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Career Forecast System

Akshay Manchekar[1], Harshita Gaikwad[2], Ankit Gaikwad[3], Arnav Kanathia[4]
[1, 2, 3, 4]*Department of Computer Engineering, Vishwakarma Institute of Technology, Pune, India*

Abstract: As many students are confused about their future career field, they are unable to decide their career path either because of a lack of information or misconceptions. At the age of 18, students do not have adequate knowledge to correctly understand which is the right professional path. As we grow, we recognize that each student has doubts about what to pursue after 12th grade.

Keywords: Career, Profession, Occupation, Employment Options, Labor Statistics

I. INTRODUCTION

A national database of current workforce requirements, category-wise by both government and industry, the type of educational or skill qualification required, the nature of the job, eligibility criteria, salary and perks, and career development in every sector of employment is urgently needed to cater to student's aspirations and enable them to aim high.

As each individual nurtures different desires to become in their life, there is a need for a career diagnosis so that one can put forth efforts to become the best in his professional life and excel in life rather than make an umpteen number of mistakes in the wrong selection of a course of education or career and repent later and go on trying different things, losing his precious time.

II. VISION AND GOALS

The main idea of this project is to provide the required information for each educational field like :

1) By choosing the right career path, one can develop or excel in their life.
2) Talented students are responsible for the development of the country, but it can only be achieved by investing the right talent in the right field.
3) Many students passing out from 10th and 12th will be able to easily choose the right career path.
4) Students will have a clear idea about their goal rather than just going into a popular and overhyped field.

III. OBJECTIVES

A website will be created for this system, students can login and signup with their emails. First, a quick test will be carried out to get basic ideas about each student’s career choice. Then a long test will be carried out which will, with the help of a backend algorithm, suggest a list of perfect or matching educational fields according to the inputs. A dendrogram or tree diagram for each education field will be created with deep information about each course inside a course, future scope, limitations, pros, and cons according to the region, and much more. Students can decide if they want to find the right field by giving the test.

IV. LITERATURE REVIEW

1) This computerized career counseling method predicts a person's appropriate department based on their skills as determined by an objective test. If a person completes the online evaluation that we have built in our system, they will automatically be sent to a suitable course, which will reduce the number of candidates who fail as they choose the incorrect career path.
2) This approach is intended for use by schools and government institutions that provide active career counseling. Most college graduates in Taiwan are still undecided about their professional paths. This research aims to create a digital game for career planning. The benefit of digital games is that they increase people's drive and interest in career orientation, guiding them to jobs that are a good fit for them. This study aims to evaluate a career game's feasibility and provide techniques for developing a game-based career advice system.
3) This system provides solutions for every individual who faces difficulties in making career decisions and can seek counselors and use self-assistant tools, Self-Directed Search, or computer-based career information and guidance systems. CACGS has been confirmed to be well performed in a variety of ways including providing structured interactive dialogue between the computer and the client, using an inexpensive way to store and update data files, searching data inexpensively, providing an individualized assessment and interpretation, providing specific treatments based on his/her individual needs.

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4) The system developed was a web-based building profession career portal as a guidance information system for secondary school students with the aim of increasing the awareness and accessibility to information about the profession of building/building technology. The study is limited in testing and validity. The web-based career panel developed was not subjected to use by secondary school students. For future research, the portal should be deployed and performance responses from students, parents, and career counselors can be accessed. Video conferencing between students, their parents, and course lecturers in the profession can be integrated into the system. This provides face-to-face counseling about the profession. Furthermore, other less subscribed courses should deploy web-based portals to increase the prospect of knowledge about careers in their field.

