

# Chabot Virtual Assistant System

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## Abstract:

A customer chats with the virtual assistant like they would with any human agent. Chatbot applications interact between people and services, enhancing the user side experience. The chatbot understands the words as well as the intent that include machine learning and reasoning with human interaction. Chatbot plays an important role in various dom Artificial intelligence such as ecommerce, social media, sales, or marketing. Chatbot like google assistant, Siri, Alexa, are recognized user side's voices and perform some tasks. Chatbot also reduces manpower. Most important thing “Virtual character”. It has facial expressions like something similar to humans. In Deep learning (Neural Network), Natural language processing(NLP) method to build and develop chatbot applications along with answering questions, it can push relevant web pages and take customers requirement and it directed to on website tours. Besides, it supports speech-to-text, speech-to-speech, text-to-text, text-to-speech, communication modes, and it can embeddable in apps and social networks.

*Keywords* — **Human Interface, Neural Network, NLP.**

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## I. INTRODUCTION

The first chatbot was developed in the 1960s by MIT answered some very simple decision tree questions.

Nowadays chatbots have been used in many institutions to answer the user side's questions. It conveys and reacts as per the given user side contribution to the type of voice or text, user side and its character information, exchange setting, induction information, and sense information. Building up the chatbot is cert Artificial intelligence not a major assignment. Most testing part is to prepare them model, as far as capacity, viability, effectiveness and some more. All information is put away in NL-machine learning structure for normal language text. This is an artificial intelligence and machine learning based framework that uses voice acknowledgment for gatherings of words and phonemes. The investigation of Satu and Parvez exhibited the survey of uses of a chatbot which are planned by conveying the artificial

approaches which have been and are used for intelligence and machine learning content. They gave itemized data with respect to the different uses of the chatbot. They likewise portrayed that the chatbot dependent on artificial intelligence – machine learning is proficient in work, light in weight, and simple to execute.

## II. PROBLEM FORMULATION

There are many chatbots right now, mad most of them give amazing responses. It is very hard to detect it is real human or bot, and virtual assistant makes our life easier. But not one is connected to them with a virtual body. We are trying to integrate a virtual assistant, chatbot with a virtual body. By integrating all those in one platform, it will more convenient for user sides and more interactive.

Like Google assistant our product will also control desktops, like opening web pages, playing

music, opening amazon, and many more. Many chatbots are friendly, those not for any particular product domain Artificial intelligence but can chat as a friend (mitsuku bot), and most amazing thing is that it also has a virtual character which makes it more interactive.

### III. OBJECTIVE

Today, there are lots of chatbots, but one thing is lacking in them, they not interactive like humans. Through this project, we want to make chatbots more interactive. It is not like humans but we are trying. Virtual characters show their facial reaction according to mood. Lips movement of character according to words it is speaking.

1. We added a virtual character in it, that's why user sides feel like video calling with anyone.
2. Integrated virtual assistant in it. It will collect do small tasks like opening favorite songs, songs according to mood, setting rem Artificial intelligence, opening resent bookmarks, recent files closed, and many more.
3. With the help of a webcam, it will detect user side mood, remembers the faces of user sides and their friends and family.
4. It can also detect objects from the webcam, the user side can just show an image and it will show the product on amazon.
5. We are integrating all this single project that's why it is going to be amazing.



## IV. SYSTEM ARCHITECTURE

### A. User side

User side end is shown in Fig. 1,

- The user side's react is shipped off the worker for the customer side.
- Both the reaction sentence and the passionate score will empower the character to make the fitting activity.
- To set up an easy to use interface, we give user side to include sentences through voice.

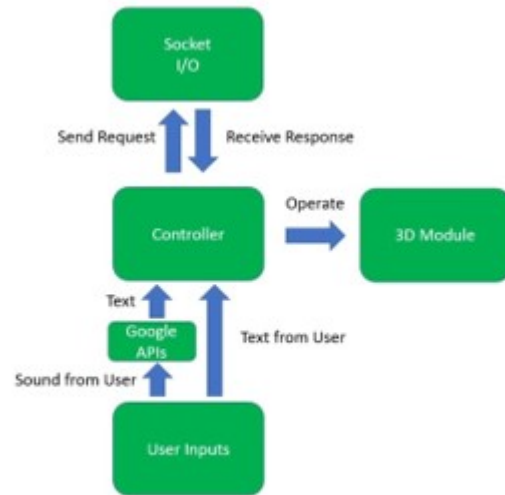


Fig. 1. User side Functions

### B. Server Side

Customer side worker models used to offer the support accessible to anyplace inside various gadget. To get the ideal outcome and execution a great deal of calculation power is required. Here, we characterize a particular convention to accomplish the ideal yield with all solicitations under this convention will be reacted by the worker. It is proficient to move all computational parts to a worker, to make our administration accessible over the web to any gadget whether it is Android, Windows, or a gadget like Raspberry pi.

