user's WhatsApp using the Twilio API. Users are able to personalize the kind of alerts they receive, making the system efficient and user-friendly. Through the integration of automation, communication APIs, and personalization, this method improves accessibility and guarantees timely delivery of information, especially useful for professionals and businesses that need real-time updates***

I. INTRODUCTION

In the current rapid digital age, timely access to information is paramount for individuals and companies alike. Email is still one of the most popular communication tools, needed for business and personal communication. Yet, frequent checking of email can be unproductive, and important messages might be missed, particularly when people are on the go. To solve this problem, new technologies have been developed to improve how notifications are presented.

One of these solutions is the Email Alerts on WhatsApp system. This method uses automation and message APIs to send vital email notifications straight to users on WhatsApp—one of the most used and available messaging platforms in the world. Through the integration of email services and WhatsApp using tools such as Twilio and Node.js, this system provides users with instant live alerts anywhere, anytime. The aim is to simplify communication, shorten response times, and offer a functional, user-friendly substitute for old-fashioned email messages, eventually optimizing efficiency and connectivity in personal life as well as in the work environment.

II. LITERATURE SURVEY

Danah Omary and Gayatri Mehta, in their work "Multi-Modal Interactions of Mixed Reality Framework" (2024 IEEE 17th Dallas Circuits and Systems Conference), suggested a Mixed Reality (MR) system to assist blind and visually impaired people by unifying touch, sound, and vision into one interactive platform. While the emphasis was on increasing accessibility via MR, the essence of multimodal interaction—integration of audio, tactile feedback, and real-time responses—is equally applicable to communication systems such as Email Alerts on WhatsApp. These concepts support the necessity of providing timely and context-aware feedback to users via accessible and familiar interfaces. The system provided feedback through vibrations, allowing users to grasp direction and speed indoors. The approach of leveraging available mobile infrastructure and sensors to offer real-time feedback is similar to the method applied in the Email Alerts on WhatsApp project, where the available WhatsApp platform and messaging APIs are leveraged to enhance user awareness and communication effectiveness.

These researches, although focused on assistive technology for the visually impaired, highlight the general principle of maximizing user interaction and real-time information dissemination—principles that form the basis of developing the Email Alerts on WhatsApp system.

III. EXISTING SYSTEM

Current notification systems are largely based on classic email clients or mobile push notifications to notify users of incoming mail. Although these work well in most situations, they tend to ask users to constantly check their inboxes or have certain apps open, which can result in lost communications, particularly in dynamic or mobile contexts. Some programs provide desktop or mobile notifications, but they are not necessarily real-time, user-configurable, or available across all platforms.

To solve this, third-party services such as Zapier or IFTTT provide automation workflows to relay emails to messaging apps. Still, such platforms tend to lack flexibility in terms of customization, how often they check, and support for frequently used communication tools such as WhatsApp. Furthermore, the majority do not enable real-time two-way communication or context-aware alerting.

By contrast, the Email Alerts on WhatsApp system closes this gap by connecting email services with WhatsApp using APIs such as Twilio. This allows for the sending of real-time, structured alerts to users on a platform they frequent. The system can be programmed to filter and prioritize messages depending on importance, sender, or keywords. Through the use of automation and real-time communication technology, this solution provides a more efficient and accessible alternative to traditional email notification systems, with users being able to enjoy a seamless and instant experience.

IV. PROPOSED SYSTEM

The email alerts on WhatsApp system is an ultra-real-time email notification system that combines Gmail with WhatsApp via Google Apps Script and the Twilio API. Conceived to optimize email monitoring and improve user responsiveness, this system continuously checks for new emails and sends formatted notifications straight to the user's WhatsApp account.

At its core, the system makes use of Google Apps Script in order to utilize the Gmail API to grab the newest email threads and pull important information such as the sender, subject, and timestamp. The information is then structured into a short WhatsApp message using a customized message formatter.

For messaging, the system uses Twilio's WhatsApp Business API, which enables authenticated API requests to send messages to verified WhatsApp numbers. The HTTP request is built with UrlFetchApp with Basic Authentication headers and a pre-defined message payload. The Twilio Sandbox number is the sender, and the user's verified WhatsApp number is the recipient of the notifications.

The system incorporates error handling, credential checking, and logging to provide robustness and maintainability. Moreover, a time-triggered setup is made to initiate the email-checking functionality periodically (e.g., every 5 minutes), which makes the system automatically scalable.

By connecting email with WhatsApp—a popular messaging service—this solution streamlines communication effectiveness and ensures essential messages are never lost. It offers an automated, real-time notification system that is particularly valuable in high-mobility or business environments where instantaneous awareness is vital.