V. METHODOLOGY

1) Users will need to sign up to the system via email or phone number to create an account with a strong password.
2) The system will automatically authenticate the users via phone or email verification.
3) Users need to fill in their personal information such as name, address and contact number etc.
4) Users need to take the quiz, fill in the required details and start the quiz.
5) After the user attempts the quiz, the result will be generated based on the user response.
6) Results will be displayed according to the Quiz Algorithm in the system. The algorithm will work on the quiz generated output.
7) After the result, users will get an idea about their future career paths.
8) It will become easier for the user to choose their career based on the suggestions and results generated by the system.
9) After successfully completing the quiz, users will be able to explore different career options by viewing the career dendrograms (tree diagrams).
10) Detailed information about all related fields will be displayed on the respective pages.
11) If the user has any query, they can write and send a message to the system.
12) If the user wants to submit the feedback, they can click on the submit feedback button to convey their views on this system.
13) The system will improve itself with time to provide more effectiveness.

The Quiz Algorithm will generate the result based on the user's field of interest. For example, if we are answering in favor of a particular domain having more interest, then the result will be generated based on that. So, if a user shows more interest in the medical field, then more points will be added to that field. So the field, having more points, will be suggested to the user.

VI. ARCHITECTURE

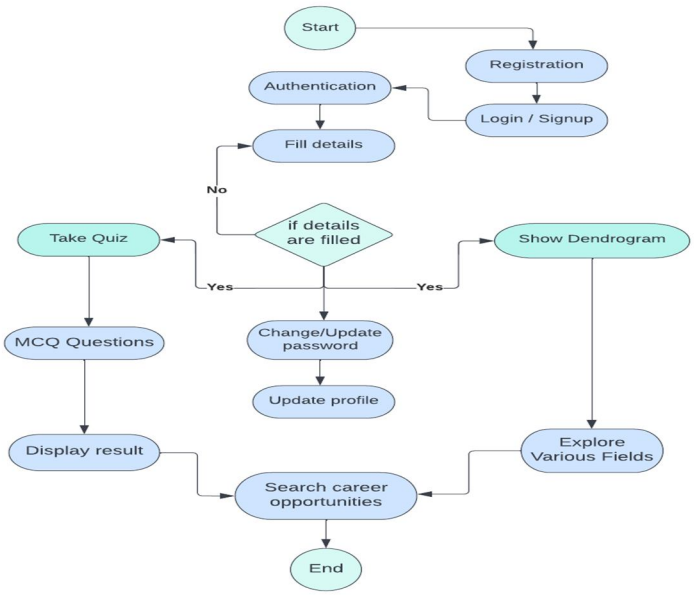


Fig : 1 Project Architecture

VII. WEBSITE LAYOUT

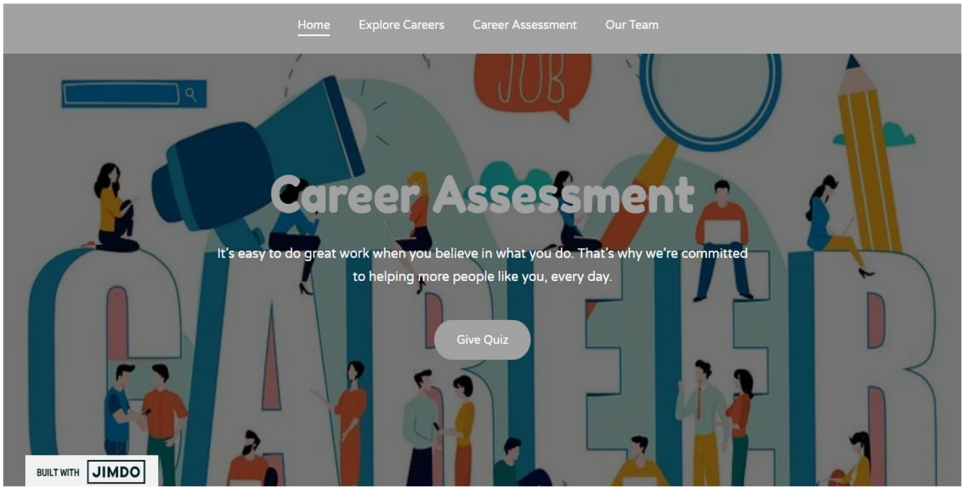


Fig : 2

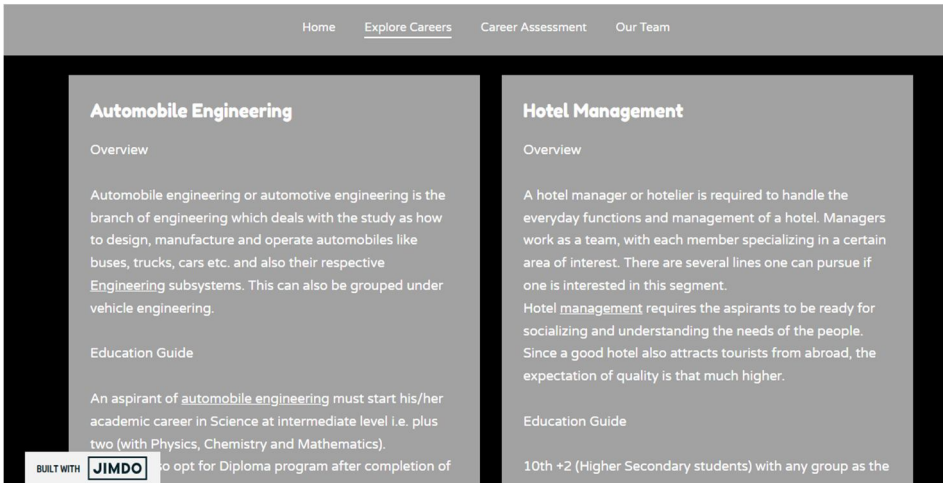


Fig : 3

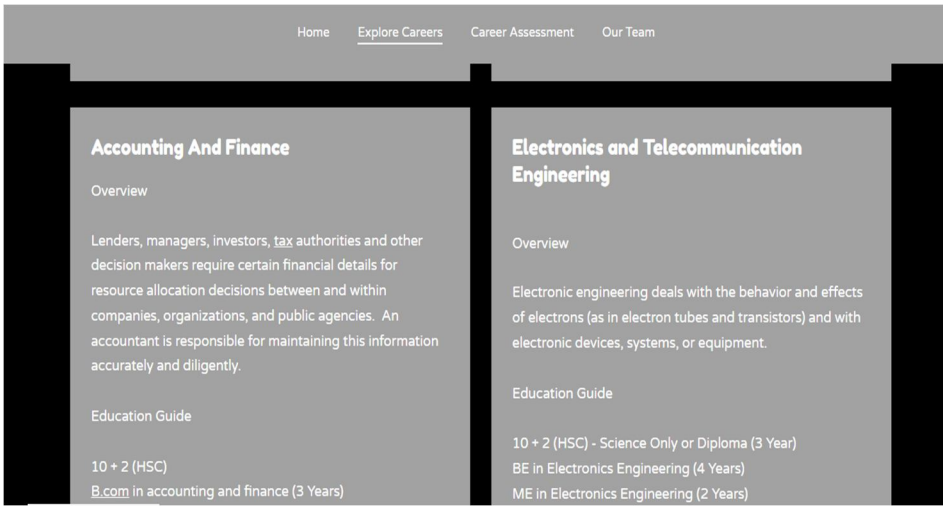


Fig : 4

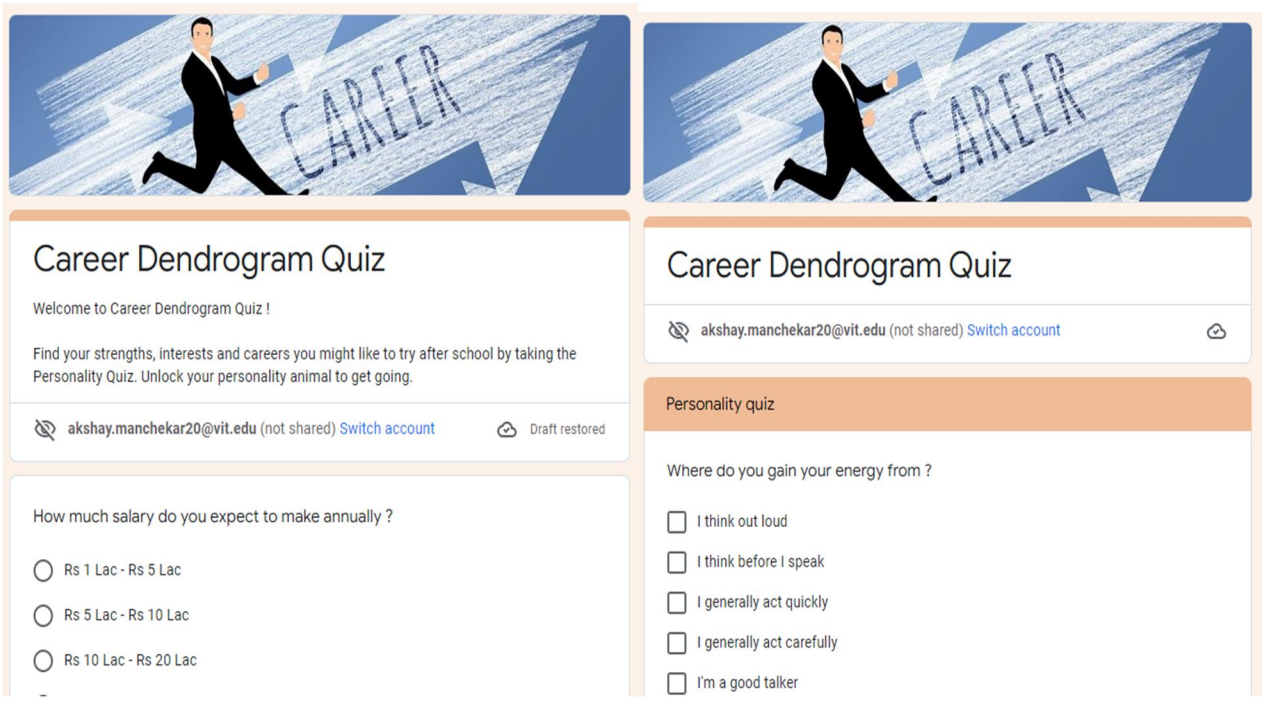


