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# Chatbot for Song Recommendation

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**ABSTRACT:** Music is an essential part of our daily lives. The recommendations on music streaming platforms are not very personalized. A song and emotion-based recommendation system permits the users to listen to music based on their emotions. Existing systems receive audio signals using the CNN (Convolutional Neural Network) approach and collaborative filtering to recommend songs based on the user's history. The proposed research work develops a personalized system, where the user's current emotion is analyzed with the help of the chat-bot. The chat-bot identifies the user's sentiment by asking some general questions. Based on the input provided by the user, current emotion or mood is analyzed by the chat-bot and it will direct you to the preferred song-room. The proposed system utilizes the APIs for the playlist generation and recommendation.

**KEYWORDS:** Interactive Chatbot, Application Program Interface, Interactive Systems, Recommender Systems, Playlist generation.

## I. INTRODUCTION

Now-a-days, we all are living in the time where we know that nothing is certain. Same goes with our mind, at regular instances of time our mood, our choices and our priorities changes. Considering the constant changing behaviour of human being we have developed our system. We have made our system considering that the human experience frequently changes in their mood and somehow, at particular moment of time, frequently changing of mood would also result in change in mood of music of their choice. Hence, with the help of our system you can listen music according to your mood. In addition, we have also provided the facility to user to chat with the chat bot after all texting makes conversation between chat bot and user more interactive and it will efficiently help in analysing the current mood of the user and based on that chat bot will recommend songs. Besides these, our system comprises of four modules. Initially for a new user we have provided a sign-up page. After completing sign-up, user can login to our system. After chatting with the chat bot, current mood of the user is analysed and list of songs is suggested to user. Based on the list of songs user can choose the song to be played based on his or her choice.

## II. RELATED WORKS

1. Nikhil et al. [1] use algorithms and technologies which include Haar cascade, Canny edge, Blob detection for the process of emotion detection. The system captures pictures of the user and according to that mood gets detected. Inputs like face and emotions are taken from the picture, and the system also provides a chat box to give responses. The proposed system in the paper presents a new approach for building desktop application for chat bot using text and gestures. The system is able to make a conversation through the chatting application. The system will send some links, web pages or information depending on the response from the user. The system detects smile and stress. When a smile is detected by the system, jokes pop-ups will be shown on the screen, and when stress is detected, inspirational quotes pop-ups will be shown on the screen. Also, happy songs are played when a smile is detected. And similarly, inspirational songs are played when stress is detected.

2. Ai Thanh Ho et al. in their paper [2], introduce an Emotion-based Movie Recommender System (E-MRS) which is intended to solve the problem that the conventional system of user profile does not take into consideration how important user's emotions are and how they affect user's choices, which the recommender systems are unable to understand and capture the constantly changing preferences of user. According to the paper, the objective of EMRS is to give the users a list of suggestions that are customized using a combination of collaborative filtering and content-based techniques. Here the user's emotions as well as his preferences are taken into account when providing a

recommendation, also other similar user opinions are considered. The design of the proposed system, its implementation along with its evaluation procedure is also discussed. In order to relate emotions to movies, the users have to answer a questionnaire about what movies or which categories of movies they liked to watch according to each emotion. Furthermore, the system captures user emotions by asking them to use 3 colours to decorate their avatar

