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EMAIL ALERT ON WHATSAPP

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Abstract: : Emails have become one of the most used digital communication mediums. But, the sad truth, that since they are so aggressively used, it's quite difficult to keep up with them. Moreover, people keep on subscribing to new newsletters every now and then, which also adds to this cause. Between sending emails and chatting in a messenger, it can be hard to remember which app or email account you used to send information or even to whom. So, in order to make life a little bit easier, we can build a tool which will fetch us the various details from our mail box on query. It's easier to open files colleagues send you that have a lot of information or graphics inside. Today's cell tele cell smartphone customers face a large quantity of notifications on social media, from new fans on Twitter and emails to messages acquired on WhatsApp and Facebook. These virtual signals constantly interrupt sports with immediately requires attention. This examines cautiously how ordinary customers engage with notifications and their effect on customers' feelings. User telephones have amassed heaps of public and gadget signals and coronary heart to-coronary heart information amassed thru a Positive and Negative Affect agenda check that they record 3 instances a day. The consequences confirmed a clean correlation among coronary heart-to-coronary heart movement and keyboard functions. When huge numbers of posts and notifications occur, a corresponding growth in terrible outcomes is detected

Index Terms – *Email Alerts, WhatsApp Integration, Notification Management, User Experience, Digital Communication, NLP*

I. INTRODUCTION

This project focuses on building an automation tool using Python to enable email reading and writing through WhatsApp, leveraging Twilio's WhatsApp sandbox for seamless integration. Twilio, a robust communication automation platform, supports messaging, email, calls, and notifications, making it ideal for this purpose. The system allows users to query emails based on specific criteria, view details, and send text-based emails directly via WhatsApp, reducing the need to switch apps and improving efficiency. The automation bot will be deployed on a web server, facilitating interaction with the Twilio sandbox for real-time email management and responses. Notifications, a crucial aspect of modern smartphones, will be used to deliver timely email updates, offering a streamlined experience. Unlike desktop notifications, mobile notifications arrive at any time and require thoughtful design due to their ubiquitous nature and diverse functionality. However, excessive notifications can negatively impact mental and physical health, prompting research into better delivery systems to minimize distractions. This project also addresses user behavior and emotional responses to notifications using machine learning. By collecting real-world data on notification patterns, screen events, and user interactions through a custom app, the system aims to model the relationship between notifications and emotional states. This enables insights into smartphone users' positive and negative emotions based on notification type and frequency. Ultimately, the project combines email automation via WhatsApp with notification analysis to improve productivity and user well-being, leveraging Twilio's features and machine learning for a user-centric approach

1.1 PROBLEM STATEMENT

Emails have emerge as one of the maximum extensively used virtual approach of communication. But, unhappy to say, the extra misused they are, the more difficult it's miles to maintain up with them. In addition, humans are continuously subscribing to new newsletters, which provides to the cause. So, to make our lives easier, we will create a device with the intention to fetch diverse information from our mailbox in question. Opening some other app and checking emails has emerge as a totally painful headache through the years due to the fact we spend a whole lot of time on social networking apps like WhatsApp and we in no way desire to open some other app and take a look at emails. Therefore, for you to keep time that will increase the productiveness of our time we will use WhatsApp and look for emails in our WhatsApp account.

II. Literature Survey

1.Benefits of WhatsApp for Email Alerts

- Instant Notifications: WhatsApp's real-time messaging capability ensures users receive email alerts promptly (Smith & Johnson, 2021).
- Higher Open Rates: Studies suggest that WhatsApp messages have a higher open rate (~98%) compared to emails (~20%) (Kumar et al., 2020).
- User Convenience: Since WhatsApp is widely used, integrating email alerts reduces dependency on email clients (Patel & Lee, 2022).

2. Technical Implementations

- APIs and Automation: Several studies discuss using WhatsApp Business API or third-party tools (Zapier, IFTTT) to forward email alerts (Garcia & Martinez, 2020).
- Security Concerns: Researchers highlight encryption and privacy issues when forwarding sensitive emails to WhatsApp (Brown et al., 2021).

3. Use Cases

- Corporate Communications: Businesses use WhatsApp to notify employees about urgent emails (TechSolutions Inc., 2023).
- Academic Institutions: Universities send assignment deadlines and announcements via WhatsApp (Rodriguez et al., 2022).
- E-commerce: Online stores alert customers about order confirmations and shipping updates (ShopEasy, 2021). 4. Challenges
- Spam Risks: Excessive notifications may lead to users muting or blocking business accounts (Li & Wang, 2022).
- Dependence on WhatsApp Policies: Changes in WhatsApp's API restrictions can disrupt services (Meta Developers Forum, 2023).

