

# WhatsApp Chat Bot for Exams

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**Abstract** — Chatbots, also known as conversational agents, are designed with the help of AI (Artificial Intelligence) software. They simulate a conversation (or a chat) with users in a natural language via messaging applications, websites, mobile apps, or phone. Chatbot is often described as one of the most advanced and promising expressions of interaction between humans and machines. In my project I had included exam information with available YouTube and online material for students in paid and free form . Bot is replying on the basis of word identification .

**Keywords** — Flask, Python, Twilio, API ,Environment .

## I. INTRODUCTION

A chatbot is an automated software program that interacts with humans. A chatbot is merely a computer program that fundamentally simulates human conversations. Chatbots are programs that can do talk like human conversations very easily. The software industry is mainly oriented on chatbots. Thousands of chatbots are invented on startups and used by the businesses to improve their customer service, keeping them hanging by a kind communication. According to research, nowadays chatbots are used to solve a number of business tasks across many industries like E-Commerce, Insurance, Banking, Healthcare, Finance, Legal, Telecom, Logistics, Retail, Auto, Leisure, Travel, Sports, Entertainment, Media and many others. Thus that was the moment to

look at the chatbots as a new technology in the communication field.

Accordingly, bot in project is used by upcoming aspirants . Bot is connected with third party application called Twilio .Twilio provides WhatsApp business API for free for short time .When user message to WhatsApp Bot number Bot identify the words and accordingly it goanna reply to user .

Specifically included three basic exams NDA , CDS ,Gate in coding part so bot answer only of these exams . If word is not identified by bot it reply accordingly to the user .

## II. LITERATURE REVIEW

A chatbot is a computer software program that conducts a conversation via auditory or textual methods. This software is used to perform tasks such as quickly responding to users, informing them, helping to purchase products and providing better service to customers. Chatbots are programs that work on Artificial Intelligence (AI) & Machine Learning Platform. Chatbot has become more popular in business groups right now as it can reduce customer service costs and handles multiple users at a time. But yet to accomplish many tasks there is a need to make chatbots as efficient as possible. A challenge would be conversing with the various multiple bot users and multiple users. <sup>[1]</sup>

A chatbot is an artificial intelligence computer program which performs communication using audio and video system. A person can ask any questions and chatbot will answer accordingly. Nowadays a chatbot is highly popular and takes speed as a computer communication application. Chatbot system is in trend, thus it is being used on many websites. With the chatbot, one doesn't have to wait to talk to the customer helpline, they don't even have to search for shopping .

Difficulty in achieving standard requirements to maintain the preferred good quality <sup>[2]</sup>

Chat has become the center of focus in this current era, thus the bots are being utilized to deliver information engagingly and conveniently. A chatbot is standout amongst the most progressive and promising tools of communication among people and machines. Famous chatbots like Google Assistant, Amazon Alexa, Siri, Facebook, Slack, and many more are in trend. These are very much helpful, but in this era of enhancing technology, day by day technology gets updated, and accordingly, user expectations also increase. A user wants more automation in the chatbot. Although every system is not perfect there is always a flaw in the system, so as in the chatbot there are some problems that the user has experienced while using a chatbot. Chatbot can be described as an answering system where a system will be able to answer questions or statements submitted by users and allow users to control over the content to be displayed. <sup>[3]</sup>

### III. METHODOLOGY/EXPERIMENTAL

#### A. Requirement analysis:

System has latest python installed along with python we need some libraries as flask , twilio ,NGrok , requests , python environment to run the code .

**1) Flask** - Flask is Python's micro-framework for web app development. It was developed by **Armin Ronacher**, who led an international team of Python enthusiasts called Pocco. Flask consists of Werkzeug WSGI toolkit and Jinja2 template engine. Both were also developed by Pocco. It was initially released in April 2010. Currently, the latest version as of writing this article is 2.0.2.

- Ease of setup and use.
- Freedom to build the structure of the web application.



Figure 1

- 2 **Twilio** - To send messages with WhatsApp in production, you have to wait for WhatsApp to formally approve your account. But, that doesn't mean you have to wait to start building. **Twilio Sandbox for WhatsApp** lets you test your app in a developer environment.

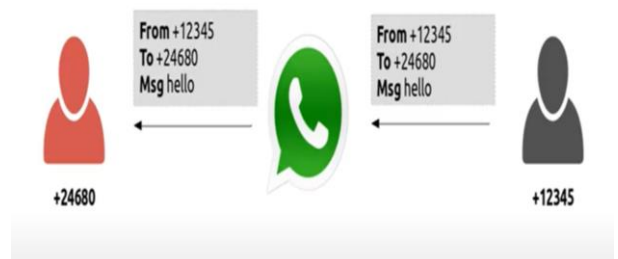


Figure 2

- a) [Make Account](#)
- b) [Create new project](#)

- Select Products
- Choose Programmable SMS
- Click Continue
- Give your project a name
- Click Continue (and skip remaining steps if you want)

