

A SONGBOT RECOMMENDER SYSTEM

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Abstract— *The main investigation of this paper was exploring a system that was able to recognize mood of the USER with a user-friendly , recommending songs on the bases of users taste and defined a list for the same use it helps user to not search music one by one and remembering it hence user can see the list of songs extracted from database and play then in the loop .This chatbot recommender system be very useful for improving mood of the user by recommending songs according to mood of the user.*

Keywords— *Songbot, Recommender, Songbot System*

1. INTRODUCTION

Recommender systems are used in a variety of areas, with commonly recognized examples taking the form of generators for video and music services, product recommenders for online stores, or content recommenders for social media platforms and open web content recommenders .These systems can operate using a single input, like music, or multiple inputs within and across platforms like news, books, and search queries. There are also popular recommender systems for specific topics like restaurants and online dating. Recommender systems have also been developed to explore research articles and experts , collaborators , and financial services. Recommender systems usually make use of either or both collaborative filtering and content-based filtering as well as other systems such as knowledge-based systems. Collaborative filtering approaches build a model from a user's past behavior as well as similar decisions made by other users. A chat bot for songs is a software or computer program that simulates human conversation or "chatter" through text or voice interactions. Users in both business-to-consumer (B2C) and business-to-business (B2B) environments increasingly use chat bot virtual assistants to handle simple tasks. Adding chatbot assistants reduces overhead costs, uses support staff time better and enables organizations to provide customer service during hours when live agents aren't available. Chatbots have varying levels of complexity, being either stateless or Stateful. Stateless chatbots approach each conversation as if interacting with a new user. In contrast, stateful chat bot scan review past interactions and frame new responses in context. Adding a chatbot to a service or sales department requires low or no coding. Many chatbot service providers allow developers to build conversational user interfaces for third-party business applications. A critical aspect of chat bot implementation is selecting the right natural language processing (NLP) engine. If the user interacts with the bot through chatting and voice, for example, then the chat

bot requires a speech recognition engine. Business owners also must decide whether they want structured or unstructured conversations. Chat bots built for structured conversations are highly scripted, which simplifies programming but restricts what users can ask.

We focused on building a custom chat bot that will be your fundamental step of the learning curve of building your own professional chat bots. But you must be tired of the weird chat bot so ut there in the world which are made for mainly business purposes? In this project, we would be building an extensive Chat bot service, to which you can talk to. And talking to a chatbot wouldn't be business driven. It would just be casual conversations. Further, on to profit, the chat bot would also be recommending songs to the user based on the Emotion of the user. This song recommendation feature employs the use of Spotify. Also for emotion analysis of the conversation we will be using API. Collaborating with these types of APIs is very much critical as in today's world the popular chat bots do much more than simply having a data-driven conversation; to supplement additional user-oriented features. Also the reason to choose python to build the chat bot is because python boasts a wide array of open-source libraries for chatbots. It is great for small data sets and more simple analyses; also Python's libraries are much more practical. So further we added features which analyses the taste of music of the listener and then find the same kind of music for it divides the music on the basis of previous songs user listened.

2. RELATED WORK

The publication that are selected to compose this review were gathered from the most common event for music composers is to generate versatile rhythms. Introduces how to generate musical pattern using pattern recognition technique. This technique used to resolve the tonal context which is restricted. Pattern recognition of music by Emotions. How algorithm used in the field of music composition. Researches that focus on improving the Recommender System with chat bot outdated so we considered classification process. The structured analysis is performed in the further studies with comprehensive result presents an intelligent method to generate list of songs online for listening, download according to age factor of users.

S.Chakrabarty et al.[1] used Context-aware a process used in smartphone or computer system that can sense their physical environment and adopt their behavior correspondingly. Initial idea of development the music recommendation system comes from freely collection of music data set included audio

features and met a data that provided by million song data set website.

This research uses triplet and metadata files from the website as database in the music recommendation system. There are user id, song id and listen time in the triplet file. The song id, title, release by and artist name founded in the metadata file using collaborative filtering method Abba Suganda Girsang, Antoni Wibowo, Edwin [2].

The objective of this project is to recommend books, novels, and Japanese cartoons to those who are interested via the website named doyouwannaread.com. The recommended books will be written in Thai translation. The website has a chat bot function to answer a set of predefined questions. Users can review the book by leaving their comments on the books information page through the Facebook log-in account. With the chatbot as a recommendation tool, users can search by book categories, booklist, and a list of main characters. Moreover, the chatbot function can collect the users questions for analysis Jaturawit Chaiwong, Nattapon Prajugjit, and King karn Sookhanaphibarn [3].

