

Krishna – The Career Guidance ChatBot

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Abstract- Choosing your career path is a very momentous decision because it decides the future course of your professional life. The major problem identified is that nowadays many students face Guidance's problem. We created a Chatbot "Krishna – The Career Guidance Chat Bot" which helps the students guide education and career. There are not many projects on this topic, but only one or two are there. But none of them provide guidance and counseling in education & career track in the same Bot. Career counseling bot aims to carry out a conversation between humans and machines. Some knowledge has been embedded into the device to identify the sentences and decide itself as response to answer a question. It is not just limited to one subject related guidance. Instead, that student mainly faces the problem of decision making, career path selection, confusion in choosing the career track, and what I should do after 12th. In most probability, you are likely to consider a career that your friends or classmates have chosen or your parents' desire. And some are not even aware of the existing career fields. The Solution to this problem is "Krishna – The Career Guidance Chat Bot".

Key Word - Machine Learning, ChatterBot, Education Chatbot, NLP, NLTK, Guidance Chatbot.

I. INTRODUCTION

Often, students find themselves creating a wrong career selection that they regret later and can't do a lot of concerning it. To form certain you are taking a rational and well-thought call, we tend to accompany the three biggest challenges you'll face. Lack of Guidance: each student has his or her power and career preference and thence desires bespoke counsel. There are few reliable career steering counsel mentors, websites, or physical centers that investigate this facet. Peer and Parent Pressure: you feel that your peers are creating the proper career selection, or your folks understand what's best for you. To contend with your friends or make your folks happily, you finish up with a wrong career. Salary-Driven Decisions: several students opt for a career supported however well it'll pay or whether or not it will land you a distant job. There can't be an additional irrational logic than this parameter to decide your career. You think that a high package or offshore employment is the key to your career success or satisfaction. Well, that's not true. "Krishna – The Career Guidance ChatBot" helps the scholars steer education and career.

There aren't several on this subject; however, there are just one or 2 square measures there. However, none of them square measure providing steering and counsel in education & career track within the same larva. We will additionally show them the various Career choices out there that they need not detect concerning. Also will inform them concerning numerous establishments providing multiple courses for the regarding fields Artificial intelligence, a technology that overlays special effects on the \$64000 world, has its applications within the field of engineering and design and has been accustomed tackle planet issues. Career counsel larva aims to hold oral communication between humans and machines. Some information has been embedded into the machine to identify the sentences and decide itself as response to answer an issue. The response principle is to extract the tokens from the sentence method thereon notice the goal of sentence by matching the input sentence from the user. The larva can facilitate the users who have passed SSC and HSC to pick their field of interest or an area that will best make up their future. and therefore the main factor is that our larva not simply solely alter the scholars who face the career choice drawback, however additionally are helpful for the peoples who square measure Mentally Depressed and therefore the one who is addressing the dangerous Thoughts, Depression and Anxiety. however this half we are going to

cowl within the second part. Chatbots square measure pc programs that simulate intelligent oral communication. they're settled between games and toys, as their aim is usually to be amusing, however the user doesn't got to follow precise rules once twiddling with the program. The objective of this a pair of paper is to explore career selections out there, yet on propose many graphs to judge space of interest. presently academic applications have begun to emerge as an additional development of the concept of intelligent dialog.

Objectives:

- To Provide Guidance and Consultation to students.
- To Reduce the time and efforts of students.
- To help the students for choosing perfect career track.
- To build the platform that deal with real life problems of students.

II. LITERATURE SURVEY

• **Anderson et al. (2001)** tied on these findings and tried to classify learning outcomes with a Chat-Bot matrix consisting of a knowledge and a cognitive process dimension. The knowledge dimension consists of factual, conceptual, procedural, and metacognitive knowledge. Apart from already described factual and procedural knowledge, they added conceptual and metacognitive knowledge. Conceptual knowledge shows the interrelationships among basic concepts and metacognitive knowledge is the knowledge of cognition in general. Chat Bot works in many forms and combines different learning styles and methods:

- Web or computer-based Asynchronous or synchronous
- Instructor-led or self-paced
- Individual-based or team-based (collaborative learning)
- **Sofie Roos et al. (CHATBOTS IN EDUCATION):**

