WEB BASED CAREER COUNSELLING SYSTEM WITH CHATBOT

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ABSTRACT

Career advice has always been necessary, but only recently has it received the respect it deserves, and it is now essential to have a basic understanding of the numerous career fields that are in high demand and accessible in every part of the world. Career counsellors have been charged with providing high school students with early and ongoing exposure to the experiences and skills needed to make informed career decisions that align with academic preparation and long-term goals. Nonetheless, not all schools are lucky enough to have them, and those who do have them also teach other subjects, leaving them with little time to listen to all students, plan activities, or hold career advice forums because of this. Many students have been frustrated because they lack adequate career guidance to help them link their academics and other related activities to their career goals.

As a result, many students have been disappointed because they lack sufficient career guidance to help them connect their academics and other related activities to their career goals. As a result, our ASP.NET Framework-based career counselling application will assist students in career planning, development, and real-time guidance from our Counseling chat-bot built with Google’s Dialogflow.

Keywords: ASP.NET, Dialogflow, Counseling, NLP, ChatBot, Microsoft SQL Server 2014.

I. INTRODUCTION

Many people are regretting for forcing their career choices in their early stages, with many are also forcing their choices with unreasonable courses in their career. For most students it is known that graduating from high school is a significant milestone because it is the first time they would have to make a life-altering decision about their undergraduate degree. Many students said their parents sought to influence their career decisions, according to recent reports. It's no wonder that students currently enrolled in universities say they would have chosen a different course if they had known about it, and it's also possible that students with decent entrance exam scores would have chosen a different course; Their parents should not be fully informed about good colleges and courses in their chosen area. For most students, graduating from high school is a significant milestone because it is the first time they would have to make a life-altering decision about their undergraduate degree.

Our web application for career counselling aims to be a helpful and useful starting point for this perplexing period. For students interested in any area, there is a wealth of resources and data available. For the time being, most students do not have enough time to conduct the necessary study. We want to assist students by providing them with comprehensive information about colleges, including Institute information, directions to the college, and the courses provided by the college. Quizzes to assess their knowledge and identify their areas of interest, complete information about competitive assessments, a forum to address technical topics/questions, College Prediction, and a Counseling ChatBot to provide real-time advice and answer questions. Quizzes to test their awareness and recognise their areas of interest, detailed information about competitive assessments, a forum to discuss technical topics/questions, College Prediction, and a Counseling ChatBot to offer real-time advice and answer questions. As a result, our Career Counselling web application will put all of these resources and data together in one place to help students chart a course for a promising future where they will not face any kind of ambiguity and regret.
II. IMPLEMENTATION

Fig-1: Design Phase of Web Application

Our Career counselling system is designed to provide students with career-related guidance, advice, and information in such a way that it includes the evaluation of student's abilities and personalities which help them to improve and develop realistic academic and career goals for a longer period of time. The following modules make up the Career Counseling System:

Module 1: Student Module

The front-end and back-end of this module is built with ASP.NET framework written in C# and for the database, Microsoft SQL Server 2014 is used. C# is a powerful and secure object-oriented back-end programming language that supports ASP.NET development services and helps us to build powerful and secure Career Counseling application. We can build Windows client applications, client-server applications, XML Web Services, and other applications using this language. It also encompasses numerous code editors for user-friendly code editing. The main part of this module is Career Counselling Chatbot which is built using Google's Dialogflow API Client Library for ASP.NET

Fig-2: UML Activity Diagram for Student Module

1. When the Student starts the Career Counseling Web application the student will see the homepage of the system as shown in Figure-5.
2. After that Student needs to sign into the system from Home page by clicking Login tab.
3. Then, after clicking on Login tab the sign in screen will be displayed, where the student needs to enter his credentials that is username and password. A student can also register in case he has not signed up before on the system.

4. After signing in user can see the Home web page which consist of core functionalities and services of the system such as College Information section, Competitive Exams Information section, Quiz Section, Queries Section(QnA), College Prediction and Compare and Counsellor-Bot.

5. When Student enters the College information section, he will be able to access various complete details of any college according to different regions like Institute Information, How to reach and types of Courses available in that college.

6. After when student enters the Competitive Exams Information section student will be able to see the Complete Information about competitive exams can be viewed and their brochure or notification can also be downloaded by the users.

7. When student enters Quiz Section, he would be able to give multiple choice questions (MCQ) based quizzes which can be taken by them to know his area of interest in a respective field.

8. When it enters Queries Section that student is allowed to post his/her queries and is also able to answer other student’s queries.

9. After entering College Prediction and Compare that student can predict his college based on his marks and can also compare two colleges on various parameters.

10. Finally, if student needs some guidance he can communicate with the Counsellor-Bot as if talking to a real career counsellor.

**Module 2: Admin Module**

The front-end and back-end of this Module is built same as of Students Module with ASP.NET framework written in C# and for the database, Microsoft SQL Server 2014 is used.

![UML Activity Diagram for Admin Module](image)

**Fig-3: UML Activity Diagram for Admin Module**

1. When the Admin starts the Career Counseling Web application the Admin will see the homepage of the system as shown in Figure-5.

2. After that Admin needs to sign in to the system from Home page by clicking Login tab.

3. Then, after clicking on Login tab the sign in screen will be displayed, where the Admin needs to enter his credentials that is username and password.
4. After signing in Admin can see the Home web page which consist of core Managing functionalities and services of the system such as Manage Quiz Questions, Manage College Information, Manage Exams Information and Managing Data Driven College Prediction and Compare.

5. When Admin enters the Manage College Information section from here colleges can be added and also details of a particular college can be updated.

6. After when Admin enters the Manage Competitive Exams section admin will be able to add Information of different competitive exams.

7. When admin enters Manage Quiz Questions from here Admin can add a quiz or update the quiz questions.

8. When it enters Manage Data Driven College Prediction and Compare Section then admin is allowed to manipulate the college cutoff dataset for accurate prediction of college.

III. RESULTS AND DISCUSSION

Database Construction and Testing:

Testing the database is necessary to identify errors that could compromise the system's reliability, accuracy, efficiency, or security. Database testing entails retrieving data from a database using a desktop application or the website as it assists to validate the system against the requirements. The database of career Counselling System is created using Microsoft SQL Server 2014 and the database Schema is shown below:

Fig-4: Database Schema of Career Counselling System

The following Web Pages are Designed and implemented as the result of the "Web Based Career Counselling System with Chatbot" web application:
Fig-5: Home Page of the System

Fig-6: Sign Up Page for Student Module
**Fig-6:** Sign In Page for Student Module

**Fig-7:** Home Page of Student Module
Fig-8: Counselling Chatbot of Student Module

Fig-9: Sign In Page for Admin Module
IV. CONCLUSION

This paper outlines an effective method for developing a sophisticated web application that will assist young people in making sound and realistic decisions regarding their educational and occupational opportunities in order to build a successful career using web technology. This application offers a user interface through which students can communicate with a chatbot for career advice. During each stage of development, the project's specifications will be improved. Designing an application to meet the needs of a large number of users is difficult at first, but by working together as a team and with the encouragement of the teachers, we were determined to achieve all of our goals.

ACKNOWLEDGEMENTS

We have successfully Designed and Implemented our project. We'd like to take this opportunity to express our gratitude to a number of people who helped us complete this project, either directly or indirectly. We'd also like to owe a special and sincerest thanks to Mrs. Debarati Ghosal, Professor of Information Technology and our Final Year Project Guide, who assisted us in coordinating our project by simulating ideas and encouraging us.

V. REFERENCES


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