Fig : 6 Quiz

VIII. UML DIAGRAM

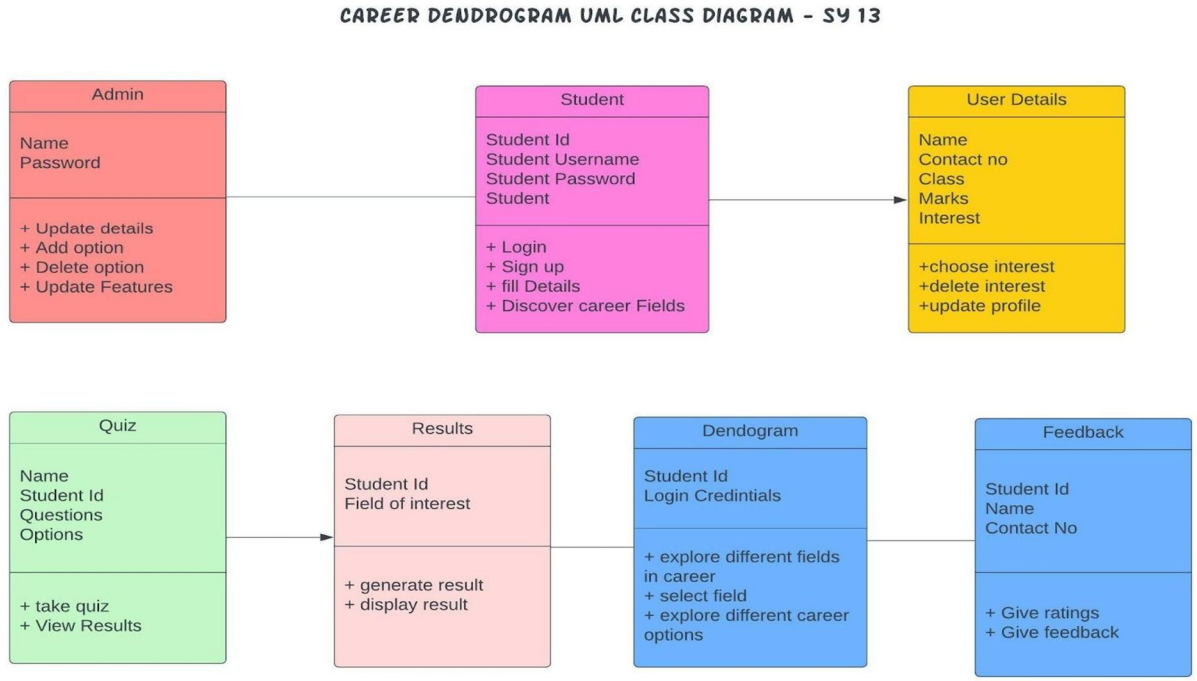


Fig : 7 UML Diagram

The class diagram is used to model an application's static view. Class diagrams have been the only diagrams that can be linked directly with object-oriented languages, making them popular during the construction process. In our project we have various classes like Admin, Student, User Details, Quiz, Results, Dendrogram, Feedback with various features and functions.

IX. USE CASE DIAGRAM

A use case diagram is used to depict the dynamic nature of a system. The needs of a system, including various factors, are gathered via use case diagrams. The majority of these requirements are design-related. As a consequence, user cases are developed and actors are identified when a system is studied to gather its functionality.

In our project, we have various functionalities, like user details, take quizzes, view results, view various careers, feedback and we have actors like user, admin and credit payment service.