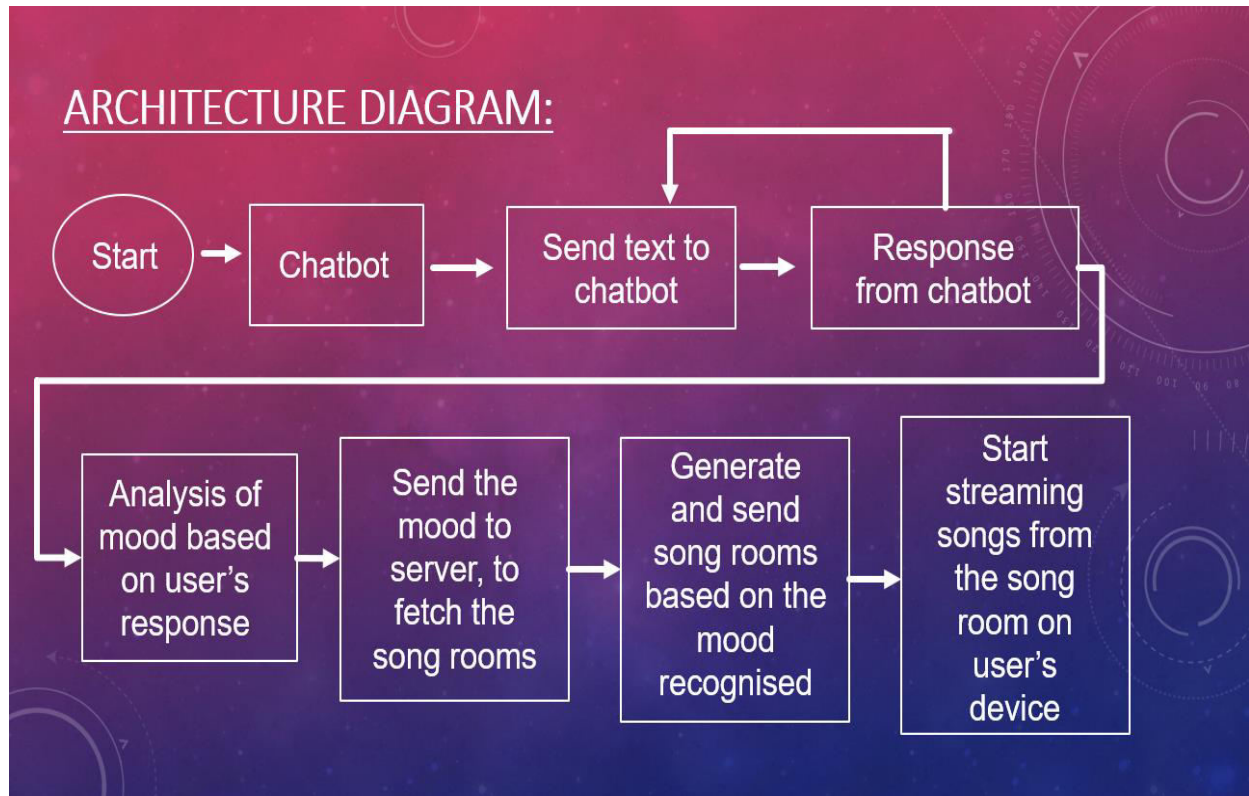
3. Jae Sik Lee et al. [3] have used the concept of context reasoning wherein the context data is utilized to understand the user's situation. They propose a music recommendation system that comprises the ability of context reasoning in this paper. Their proposed system contains modules such as Intention Module, Mood Module and Recommendation Module each of which provide a unique functionality to the system and play a vital role for the system's performance as a whole. Context reasoning is done by the Intention Module with the help of environmental context data and concludes whether the user is interested in listening to music or not. Next, the type of music that is deemed to be most appropriate to the user's context is determined by the Mood Module. Lastly, the music is recommended to the user by the Recommendation Module

4. Renuka R. Londhe et al. in [4] have studied the concept of recognizing facial expressions by taking into account the various properties that are associated with a person's face. Whenever there is a change in the facial expression, changes can be noticed in the curvatures on the face as well as features of the face such as nose, lips, eyebrows and mouth area. And accordingly, there will be changes in the intensity of the corresponding pixels of the images. These features are then classified into six expressions which include anger, disgust, fear, happy, sad and surprise with the help of artificial neural network. The Scaled Conjugate Gradient back-propagation algorithm is used to train and test the two-layered feed forward neural network. They acquired a 92.2% recognition rate. Here, they have made use of the JAFFE database which consists of seven expressions for analysis through the computer.

5. Dolly Reney et al. in their paper [5] address the importance of face and emotion identification in the field of security and how it helps give solutions to the different challenges faced. Database plays a major role when comparing the facial attributes and sound Mel frequency components, when it comes to whichever face and emotion identification system. The database is created for which facial characteristics are computed and these are then stored in the database. Various algorithms are used in order to analyze the face and emotion with the help of the aforementioned database. The implementation of the process of recognizing the person's face and the emotion being expressed by him uses an effective method for the creation of a database comprising the facial expressions and emotion. They have used the Viola-Jones algorithm for the face identification process and the face and emotion identification is evaluated by the KNN classifier.