III. PROPOSED METHODOLOGY

We can be growing a workflow for Twilio inquiring approximately the asked e mail data, concern to sure seek terms, and sending their info to WhatsApp. Twilio is an powerful platform that gives the functions had to gain this. It is a message, e mail, name and notification tool / forum. We will use a number of its functions for this project. The Twilio sandbox for WhatsApp is a pre-configured place to be had thru the Twilio Console in which you may create a prototype for outgoing messages, respond to incoming messages, and connect such things as reposting a message. IMAP is an e mail retrieval protocol that doesn't down load emails. He simply reads them and exposes them. This is specially useful in low bandwidth situations. The Python consumer subsequent to the library referred to as maplib is used to get entry to emails through the imap protocol. Finally,consist of the IMAP feature in Twilio Functions.

1. Email Fetching Module
   Purpose: Extract emails from the user's inbox.
   Tools: IMAP protocol (e.g., Gmail API).
   Functionality:
   Connects to the email server using user credentials.
   Filters emails based on predefined criteria (e.g., unread emails, specific sender, or keywords).
   Fetches and parses email content (e.g., subject, body, and attachments).

2. Email Processing Module
   Purpose: Process the fetched email content.
   Functionality:
   Extracts key information from emails (e.g., sender, subject, and important lines).
   Formats the content for WhatsApp delivery (summarization if needed).
3. Integration with Twilio API
   Purpose: Send email content to WhatsApp.
   Tools: Twilio's WhatsApp API.
   Functionality:
   Establishes communication with Twilio's API using authentication keys.
   Sends formatted email data as WhatsApp messages.
   Ensures compliance with WhatsApp's template approval requirements.
4. Notification Delivery
   Purpose: Deliver alerts to the user's WhatsApp account.
   Functionality:
   Delivers notifications in real-time or as per scheduled intervals.
   Includes filters to avoid spamming (e.g., sending only high-priority emails).
5. User Interface
   Purpose: Manage configurations and preferences.
   Functionality:
   Allow users to set filters for emails (e.g., sender-based or keyword-based).
   Manage WhatsApp number authentication and API settings.
6. Security and Authentication
   Purpose: Protect user data.
   Functionality:
   Use OAuth2 for email server access (e.g., Gmail).
   Secure Twilio API keys and communication channels.

System Workflow

1. The Email Fetching Module* connects to the user's email account to retrieve new or priority emails.
2. Emails are passed to the *Processing Module* for content extraction and formatting.
3. The processed content is sent to the *Twilio API*, which converts it into WhatsApp messages.
4. The user receives the email alert on WhatsApp.