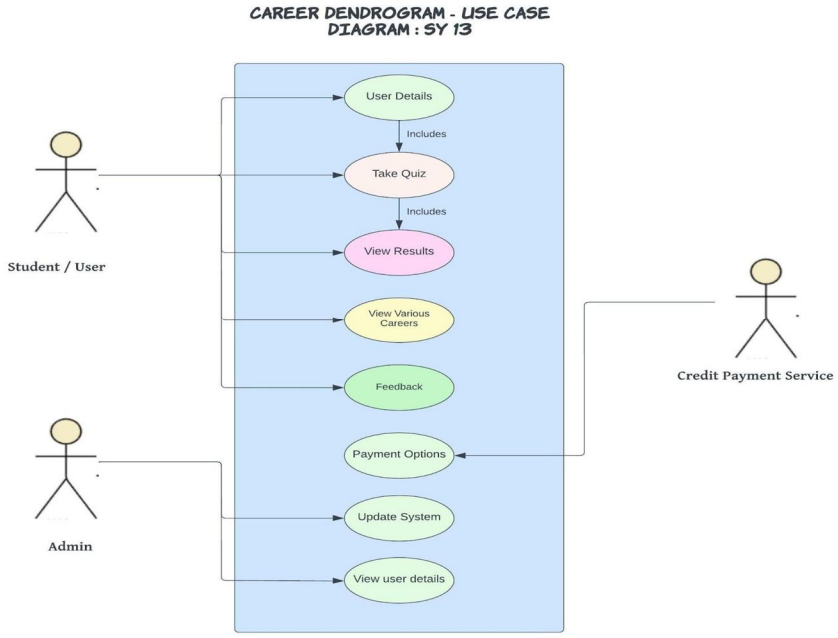


Fig : 8 Use Case Diagram

X. SEQUENCE DIAGRAM

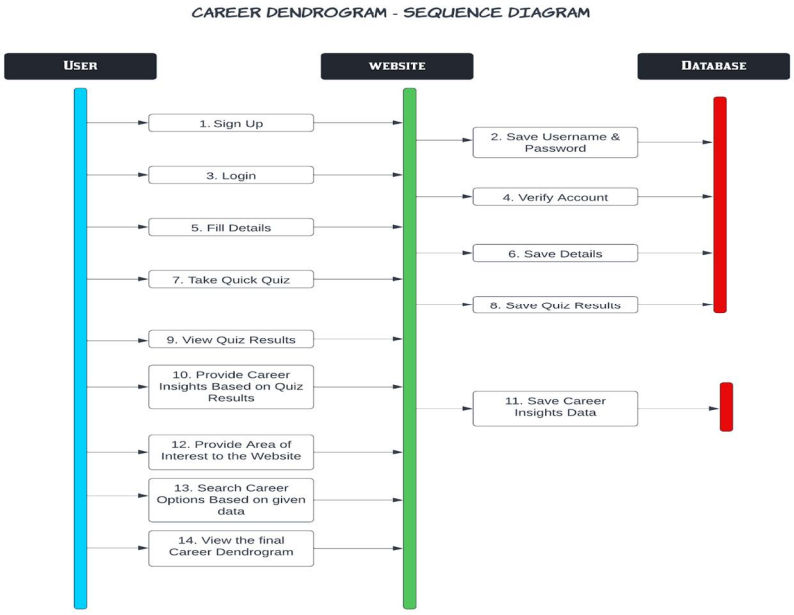


Fig : 9 Sequence Diagram

Above is a sequence diagram of our project. We have jotted down all the functionalities of our project in the proper sequence which are distributed between three components - user, website and database.

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XI. PRODUCT BACKLOG

Product Backlog

ID	As	I want to be able to	So That	Priority	Sprint
U1	User	Register and login in the website	I can create my profile on the portal.	High	2
U2	User	Fill in my details on my profile.	I can keep a track on my profile.	Medium	2
U3	User	Access the website.	I can choose the right career.	Medium	4
U4	User	Find more information about different career paths.	I can explore the different career opportunities provided by the admin.	Low	3
U5	User	Know the different career opportunities present in the portal.	I can choose the right career.	Low	2
U6	User	Accept the security policies and trust the owner.	My personal details will be safe and secured from data leak.	High	4
U7	User	Provide my area of interest to the administrator/website.	The admistrator can guide me to choose the right career path.	Low	2
U8	User	Give the test according to my area of interest.	I can track my performance in choosing the career.	Low	3
U9	User	See my test score.	I will get a idea about my area of interest and personal skills	Low	3
A1	Admin	I should be able to check the profiles of our subscribers/users.	I can keep track of my users.	High	4
A2	Admin	I should accept the Feedback of each user.	I can solve their query and improve deliverable quality.	Medium	2