### III. METHODOLOGY

Methodology There is a simple problem statement: recommend music to users from a large collection of songs. A few live online music recommender systems exist, each using its own methodology to suggest music. For example, we use a method in which user current mood is detected using their input. Creation of Chat rooms where we can chat and listen songs together with friends and in various languages.



#### IV. EXPERIMENTAL RESULTS

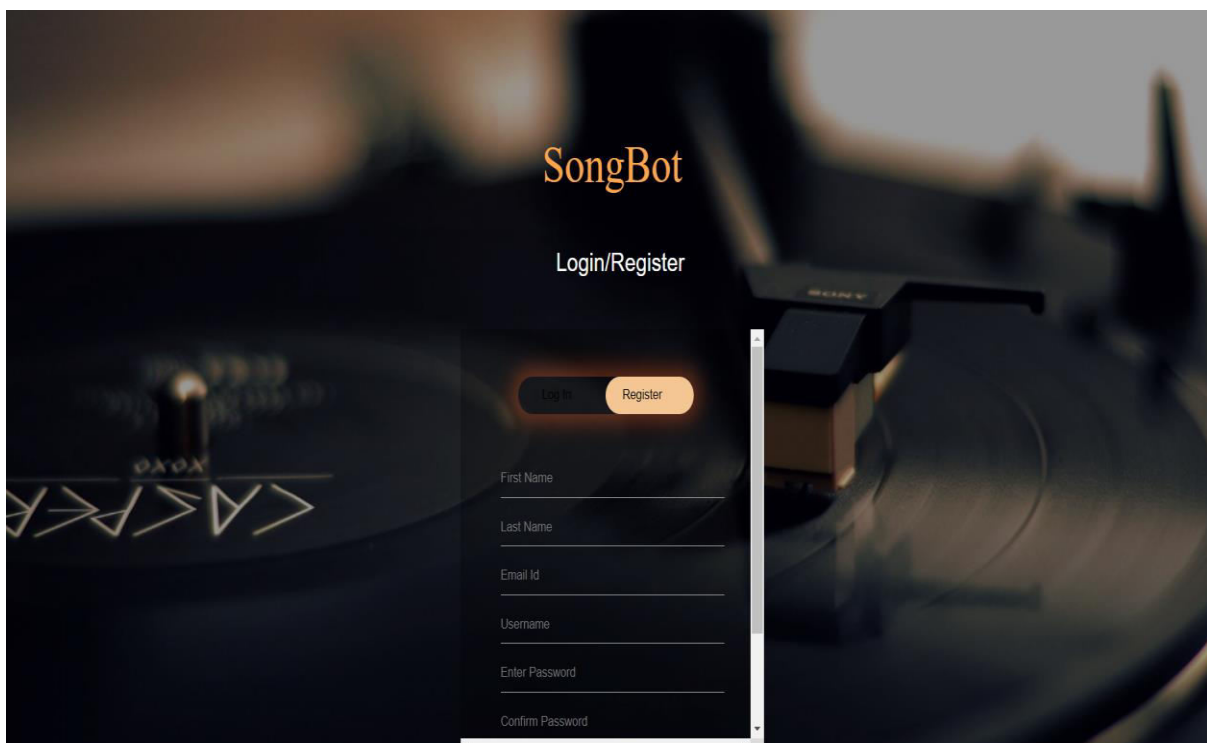


Fig1

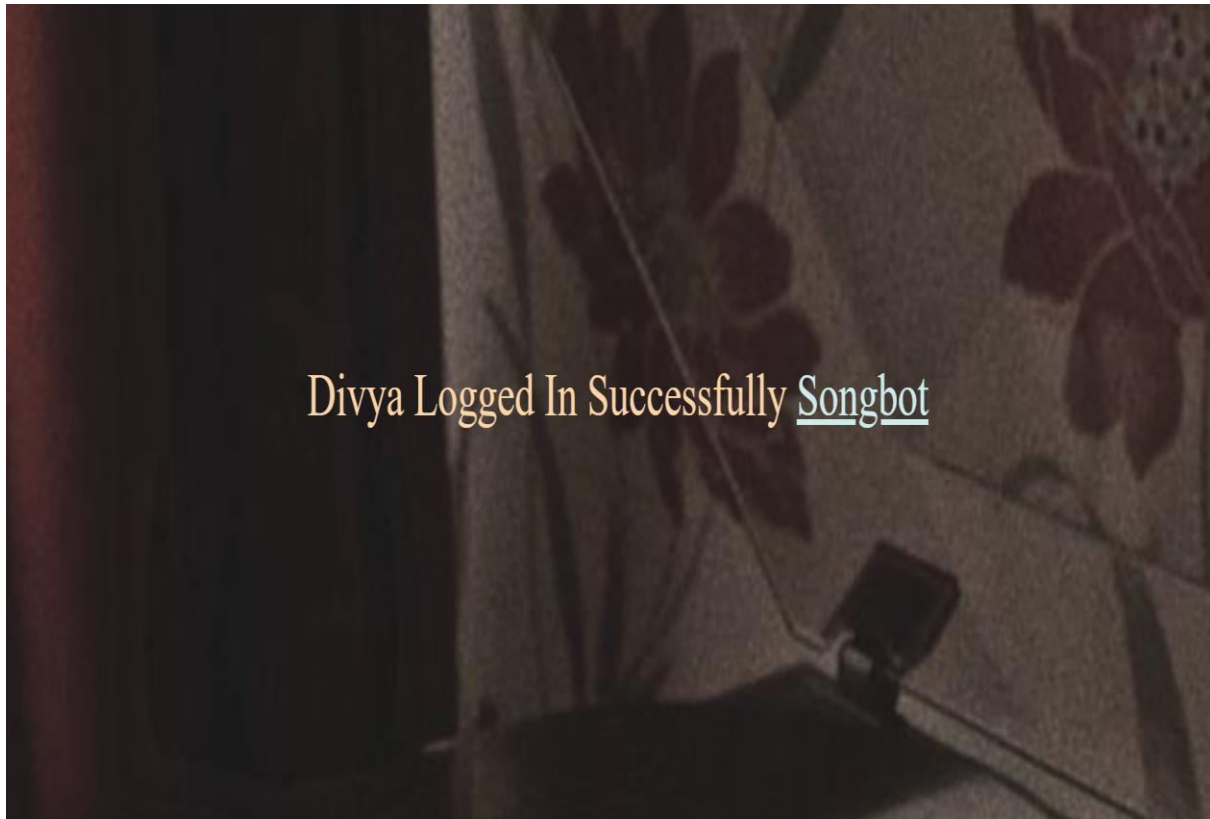


Fig2

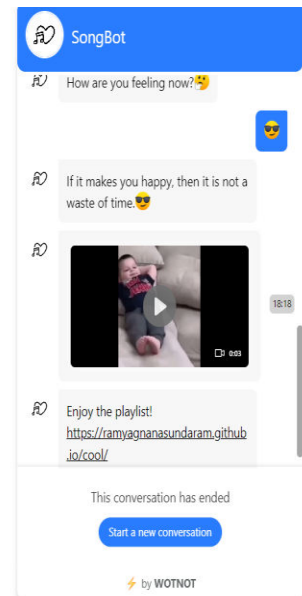
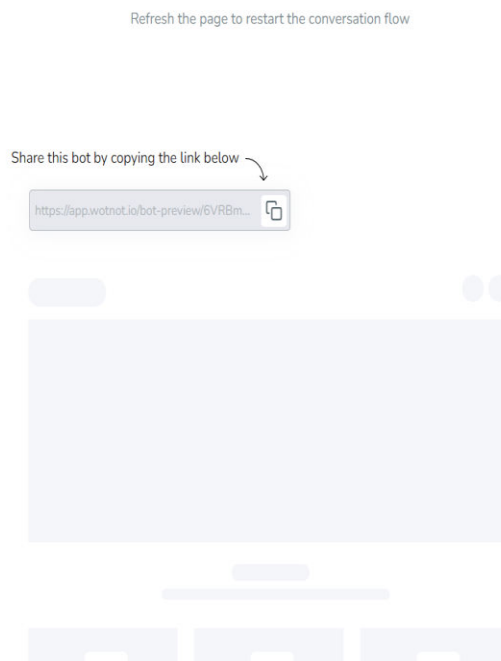


