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## Whatsapp-Based Helpdesk Management System

**1<sup>st</sup> Mrs. Revathi S**

*Assistant Professor  
Computer Science and Engineering,  
Erode Sengunthar Engineering College,  
Perundurai, India.*

**2<sup>nd</sup> Ranjithkumar S**

*Computer Science and Engineering,  
Erode Sengunthar Engineering College,  
Perundurai, India.*

**Abstract:** *The integration of a FAQ section in a chatbot can enhance the customer experience and optimize the efficiency of a business's customer service operations. The chatbot can quickly provide answers to common questions, improving response times and reducing the workload on human representatives. Incorporating the FAQ information into the chatbot's database allows for real-time access and provision of answers. A system for tracking frequently asked questions can also help a business identify areas for improvement. The availability of a fallback option for customers to contact a human representative provides a backup solution and ensures all inquiries are effectively handled. The addition of a FAQ section in a chatbot can bring benefits to both customers and businesses.*

**Keywords:** Chatbot, Customer Support, Whatsapp, FAQ.

### I. INTRODUCTION

A Chatbot can be integrated into websites, messaging platforms, mobile apps, and other communication channels to provide customers with instant and convenient access to information or support. Chatbot's can handle a wide range of tasks, from answering frequently asked questions to guiding customers through complex processes, such as booking a flight or making a purchase. By automating routine interactions, Chatbot's can reduce response times and improve customer satisfaction, freeing up human agents to handle more complex issues.

WhatsApp Chatbot's can be an effective way for businesses to engage with their customers on the popular messaging platform. These Chatbot's can be programmed to respond to specific keywords or phrases, allowing them to quickly provide information or assistance to customers. Additionally, because WhatsApp is a mobile-first platform with a large user

base, businesses can reach a large and diverse audience through a WhatsApp Chatbot.

It's worth noting, however, that WhatsApp has strict policies regarding the use of Chatbot's on its platform, so it's important for businesses to carefully review these policies before building a WhatsApp Chatbot. Additionally, businesses must ensure that their Chatbot's are designed to provide a seamless and high-quality user experience, as a poorly designed Chatbot can have a negative impact on a company's brand and customer relations.

Existing system:

Existing project is based on Artificial Intelligence- powered Chatbot. A Nodejs is software that provides a user-friendly interface to make the connection easier and convenient with the internet providing valid and reliable web services. Using a Node.js-based platform for the chatbot will allow you to easily integrate various APIs and web services into your chatbot. This can enable the chatbot to provide real-time information, perform complex tasks, and interact with users in a more natural and intuitive way. Additionally, Node.js is known for its fast performance and scalability, which makes it an ideal choice for developing AI-powered chatbots.

We've created a sample chatbot using Twitch as an online platform. The chatbot platform provided by Twitch is web-based and offers a vast base of intelligence that can help simulate problem-solving for humans. This makes it an ideal platform for creating chatbots that can interact with users and provide useful information and services.

Existing methodology for helping users with their queries or inquiries involves the use of a Chatbot API. The API will be developed using a combination of CSS for styling and JavaScript for functionality. The backend of the Chatbot will be created using Node.js programming language. Additionally, various machine learning algorithms are employed to help the Chatbot learn from the responses and requests of users.

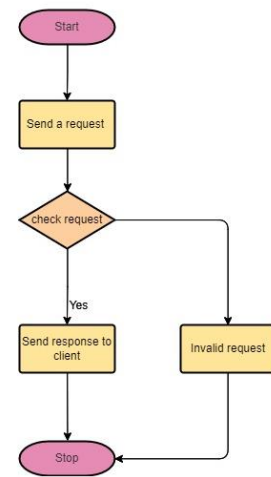
## II. PROPOSED SYSTEM

By installing the WhatsApp Web browser app, you can create a chatbot using WhatsApp. This allows you to interact with the bot in a variety of ways, including through voice and text chats, you can create a chatbot using WhatsApp Web by using a framework or library for chatbot development, such as Dialogflow or Botpress. These platforms provide the tools and interfaces for creating conversational chatbots that can communicate with users via WhatsApp.

By integrating the chatbot with WhatsApp Web, you can offer users a convenient way to interact with your business, service or product through the popular messaging platform. This can improve customer engagement and experience, and also automate certain tasks, such as answering frequently asked questions or performing simple transactions.

This chatbot is receiving requests from the customer. Once it has received all of the requested information, it responds to corresponding results in order to help out the customer. A chatbot operates by receiving requests from customers, processing the information, and then providing a response. The chatbot uses natural language processing (NLP) and machine learning algorithms to understand the customer's request and determine the appropriate response.