Introduce the task of Visual Dialog in Chat Bot, which requires an AI agent to hold a significant dialog with humans in natural, conversational language about visual content. Specifically, given an picture, a dialog history, and an issue about the image, the agent should ground the question in image, infer context from history, and answer the question accurately. Visual Dialog is disentangled enough from a selected downstream task to function as a general test of machine intelligence, whereas being grounded in vision enough to permit objective analysis of individual responses and benchmark progress. We tend to develop novel two-person chat data-collection protocol to minister a large-scale Visual Dialog dataset (VisDial). VisDial v0.9 has been discharged and contains one dialog with ten question-answer

pairs on ~120k pictures from COCO, with complete of ~1.2M dialog question-answer pairs.

• **BeeBee Blackboard Chat-Bot:**

- AI based chatbot show Higher Education Opportunity.
- Blackboard Chatbot provides a better UI experience that is always available.

• Give students, faculty, and staff the information they need, when they need it, in the way that they prefer to interact with a self-service chatbot.

• **Gurukul-College Enquiry Chatbot:**

• Gurukul is built using artificial algorithms that analyses user's queries and understand user's message.

• This System is a web application which provides answer to the query of the student. Students just must query through the bot which is used for chatting.

• The user can query about the college related activities through online with the help of this web application. Our project aim is to develop a chatbot, which helps the students in guidance of education and career. Our chatbot will be an intelligent system that can hold a conversation with a human using natural language in real-time. Chatbots are computer programs that simulate intelligent conversation. They are situated between games and toys, as their aim is mostly to be entertaining, but the user does not have to follow precise rules when playing with the program. The aim of this paper is to explore career choices available, as well as to propose several graphs to evaluate area of interest. Our chatbot, which will work as a conversational agent, and is a computer software capable of taking a natural language as a input and providing a conversational output in real-time. This human-chatbot interaction is typically carried out through a graphical user interface based on Human-computer Interaction (HCI) principles. The intent of our project is that to make a chatbot, which will work as a conversational agent, and is a computer software capable of taking a natural language input and providing a conversational output in real time.

III. METHODOLOGY

• PROPOSED SOLUTION

The intent of our project is that to make a chatbot, which will work as a conversational agent, and is a computer software capable of taking a natural language input and providing a conversational output in real time.

Our chatbot will be an intelligent system that can hold a conversation with a human using natural language in real-time. We have divided our project in few modules listed below:

Module 1: Dataset Gathering

o Creation of self-made Dataset- We have made our own short Conversational Dataset in YML Format.

o Gather Train Dataset- We have used QuAC Dataset for training of our model. It consists of more than 30,000 Question and Answers to train the model.

o Data Pre-processing and Dataset Void Filtration

Module 2: Chat-Bot Training/Testing and Website Integration

o Train Chatbot - By the help of QuAC Dataset, we have train our chatbot.

o Frontend Designing – With the help of HTML, CSS, and BOOTSTRAP, we have designed our frontend.