Fig3

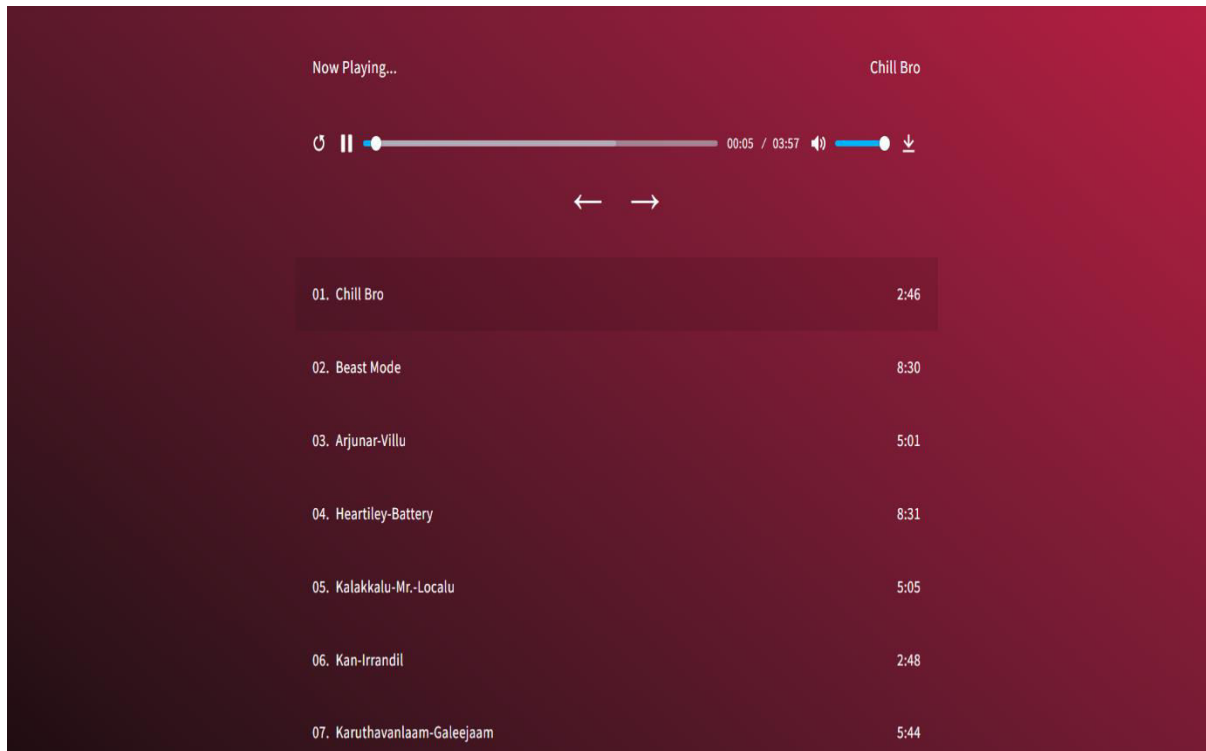


Fig4

Figure 1 shows login/register, figure 2 shows registration page, figure 3 shows chatbot and figure 4 shows music gallery.

## V. CONCLUSION

Chatbots are the most important advancements of Artificial Intelligence. In this stressful world, people need some form of entertainment for their relaxation. One of the many ways for relaxation is listening to music. In the proposed system, we detect the mood of the user and recommend song room where they can enjoy and relax with their friends while listening to music. Thus, this chatbot focuses more on finding the mood itself and recommending song rooms of the detected mood rather than searching the songs by themselves.

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