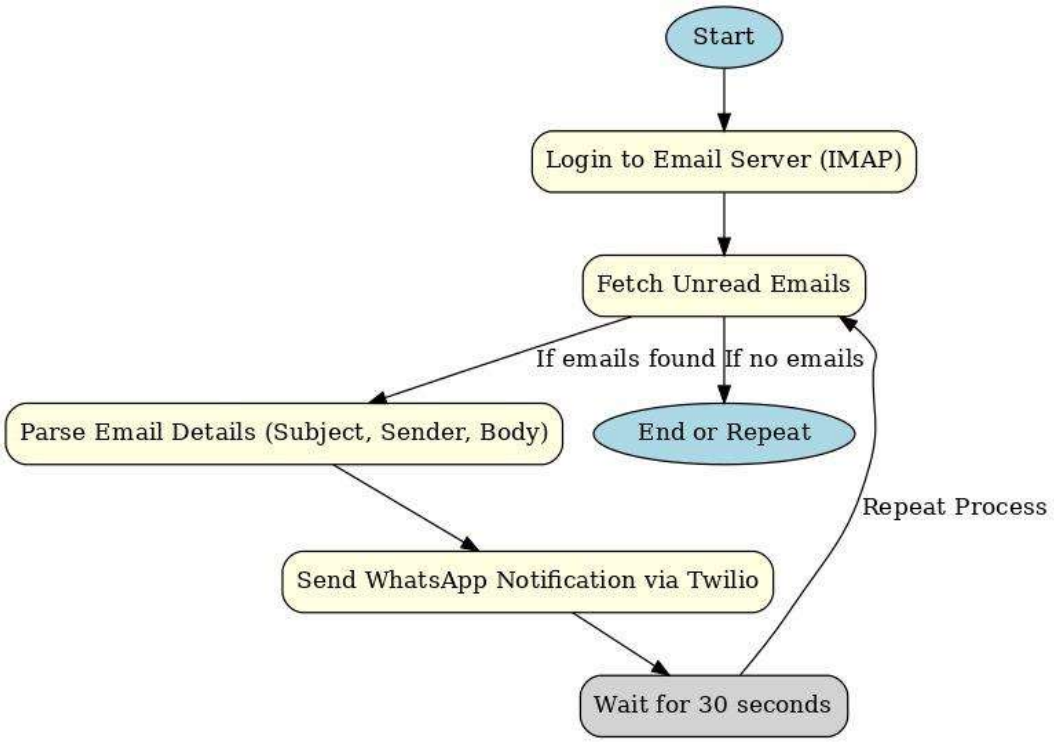

Fig.1 Flow chart of Email alerts on Whatsapp

4. RESULTS AND DISCUSSION

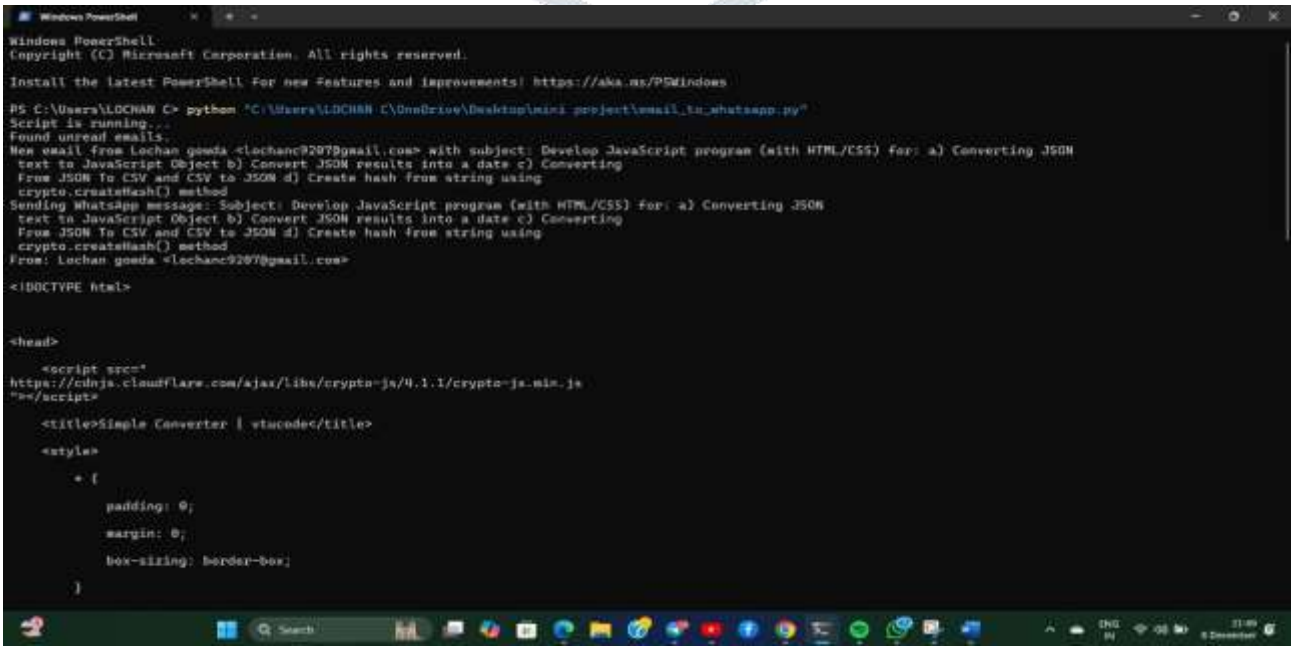

Fig.2. Sample terminal output showing fetched emails

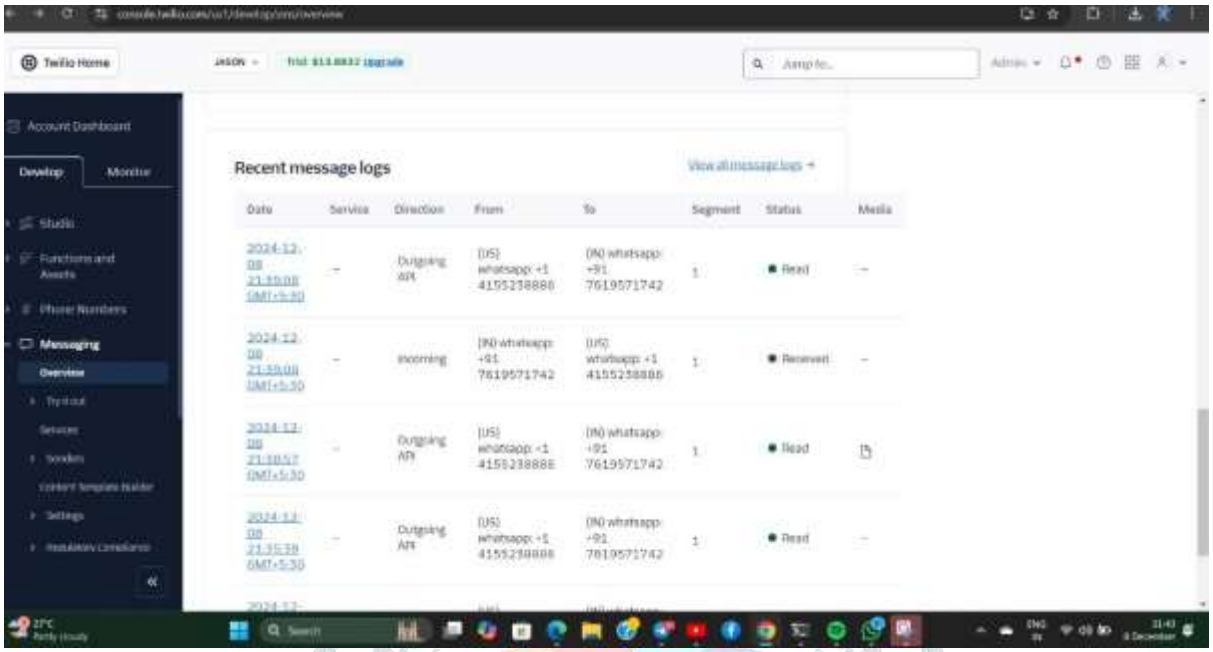

Fig.3. Twilio console showing successful message delive

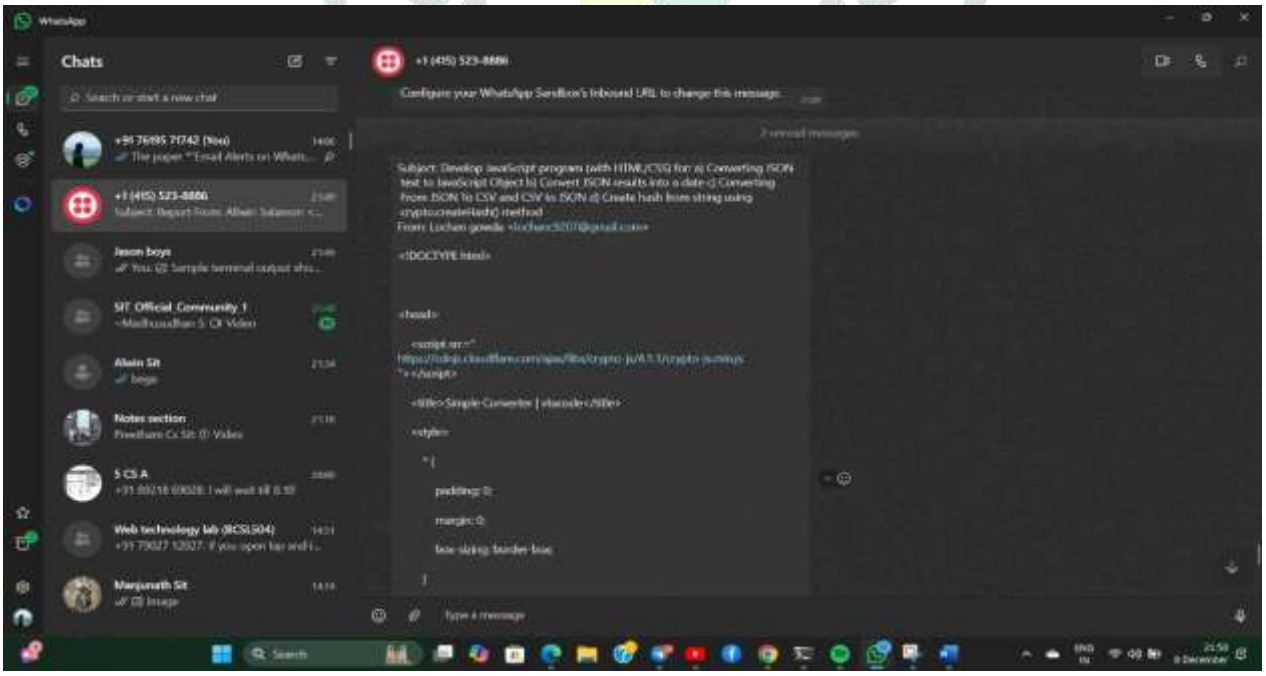

Fig.3 WhatsApp message received by the recipient

CONCLUSION

Emails serve as one of the most widely used digital means of communication. Managing the growing volume of messages and subscriptions to newsletters and promotional emails can be simplified with innovative solutions. Tracking important emails becomes more effective when integrated into platforms people use frequently, such as WhatsApp.A system that integrates key mailbox information with WhatsApp streamlines the communication process, removing the need to rely solely on traditional email applications. This approach saves time and enhances productivity, enabling users to focus on essential tasks. The integration uses tools like the Twilio API to fetch emails and deliver them directly to WhatsApp. Important emails are filtered, summarized, and presented as WhatsApp messages, ensuring users receive critical updates in an organized and convenient manner. This system aligns with modern communication habits, where WhatsApp serves as a central hub for both personal and professional interactions.

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