

# Career Counselling Chatbot

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**Abstract** - This paper presents the design of an expert system for educational guidance for students available after SSC & HSC. Artificial intelligence involves two basic ideas. First, it involves studying the thought processes of human beings. Second, it deals with representing those processes via machines. Artificial intelligence (AI) technologies help us in various purposes in every domain of mental health care including decision-making, treatments. This project involves an AI based expert system which helps the students to give a basic idea of possible career opportunities. This project will help the students by taking into consideration, the students interest and aptitude test result.

**Key Words:** Career guidance educational, decision support, Artificial Intelligence.

## 1. INTRODUCTION

Nowadays It is important to have basic knowledge about various career fields that are high in demand and available across the world. A large amount of people regrets pushing their career at their initial stages, with many forcing their choices with irrespective courses. Many students have responded to a survey saying that their parents tried to influence over their career choice.

It is no surprise that the students currently enrolled in universities claimed that they would have chosen a different course if they were aware about it. To select the right course we should take down the list of courses to few selected ones, that can be done by one's ability and their area of interest. Artificial intelligence (AI) is highly useful for this. Artificial Intelligence is the field that Includes among the aspects of intelligence and the ability to interact with the environment.

Artificial intelligence has a form called fuzzy expert system that uses a collection of membership functions (fuzzy logic) and rules (instead of Boolean logic) to reason about data. logic which uses either the 0 or 1 values to describe false and truth.

## 2. AIMS AND OBJECTIVES

The aim of the project is to help the students, help in live chats and query solving for the user through its messaging features and also have features like notification for the student about the course choice.

This app will help students in different area of interest to keep track on various fields. We aim to guide students by leading them into a series of tests which will give them an idea how to start and what to do further.

## 3. LITERATURE SURVEY

A multi-expert system for educational and career guidance by using a multi-agent approach and the semantic web. In fact, in this approach, we envisage four areas of expertise. It contains two division; in the first division a student will be analyzed for his/her interest and in the second division the available courses, job aspects related to their ability will be suggested. To analyze a student, marks in various subject in SSC and vocational interest in different fields have been considered and fuzzy sets have been formed. On example basis, fuzzy inference rules have been framed for analyzing the abilities in engineering, medical and hospitality fields only.

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 doesn't 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 graph to evaluate area of interest. Currently educational applications have started to emerge as a further development of the idea of intelligent dialog.

## 4. PROBLEM STATEMENT

The aim of career counseling bot is to carry out a conversation between both human and machine. Some knowledge has been embedded into the machine so that it identifies the sentences and making a decision itself as response to answer a question.

The response principle is to extract the tokens from the sentence process on that find the goal of sentence by matching the input sentence from user. The bot will help the users who have passed SSC and HSC to select their field of interest or a field that would be best for them in order to build up their future.

The system should use aptitude and achievement assessments, to help clients evaluate their interests, skills, and abilities. The application must enable the user to explore various existing career options and their scope. It

should also enable the user to take tests and give a detailed report about the suitable careers in order of preferences.

## 5. PROPOSED METHODOLOGY

The system will consist of following components:

- **User:** The user for the can be anyone who wants to seek advice on his/her career. The user has to register after which he can login and start using the app. User can explore various options and take test to generate appropriate career option.
- **Smart Counselor App:** It will act as an interface for the user. It will allow user to take test and display result.
- **Fuzzy Inference System:**
  - a. **Fuzzifier:** Converts the unclear input to a clear output using the membership functions stored in the fuzzy knowledge base.
  - b. **Inference Engine:** For converting Fuzzy input to Fuzzy output If Then Fuzzy rule is used
  - c. **Defuzzifier:** Converts the not clear output of the inference engine to clear value using membership engine.
- **Databases:**
  - a. **Rule base:** It takes set of rules for the decision-making process of analyzing interests and career choices.
  - b. **User Database:** Has user details and test status of the users.
  - c. **Test Database:** Has test questions and test details.

## 6. CONCLUSION

Our system will establish an automated process similar to a one-to-one meeting with a career counselor and will aid to 'plan' a career true to the student's grade, IQ, hobbies, interests, and other predominant specifications entered by the user at the time of registration. We aim at achieving optimum results in the time we have, as we believe that this app will be a boon to all those people out there who are at their major crossroads in life, striving to know in which stream and domain their strengths lie, and what all career options are awaiting them.

## 7. REFERENCES

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