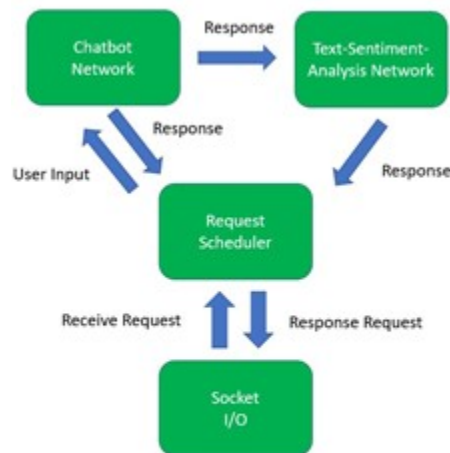


Fig. 2. Server Functions

## V. CHARACTERISTIC

- A. **Highly flexible:** User sides can change scenes, characters, and even sound pitches as they want.
- B. **Neural network modules:** Different dataset is used to make a chatbot model. Data is taken from tweeter and Reddit.
- C. **With the User side-Server architecture:** With this user side can use a product from any device that supports web browsers.

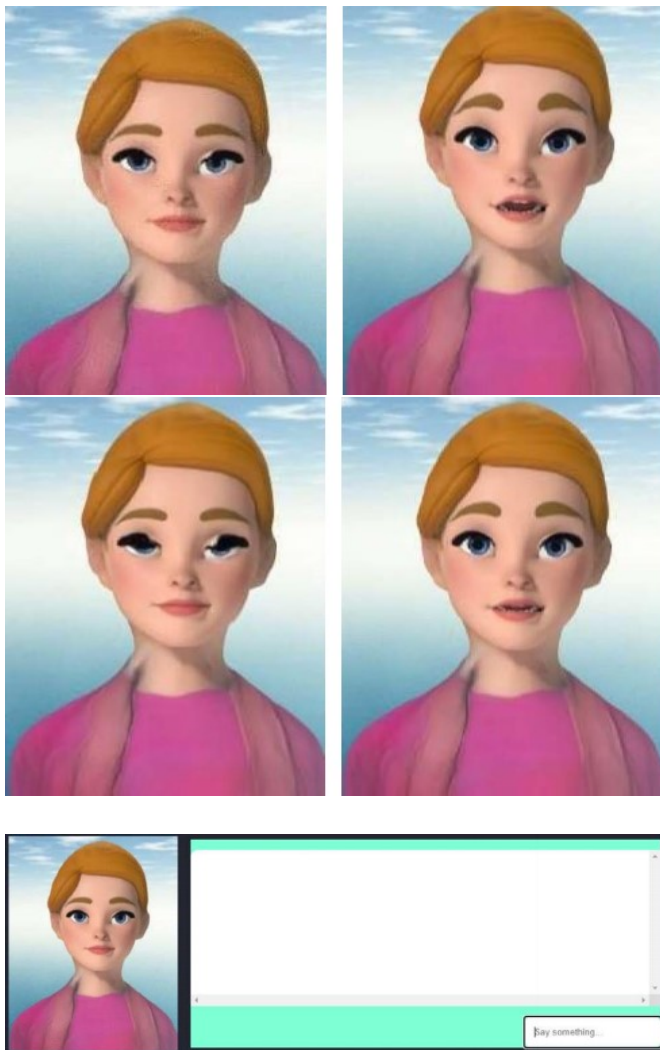


Fig. 6. Virtual Character

## V. FUTUREWORK

We will make it more intelligent using deep learning from the backend. Multilanguage support

- We will implement based on their uses like for commerce, food delivery sites, etc.
- Advance Deep learning algorithm.

Our feature plan is to make it supportable for android smartphones, multilanguage support, advanced algorithms for faster responses.