A3	Admin	I have responsibility to keep real and trustworthy information.	I will not spread wrong information and mislead users.	Medium	3
A4	Admin	I should be able to keep all the information up to date.	User will get updated information on each topics and quality of content will be maintained.	High	2
A5	Admin	I should see the test score results of users on the website.	I can improve the algorithm and increase the accuracy.	Medium	4
A6	Admin	I should provide the best opportunities for the user.	User will be satisfied with the experience and will trust the product.	Low	2
A7	Admin	I should be able to keep the user data safe from data leak.	User can trust the website and can share the data without hesitation.	High	2

Fig : 10 Product Backlog

The product backlog is a comprehensive list of almost all of the activities and user stories which must be completed in order for the project to be completed. In the above diagram we have created tasks which the user and admin will perform along with the priority level.

XII. LIMITATIONS

A. The physical, social, and emotional atmosphere of a student differs significantly from that of a worker or a student in college. This lowers the career test's predictive ability.

B. An aptitude test merely provides us with a probability forecast. It's impossible to know whether or not forecasts will always come true. It has been observed that brilliant students occasionally fail to reach the top of the list, whereas an average college student who was not performing well at the time may reach the top.

C. Achievement in a program or career is influenced by a number of things. Performance in a course or career is not just determined by aptitude.