The chatbot's ability to respond is based on the programming and logic defined by the chatbot developer. The chatbot can provide information, answer questions, perform tasks, or guide the customer through a process. The goal is to make the interaction with the chatbot as natural and intuitive as possible, so that customers feel like they are communicating with a human.



It's important to note that chatbots are not perfect and may not always be able to provide the correct response. In these cases, the chatbot can be programmed to escalate the request to a human representative for further assistance.

Do you have any Frequently asked questions that have been answered in the FAQ section of our chatbot? Yes, this information is included in the database as well. If you cannot find an answer to your question here, please feel free to contact us and we will be more than happy to help. As an AI language model, I don't have a specific FAQ section or database of information. However, I can try to answer any questions you have to the best of my ability based on the information I have been trained on. Please feel free to ask me anything!

## III. IMPLEMENTATION

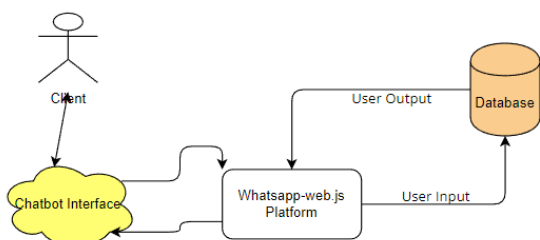
A WhatsApp API client that connects through the WhatsApp Web browser app is a type of solution that allows businesses and developers to interact with the WhatsApp platform programmatically. The use of the Puppeteer library helps to avoid potential blocks from the WhatsApp servers by simulating a real instance of WhatsApp Web, rather than using a simulated API connection. By using a WhatsApp API client, businesses and developers can automate certain tasks and communicate with customers directly through the popular messaging platform. For example, they can send and receive messages, process incoming messages to respond to customer inquiries, and manage customer interactions.

It's important to note that WhatsApp has strict guidelines and limitations around the use of its API, and any solution that connects through the WhatsApp Web browser app should comply with these guidelines to avoid potential blocks or suspension of the API access.

If you want to install WhatsApp-web.js on a system without a graphical user interface (GUI), such as a headless Linux server, there are some additional steps you need to take to ensure that Puppeteer can emulate the Chromium browser.

Here are the general steps to install and run WhatsApp-web.js on a headless Linux server:

- **Install Node.js:** WhatsApp-web.js is built on Node.js, so you'll need to install it on your system first.
- **Install dependencies:** You'll also need to install other dependencies required by WhatsApp-web.js, such as Puppeteer.
- **Install a X virtual framebuffer (Xvfb):** Xvfb is a virtual framebuffer that allows you to run graphical applications on a headless system. This is necessary because Puppeteer needs a GUI-like environment to run.
- **Start Xvfb:** Before starting the WhatsApp-web.js application, you'll need to start Xvfb.
- **Run the WhatsApp-web.js application:** Finally, you can run the WhatsApp-web.js application using Node.js.



It's important to note that these steps may vary slightly depending on the specific Linux distribution you are using, and you may need to refer to the relevant documentation for more information. Additionally, you should always be mindful of security when running a WhatsApp API client on a headless server, and take steps to secure your system and data.

WhatsApp-web.js works by running WhatsApp Web in the background and automating its interaction with the platform. To authorize the client to access your WhatsApp account, you'll need to scan a QR code from WhatsApp on your phone.

Once you have successfully authorized the WhatsApp-web.js client to access your WhatsApp account, you can start listening for incoming messages. The client emits a "message" event whenever a message

is received, which makes it relatively straightforward to handle incoming messages.

The client listens for the "message" event, and logs the contents of the message to the console whenever a message is received. You can build upon this basic example to perform more advanced processing or interact with other systems. For example, you might use a natural language processing library to automatically respond to certain types of customer inquiries. By quoting the original message, it provides context to the recipient and makes it easier to follow the conversation. The reply function allows you to quickly respond to a specific message without having to manually copy and paste the text. This feature is helpful in maintaining a clear and organized conversation, especially in group chats where multiple messages are being sent at the same time.

## IV. CONCLUSION

In general, chatbots are becoming increasingly popular as a means of providing quick, automated responses to user queries. These programs can be used for customer service, sales, marketing, and more. The use of chatbots has many benefits, such as 24/7 availability, efficient handling of repetitive tasks, and cost savings compared to having a human staff. However, it's important to ensure that chatbots are designed with the user experience in mind and are able to effectively understand and respond to a wide range of queries.

In conclusion, chatbots can provide significant benefits for businesses, but it's important to approach their implementation with careful planning and consideration of their limitations and potential challenges.

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