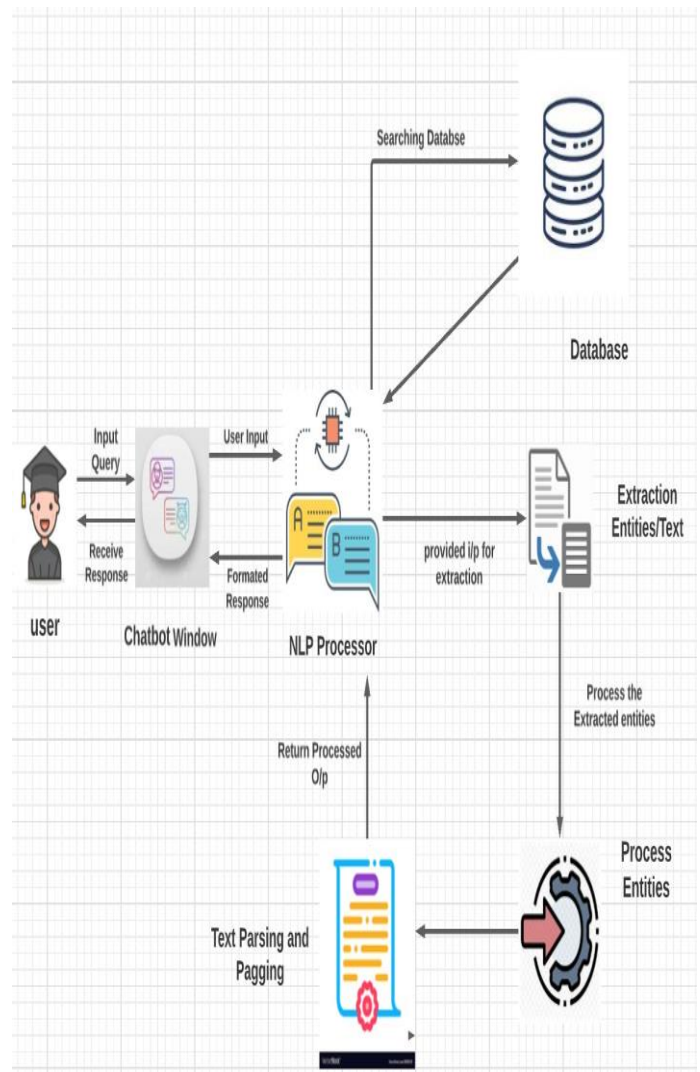
o Integrate chatbot with Website (Deployment): - We have developed the application using Flask framework and integrate it with webpage.

Module 3: Chat-Bot Testing

o Check whether our chatbot replying correctly.

o Check whether our chatbot perfectly integrate with webpage or not.

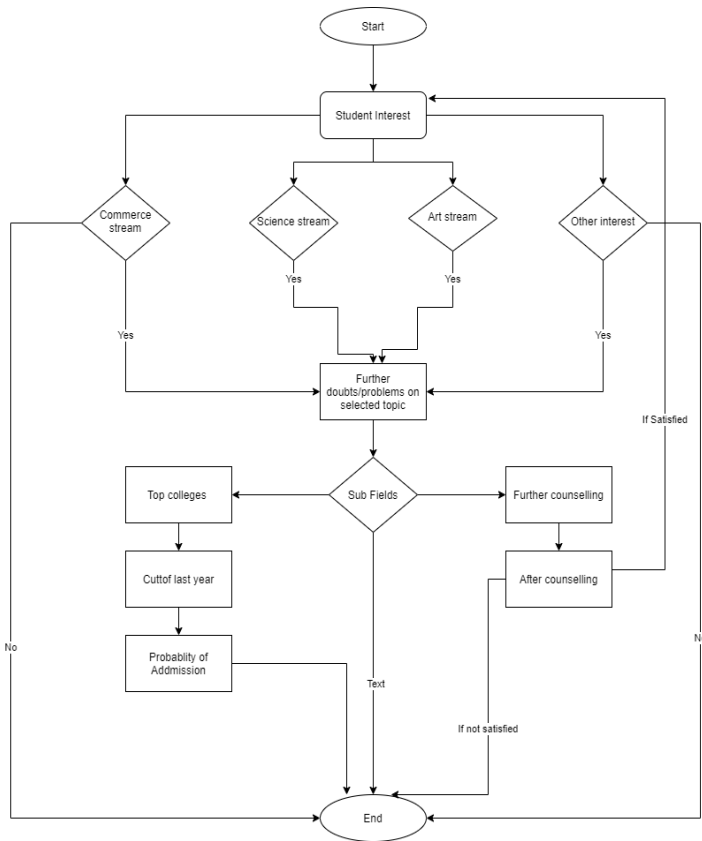
Figure I: System Architecture



You can see the System Architecture of our chatbot, in which User must put some Input Query in Chat Window of chatbot. Then that query will send to NLP Processor for processing.

Then NLP Processor compare the query with queries already stored in database. If the queries have not found any match with the queries stored in database. Then that query will send for extraction by which it extracted in some entities and text or keyword. Then that extracted keywords or entities are processed to find a pattern.