The innovation and advances in technology have been contributing a rapid growth in development of digital music market. According to the 2017 IFPI Global Music Report, the digital music category accounted for 50 percent of the total revenue generated by recorded music in 2016, and the current trend of users choosing digital format over physical format is likely to grow. In China, with the development of internet and intelligent mobile phone industry, reported music application has become the longest time used application for users in all entertainment application. Recently, recommender systems are used to handle real world issues. A large increase needs of recommender systems because it helps user to finding their own preferences from a huge data over the past few years.

In implementing a chatbot for expert recommendation tasks. The chatbot was developed for the Pharo software ecosystem, and is integrated with the Discord chat service, which is used by the Pharo Community. J. Cerezo [4] uses preliminary evaluation for which; this recommendation system was welcomed, though the conversational behavior was not; users expected a fully conversational chat bot, capable of following the conversation flow that the user handles. Singing is a popular social activity and a good way of expressing one's feelings. One important reason for unsuccessful singing performance is because the singer fails to choose a suitable song.

Lidan Shou [5] he propose a novel singing competence-based song recommendation frame work. It is distinguished from most existing music recommendation systems which rely on the computation of listeners' interests or similarity. We model a singer's vocal competence as singer profile, which takes voice pitch, intensity, and quality in to consideration. Then we propose techniques to acquire singer profiles. We also present a song profile model which is used to construct a human annotated song database. Finally, we propose a learning-to-rank scheme for recommending songs by singer profile. Author [6] Recommending the most suitable educational

resources has always been a challenge in the field of E-Learning. This challenge has pushed educators and researchers to implement new ideas to help learners improve their learning and their knowledge.

New solutions are using Artificial Intelligence (AI) techniques such as Machine Learning (ML) and Natural Language Processing (NLP). In this paper, we propose and describe a new recommendation approach, centered primarily on the use of a custom chatbot which can be linked to Moodle's platform using a web configuration. A chatbot is an automated communication tool, based on intents and designed to emulate communication capabilities and conduct a conversation with individuals. The proposed system should be able to answer learner's queries in real-time and able to provide a relevant set of suggestions according to their needs.

Yassine Benjelloun Touimi [7] used MOOC open source library The proliferation of distance platforms, in particular that of an open access such as Massive Open Online Courses (MOOC), the learner finds himself overwhelmed with data which are not all efficient for his interest. This model is based on the LDA Bayesian statistical method, applied to threads posted in the forum and classifies them to provide the learner with a rich semantic.

ICD-10 coding becomes an essential process to transform descriptions of medical diagnoses and procedures into universal medical code numbers. Because there are a large number of the ICD-10 codes, this process needs an expert or an experienced staff to proceed. However, insufficient of the staffs in this area makes this task become a difficulty for general public health staff. Therefore, a recommendation system by using chat bot technology is proposed in this work. This system is implemented by using a messaging application with auxiliary Natural Language Processing (NLP) library. The system was compared with the conventional ICD-10 application by using Analytic Hierarchy Process (AHP) Noppon Siangchin and Taweesak Samanchuen [8].

Then we studied about we outline the vision of chatbots that facilitate the interaction between citizens and policy-makers at the city scale. We report the results of a co-design session attended by more than 60 participants. We give an outlook of how some challenges associated with such chat bot systems could be addressed in the future Delft University of Technology Mekelweg [9].

The theme-based literature review was carried out according to a 3-phase methodology we interactively adjusted from that by Okoli (2015) for simplicity and fidelity to actual procedures for the task at hand. Phases are not necessarily sequential: one may return to a previous phase after (partial) execution of a next phase—e.g. the review results provided a base to categorise chat bot studies: A.R. D. B. Landim, A. M. Pereira, T. Vieira, E. de B. Costa, J. A. B. Moura, V. Wanick & Eirini Bazaki [10]

Recommender System (RS) technology permeates our daily lives; whether we are looking for a book to buy, movie to watch, or accommodation for our next vacation, RSs are

omnipresent. Like RSs in other domains, Music Recommender Systems (MRSs) have information filtering algorithms at their core, which select from a commonly huge catalog of music items (e.g., artists, albums, or songs) those identified as most relevant for a target user. Thus MRSs guide users in the otherwise sheer overwhelming amount of music available at their fingertips nowadays [11].