XIII. CONCLUSION

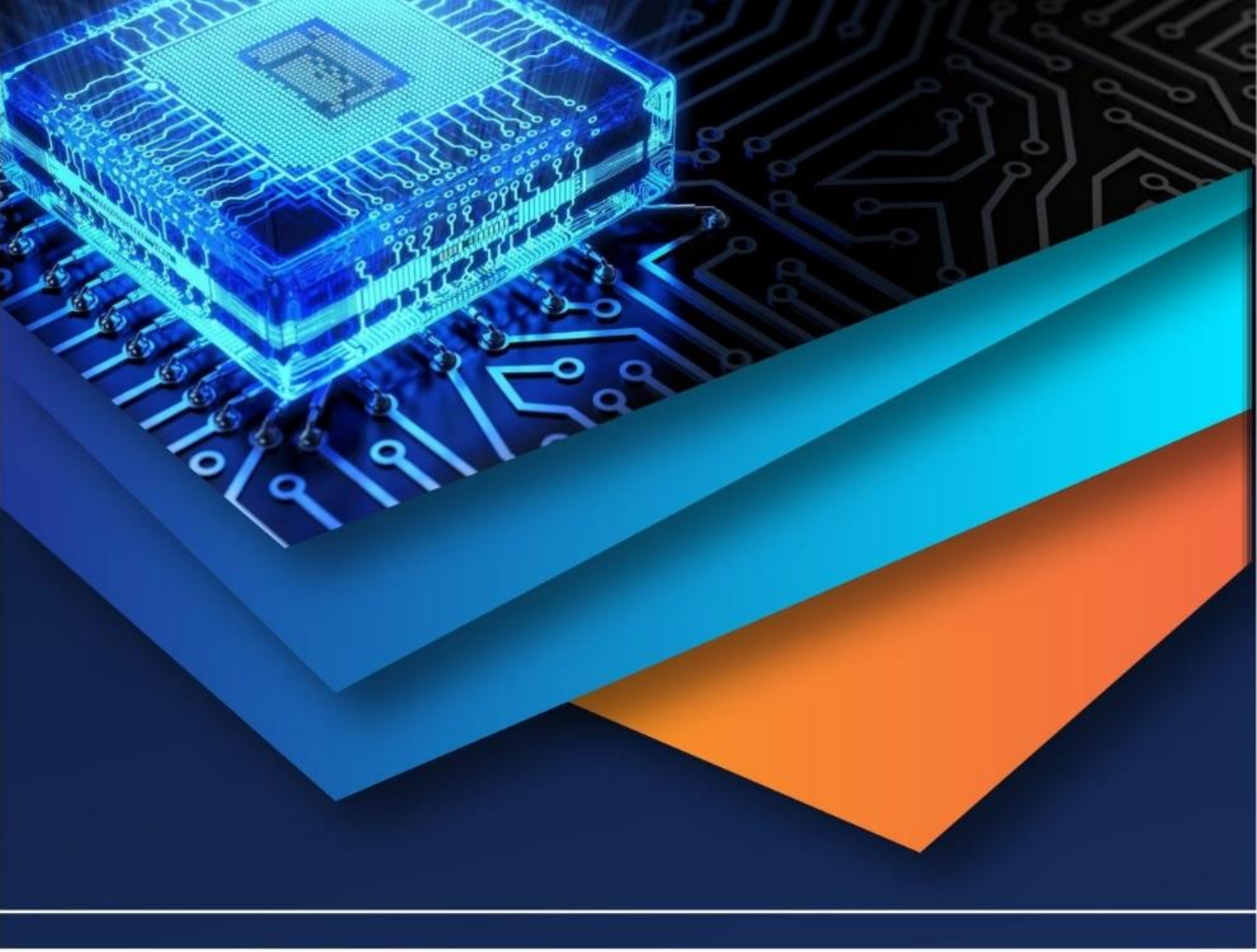
In the system, we have designed and developed a web-based application for a career guidance system which provides suitable recommendations for a candidate in choosing an appropriate career. Career guidance comprises of assistance that assist people successfully govern their career development. Although this aspect of human development occurs on its own as we mature, everyone can benefit from assistance in navigating through this process.

By making this tree diagram, students can easily find required information about each education field and their courses. For example, Engineering is a parent field with many child courses like CS, mechanical, electrical. Also, in each child course there are many other child fields like data engineer, frontend and backend developer, android developer, etc. Students will have the right to decide if they want to find the right field by giving the test.

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