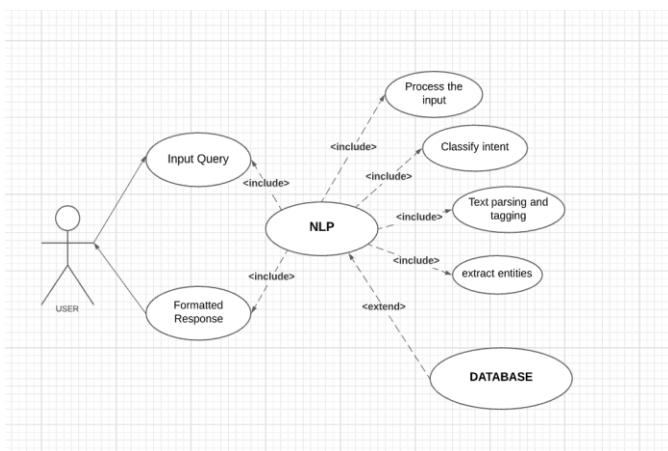
Figure II : Flowchart



According to the flowchart the user first have to input the stream he/she is interested in then our chatbot will provide number of Colleges or Universities which are related to that stream.

DESIGN AND IMPLEMENTATION

1. Use Case Diagram



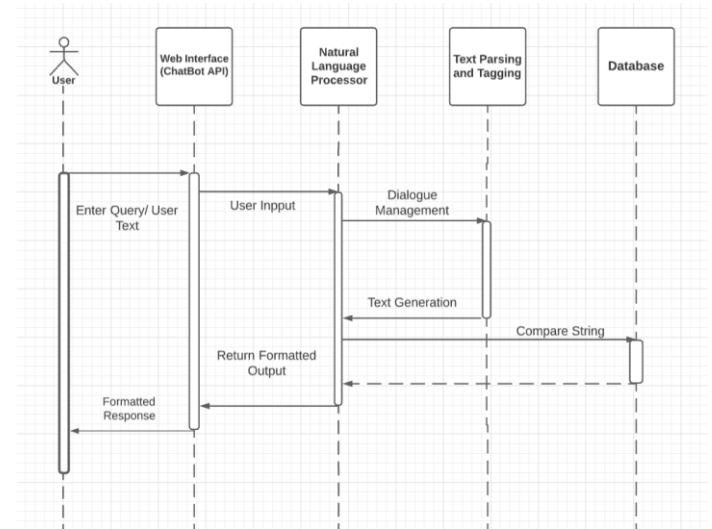
You can see the Use Case Diagram simply depicts the task which a user can perform through our Chatbot.

User can input Query.

User can choose the available subject stream.

User can choose the available college as per stream.

2. Sequence Diagram



Sequence Diagram of the Chatbot:

- ❑ User must put some Input Query in Chat Window of chatbot. Then that query will send to NLP Processor for processing.
- ❑ Then NLP Processor compare the query with queries already stored in database.
- ❑ If the queries have not found any match with the queries stored in database. Then that query will send for extraction by which it extracted in some entities and text or keyword.
- ❑ Then that extracted keywords or entities are processed to find a pattern.
- ❑ The above Sequence Diagram describes the complete view of the app and its timeline usage in the perfect manner.