3. SYSTEM ANALYSIS AND DESIGN PHASE

3.1 Proposed Work for project

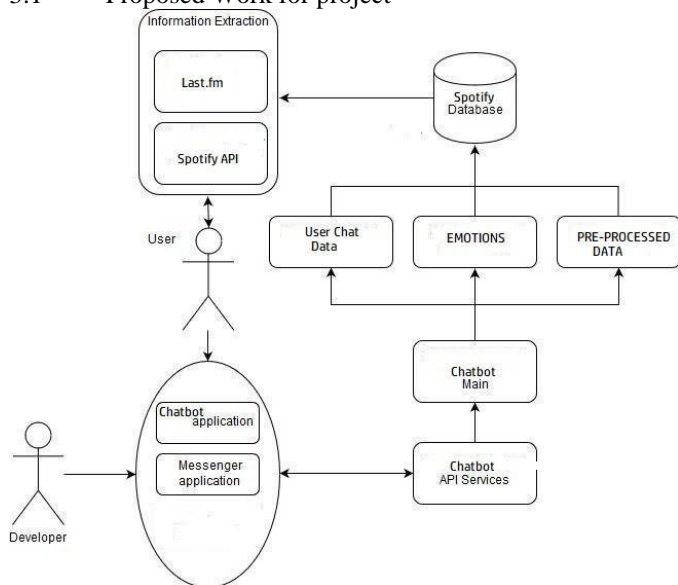


Figure-1 Proposed work use case Diagram

3.2 FlowChart:-

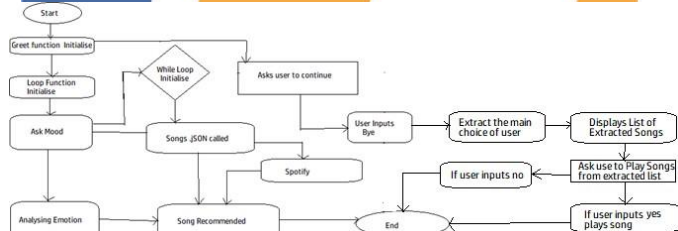


Figure 2:-Flow Chart for Song bot recommender System

4. PROPOSED METHODOLOGY

After researching how we might build each of these in Python, we decided to settle on contextual recommenders. While we wanted to make something more advanced than a simple recommender, we did not have the data required to train and build using NLP algorithm. Although we were bristling with ideas of extensions and augmentations for our application during the ideation phase, we decided to define what our minimum viable product should be. Minimum viable products, or MVPs, are, in short, the simplest version of a finished product that would satisfy the basic requirements for a solution. They exist in contrast to a very over-the-top prototype, i.e., a first product that tries to be as excellent as possible right off the bat. We are using .json for storing Data and to create database then using recommendation methods using a codes nipped then we connect it to the Spotify database for recommendation of songs.

4.1 Use of NLP

NLP is used to convert user input into features using python nltk module. This is called as data preprocessing.

Steps for data preprocessing:

- 1) Input is taken from the user.
 - 2) If the input contains more than 1 word, it is converted into list of words.
 - 3) Each word in list is stemmed and is added to a new list of stemmed words.
 - 4) Each word in the list of stemmed words is lemmatized and is added to a new list of lemmatized words.
 - 5) Each word in list of lemmatized words is tagged according to the part of speech.
 - 6) Each word in list of part of speech tagged of words is checked for adjective.
 - 7) If that word is an adjective then it's considered a feature.
 - 8) Else word is left out.
- Techniques used:
- a) Tokenization
 - b) Stemming
 - c) Lemmatization
 - d) PO Staging

6. CONCLUSION

The user gets better experience of using advanced Chatbot Recommender. When the user is not able to find a song according to his/her mood, or do not want to waste time for searching and hearing music one by one to improve his mood, we have used NLP algorithms to create a chatbot which works for the user to reduce the time and hassle of finding music. We have used NLTK methods to monitor and to chat with users requirements and recommendation system the functionality of the Recommender system such as using Spotify server to as dataset. The main investigation of this paper was exploring a system that was able to recognize mood of the USER with a user-friendly, recommending songs on the bases of users taste and defined a list for the same use it helps user to not search music one by one and remembering it hence user can see the list of songs extracted from database and play then in the loop. This chatbot recommender system can be very useful for improving mood of the user by recommending songs according to mood of the user.

7. FUTURE SCOPE

The chatbot recommendation system we presented increases the communication quality by giving open source developers the ability to know who they can contact when facing issues. Our chatbot relies on several components: the API, Spotify and lemmatization algorithms to perform sentence classification and key-concept collection respectively, and an expertise recommendation system based on implementation and usage expertise. We conducted a preliminary study, where we analyzed their interactions, and also conducted interviews and an emotion test. The results show that while participants are open to the potential of an expert recommendation system

based on a chatbot, significant work is necessary to increase its acceptance. In particular, participants expected the chat bot to be able to conduct a conversation with them, rather than simply answer queries. So on extracting music from the database on user mood and his/her taste then it will be easier for the user to select music they don't need to remember songs they just chat with chatbot and then they find their list of music how they want and listen of their choice.

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