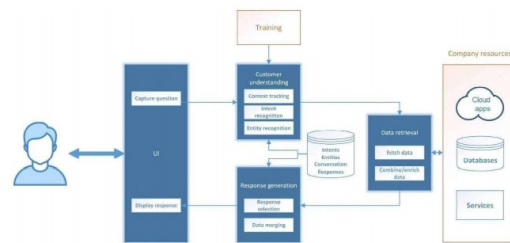


Fig. 7. Training Phase

### A. To Improve understanding performance

The size of our Model is restricted on account of the computational intensity of the worker however we will attempt to improve it. To guarantee that the reaction season of each solicitation isn't excessively long, we likewise trust that every reaction handling time doesn't surpass 2 seconds while expanding the multifaceted nature of the model. Simultaneously, the wellspring of our preparation set is excessively little, and the variety isn't sufficient, which makes our Model's comprehension of the content not precise enough, so regularly can't make a right reaction. This is likewise reflected in our supposition examination neural organization. Now and age Artificial intelligence the judgment of feelings deludes the 3D Module to make mistaken activities, so fortifying semantic agreement is our significant errand.

### B. To Improve chat performance

Chat may be the right way to express our view, Sometimes chat may be personal or official. We are trying to implement a chatbot who can be more humanized. Now a days people are feeling alone. They want someone who can listen or help to take decision.

Chatbot must has ability to understand and take right decision. Simultaneously, it should likewise expand the capacity to recall the substance of discussions in the exchange to give the user side a decent encounter. A further objective is to make a chatbot

that can investigate the data in the current society for visiting.

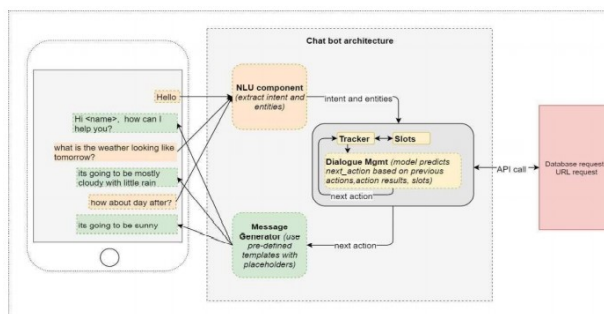
**C. Voice with virtual character**

Presently, our model uses Google Text To Speech application programming interface for text to discourse, so the sound is dictated by the application programming interface.

We added virtual character in it, that is the reason user side feel like video calling with anybody. To improve, a discourse model we will be prepared the model to take care of issue, and making the 3D symbol module and the articulation sound with outward appearance all the more coordinating.

**D. Task-Oriented Function**

After the fundamental usefulness of the chatbot with symbol is set up, we will attempt to add some extraordinary highlights to our model, coordinated remote helper in it. It will gather do little errands like, opening Artificial intelligence tunes, melodies as indicated by mind-set, setting leftover portion, opening detest bookmarks, late documents shut, and some more. much the same as the man-made reasoning colleagues Artificial intelligence able, enabling him to play out some basic errands for the user side, if Chatbot can Setting an alert for the user side, I figure it should be an extraordinary encounter. In spite of the fact that these highlights are excellent, these sort man-made reasoning partners are presently just accessible on specific stages, so we stretched out this support of the world with Chatbot's cross-stage highlights.



**VI. RESULT**

A chatbot helps a user side to choose correct and guide to take right decision based on update sources of information. User sides can get the information online at their fingertips rather than visiting the office everything will online after that. It improves efficiency by taking over tasks for which humans

are not essential which means it will help in to reduce the cost. However, the system was partially successful in adding empathy since the scope of these queries is vast and the system requires more rigorous data to handle all the questions which are out of the script. Nevertheless, active learning helps to improve the Chabot performance for the handling of script queries. To improve the functionalities of chatbot in the future, it require the better training of bot so that the performance and accuracy will increase. Artificial intelligence of chatbot depends upon the requirement analysis. For eg: chatbot required for medical purpose or hospital then required training dataset is different.

Some of the new features which can be added to the bot are:

- 1) Handling context-aware and interactive queries in which bot will be aware about who is going to chat it may be conversation with a student,
- 2) Speech recognition feature in which students or anyone can ask their queries verbally and get the answers from the bot,
- 3) Integration with services such as password reset and course 46 enrolments, and
- 4) Adding a enough capability for the bot to perform analytics based on the user side's response which the bot can be re-Artificial intelligence on human emotions so that more accuracy can be added to the bot.

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