IV. RESULT & DISCUSSION

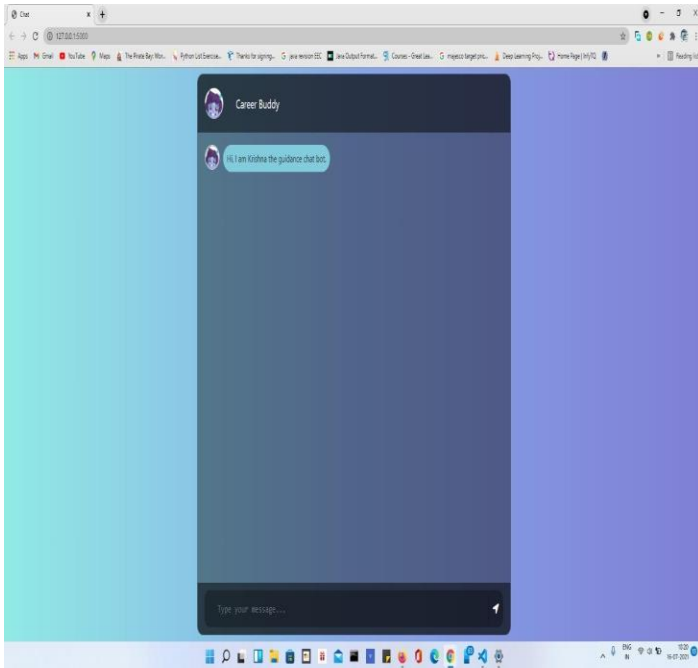


Figure: Home Screen

You can see the Home-screen of Chatbot. This is Home-screen of “Krishna – The Guidance Chatbot”. User can input any query or message in type box. Type Box have sent button which is used to send your input query to chatbot. We will enter or provide some queries to chatbot, to analyse how the chatbot will reactor reply to our queries.

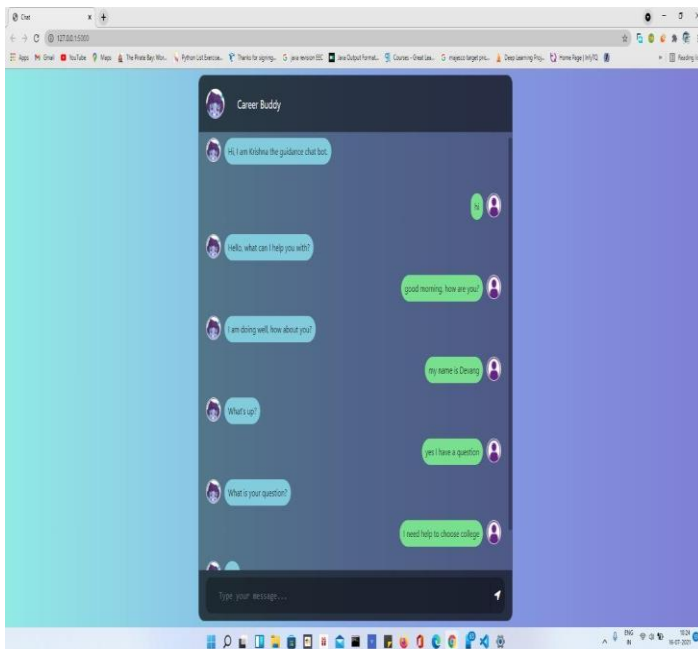


Figure : Conversion Screen

We had entered or provide some queries to chatbot, and we analysed how the chatbot will react or replied to our queries and chatbot successfully reacted in correctly manner.

V. Conclusions

We have designed and developed a Chat-Bot by applying engineering knowledge which provides an approach in building a platform where users can try to solve their different problems in the conversational environment.

As a student, we always encounter many problems in which the solution strategy is required and Chatbot can provide a better platform for users to make queries. It solved the societal problem of users with their different problems in education fields. This chatbot will give a unique platform for the users to find the best colleges and subjects for them. We have researched the available application to find out the new solutions and updates. We have analyzed the existing research and tried to overcome the problems with the help of our project We have used modern tools like Vscod, Brackets, and libraries like NLP, Chatterbot, Numpy, pytz, and nltk.tokenize, etc and Frameworks like Flask to implement this project. During the implementation of this project, we understood the importance of individual and teamwork while project development and management.

While showcasing our project through various seminars, we enhanced our communication skills and displayed professional ethics which results in lifelong learning.

VI. FURTHER SCOPE

- Personality Analysis:

We will include the feature of Personality analysis option based on their Psychometric Test profile. In this first, Student must give the Psychometric Test and on basis of that or on different traits bot will evaluate their profile.

- Factors based Analysis:

We will analyse the different-different factors to choose the career track or stream chosen by student. On what factors does the student have to choose right career track for themselves.

- Guidance for mental health:

We will include the feature of Analysis of mental health of students. Many students are currently dealing with Depression, Anxiety and confusion to choosestream.

- Voice over feature:

We will include the Voice over feature to our chatbot to make it easy to use and friendly for disabled person.

VII. REFERENCES

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