V. IMPLIMENTATION

The system under consideration—Email Alerts on WhatsApp—is created with Google Apps Script combined with Twilio's WhatsApp API to send instant email alerts over WhatsApp. This integration connects Gmail and WhatsApp, making the users aware of vital emails without needing to check their inbox manually.

As its core component lies a Google Apps Script function to periodically monitor the user's Gmail inbox for recently received email threads. It checks the lastest email, draws out applicable details like sender's address, title, and time stamp, and constructs a concise alert message. In order to send the message, the system utilizes the Twilio API. It sends a POST request to Twilio's WhatsApp messaging endpoint through the UrlFetchApp service. Authentication is carried out using the user's Twilio SID and Auth Token, while message formatting is tailored to readability and simplicity on WhatsApp.

A built-in text formatting feature makes sure that the email information is displayed in an organized and readable manner. The end alert comprises labels and visual emojis for a better experience. The system executes on a time-triggered basis, which performs the monitoring and notification automatically at a definite time interval, e.g., every 5 minutes.

This hands-free, cloud-based deployment enables users to keep themselves updated on their Gmail messages in real-time via WhatsApp, enhancing responsiveness and accessibility—particularly for professionals whose work depends intensely on timely communication. The deployment using Google Apps Script keeps the system light and scalable, with Twilio facilitating secure message delivery on the WhatsApp platform.

VI. MODULES

1) Email Detection and Parsing: It employs Google Apps Script to pull Gmail threads and detect the most recent unread mails. It scans for major data like the sender, subject, and received date. The parsed data is afterward formatted into an organized message which is brief as well as detailed.

2) Message Formatting: A specialized function formats the alert message to be readable and easy to understand on WhatsApp. The format is in emojis and formatted line breaks, making it mobile display-friendly. The module ensures that the message includes all the necessary information without compromising readability.

3) WhatsApp Notification (Twilio Integration): The system employs the Twilio API to send the formatted message as a WhatsApp alert. This module takes care of authentication (using Twilio SID and Auth Token), builds a POST request, and sends the alert to the verified WhatsApp number.

VII. SYSTEM ARCHITECTURE

VIII. RESULT AND ANALYSIS

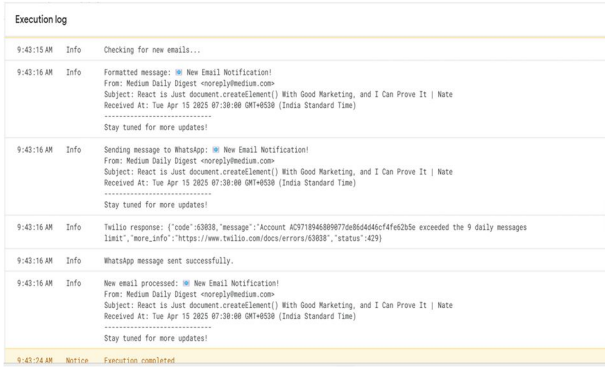

Fig 1: Latest Received Mails

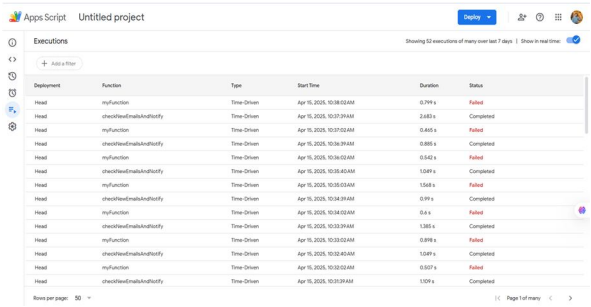

Fig 2: Status for Alerts in WhatsApp

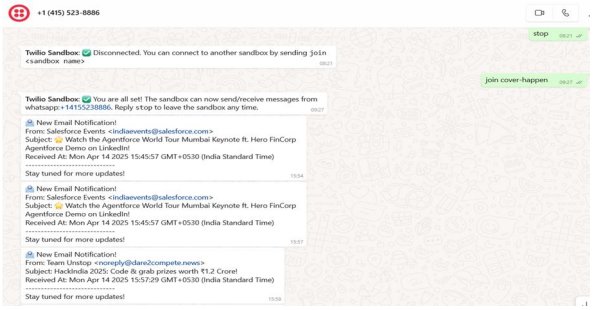

Fig 3: Receiving Mails in WhatsApp

IX. CONCLUSION

The Email Alerts on WhatsApp system combines Gmail with WhatsApp notifications via Google Apps Script and Twilio. The system will automatically scan for new emails within the Gmail inbox, pull out pertinent information like the subject, the sender, and received time, and present it in a concise, user-friendly message. The information is subsequently forwarded as a WhatsApp message to inform users promptly of new emails without having to look at their inbox. The integration provides an easy and efficient means of obtaining email notifications right on WhatsApp to enhance communication and accessibility.