**Major advantages of Flask are:**

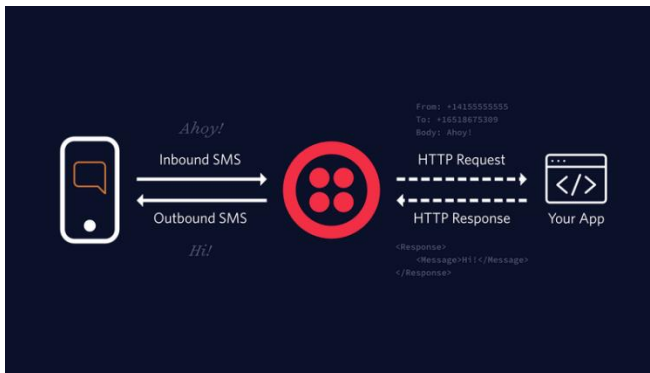


Figure 3

C) Open [Programmable SMS Dashboard](#) on project console and select WhatsApp Beta.

D) Learn features of Twilio Sandbox for WhatsApp.

- Link your WhatsApp phone number to your Sandbox.  
Shortcut  
link: <https://api.whatsapp.com/send?phone=+14155238886&text=join%20horn-metal>
- Send a One-Way WhatsApp Message. (Notice that **outbound messages** have a predefined format)
- Test Two-Way Messaging



Figure 4

E) *Configuring the Sandbox*

- Setup **webhook** for incoming messages
- Optional: Setup a *Status Callback URL*

## 1) *Python Virtual Environment*

A virtual environment is a tool that helps to keep dependencies required by different projects separate by creating isolated python virtual environments for them.

- Create a Project Folder.
- Run following command to create a new virtual environment inside your project folder:  
`python -m venv myenv`  
After running above command, a folder named myenv will get created in your project folder.
- Activate the virtual environment by running following command:

- For ubuntu and mac users:  
`source myenv/bin/activate`
- For windows users:  
`myenv\Scripts\activate`

## 2) *Install required Python Packages:*

- [flask](#) `pip install flask`
- [twilio](#) `pip instal twilio`

## 3) *NGrok : NGrok is a free tool that allows us to tunnel from a public URL to our application running locally.*

- Download [ngrok](#).
- Unzip it.
- Run ngrok from command line (from the location where executable is stored)

`./ngrok http 5000`

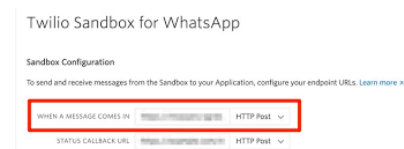


Figure 5

**Testing :** Test your bot by sending the messages as you set already there and here you completed building your own chat bot .

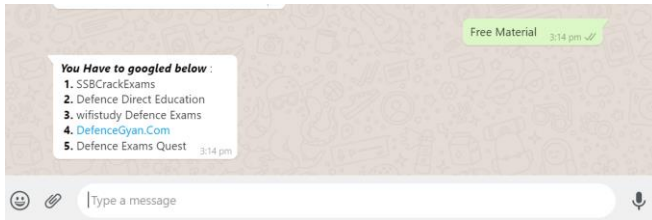


Figure 6

### 3 RESULTS AND DISCUSSIONS

Chatbots are effective tools when it comes education, IR, e-commerce, etc. The aim of chatbot designers should be: to build tools that help people, facilitate their work, and their interaction with computers ; but not to replace the human role totally, or imitate human conversation perfectly.

Specifically included three basic exams NDA , CDS ,Gate in coding part so bot answer only of these exams . If word is not identified by bot it reply accordingly to the user .

User say hello first then bot is going to send hello under messages to user and the user have to select any option or all what user want to know from bot and have to send to bot again then bot understand the and identify the keyword from WhatsApp message and reply as selected answer .

Accordingly it will happen continuously . But if user says not in selected messages then bot will reply sorry I don't understand by default message and send to user .That's actual reply and identification of words

### 4 FUTURE SCOPE

Now bot working on the basis of word identification technique , after words bot be modified like Natural Language processing NLP and using another algorithms and more .

It is hosted for certain time of period after using another hosting platform bot will live and no need to host it again and again .Now for hosting NGrok is used but if it is hosted using Heroku or another platforms it will live no need to host it again .

Bot can be modified by adding another exams now it includes only 3 exams which are quite low in quantity .also on demand we can add different features and more .

These are some points to be implemented in future make product more useful

### 5 ADVANTAGES

Most advantage of the system is we collected whole stuff in single chat of WhatsApp . And WhatsApp user crossed the number to 2 billion and in India there are 480 million user are active user so user is familiar with WhatsApp .

By interaction with someone in chat make user more informative and bot definitely helps to more interactive and our user will get all basic information of exams .

Bot is hosted live and available in one click of WhatsApp messenger make user more comfortable

### 6 CONCLUSION

In this project, I had introduced a chatbot that is able to interact with users. This chatbot can answer queries in the textual user input. For this purpose, python program has been used. The chatbot can answer only those questions which he has the answer in its program contains. So, to increase the knowledge of the chatbot, we can add the APIs of Wikipedia, Weather Forecasting Department, Sports, News, Government and a lot more .

Hence conclude that chat bot definitely helps to customer for better understanding of different exams . And also it will be product for different institutes who have their paid courses for exams they can use it for business purpose also .

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