X. FUTURE SCOPE

The future of the system for Email Alerts on WhatsApp has great potential, with lots of room for growth and improvement. One area for development is the creation of mobile and tablet apps, which would enhance the convenience and accessibility of the system for users who require email alerts on the go. By providing a mobile-friendly platform, users are able to receive WhatsApp notifications in real-time easily, whether they are traveling, commuting, or working in unknown environments. Additionally, incorporating multilingual support is another important step towards inclusivity and user-friendliness. This not only enhances the overall accessibility of the system but also boosts its performance by providing a more personalized and user-oriented experience.

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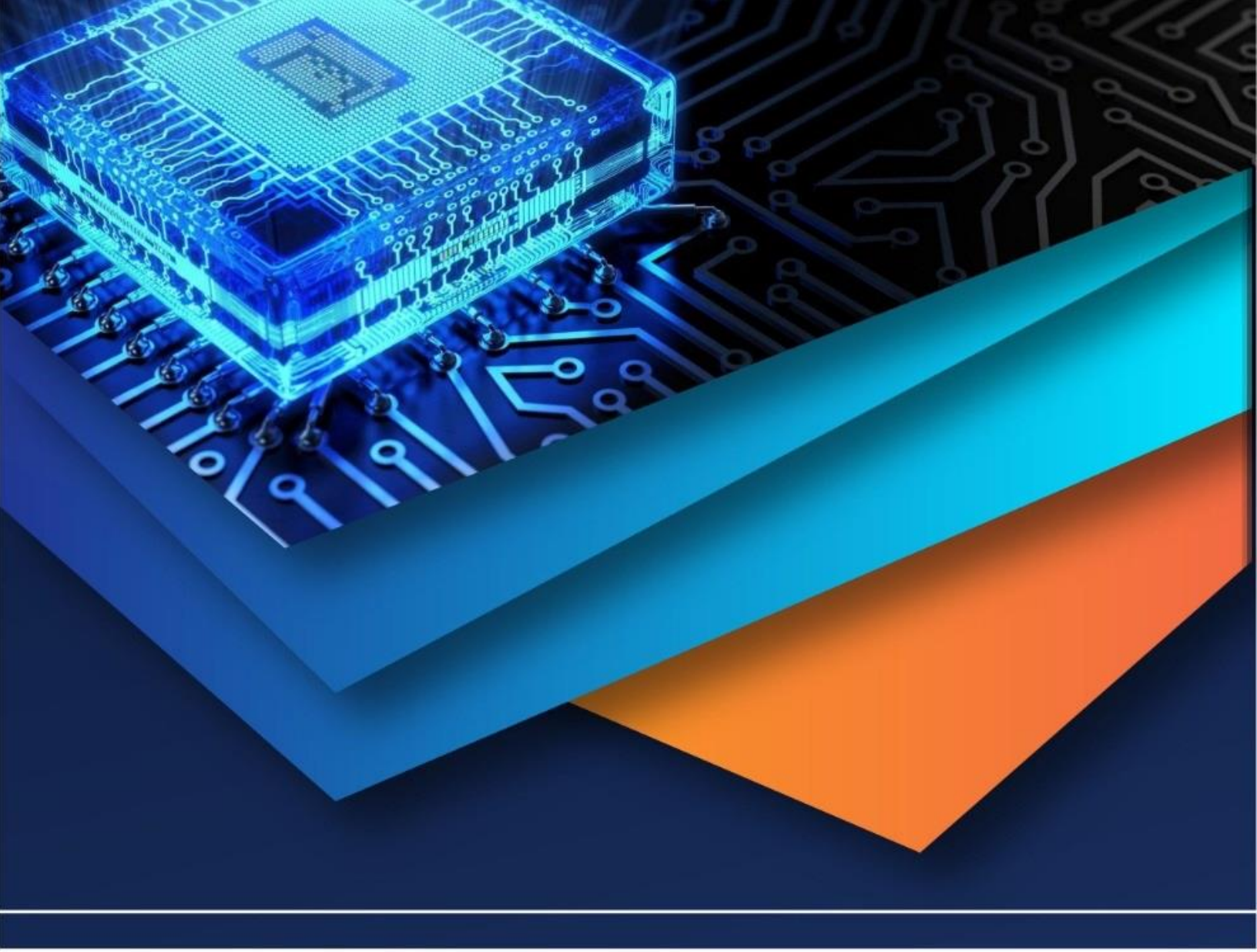

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