

Automated Career Recommendation System using Personality and Interest Test

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Abstract - Careers advice and guidance acts as a stepping stone for success. In order to let your profession move in the right direction, you must know the path you need to follow. Being ready and having everything pre-planned will make your life simpler. A lot of students in our country still lack awareness about career guidance. However, for success, it is vital that you get the right advice from the right person. Far too many people are dissatisfied with what they do for a living. They make mistakes when choosing a career and end up in an occupation that isn't a good fit. This website will help students in exploring career paths and which will best suit them. Students will be able to explore career paths according to their interests and their personality. This is a web based application which will be displaying the career options for the students by considering and implementing Holland Code to match the personalities with work & future career options and then show it in a meaning full way to students which will help them to decide the career more easily and clearly according to their own interests for their own future. This project will positively help students in this problem and solve this problem to a great extent so that students can choose best suitable career options for their future and will be happy in future with their profession without any regret. Finally, the students can pursue one of these best career options for their bright future which will give them positive results definitely because these are totally based on worldwide proven and accepted procedures alongwith some latest researches which are published and proven.

Key Words: Career advice, Personality test, Interest test, Interest and subject to career mapping.

1. INTRODUCTION

Graduation years in student's life is one of the most important years of the student's life which decides not only its future but also future of the whole country. It isn't easy to decide on career option that will determine the rest of your life for you, especially at the tender age of 16 or 17. It does not help that often even parents are left confused about the right advice to give. The confusion a student faces is huge and varied in nature.

Should I continue with Science and opt for Doctor or Engineer?

• Should I switch to Commerce?

• Should I opt for a three-year regular course?

• Should I go for a correspondence degree?

• Should I go for professional careers such as CA, CS or Journalism?

This dilemma should be removed from student's mind so that they can work happily in which they are interested and what he loves to.

1.1 Need of proposed system

India is considered as one of unhappiest country in world. India ranked 133 out of 156 countries in The World Happiness Report (WHR) 2018, a decline of 11 spots from 122 in 2017. The ranking is based on data from Gallup World Polls. The respondents are asked to rate their lives on a scale of 0 to 10, with 0 being the worst possible life and 10 the best possible life. Accordingly, India has a happiness score of 4.19 in 2018 against 4.32 in 2017. As seen below, India's performance has shown a declining trend since 2013 (comparable data is available since 2013) [5]. Basically people are not happy because they are not enjoying the work in which they are involved.

1.2 Disadvantage of existing system

Existing system takes ratings from different websites or surveys which may not be completely genuine, whereas this system evaluates ratings and recommendation directly from the users itself. In this system there are two kinds of recommendations that can be performed while existing system has only one kind of recommendation. Existing system takes more time to respond whereas, this application is more responsive & time efficient. Existing systems may not have information about all the new and emerging careers whereas, this application even lists you those careers.

2. PROPOSED SYSTEM

This project will give them Career Guidance using Personality Test and Interest test on the basis of a questionnaire. This system aims at integrating these methodologies for finding perfect career options. This website will recommend careers on the basis of responses using fuzzy logic [1, 2, 3]. This website will help students in exploring career paths and which will best suit them. Students will be able to explore career paths according to their interest and their personality. This is a web based application which will be displaying the career

options for the students by considering and implementing Holland Code [6, 7] to match the personalities with work & future career options and then show it in a meaning full way to students which will help them to decide the career more easily and clearly according to their own interests for their own future. John Holland studied people and work styles. He created a system that matched personalities with work.

2.1 SOFTWARE REQUIREMENT

- AngularJs - AngularJs is a Javascript open source front-end framework that is mainly used to develop single page web applications(SPAs).
- MongoDB - MongoDB is an open-source document database and leading NoSQL database. MongoDB is written in C++.
- VS Code - Visual Studio Code is a lightweight but powerful source code editor which runs on your desktop and is available for Windows, macOS and Linux.

2.2 Proposed Diagram

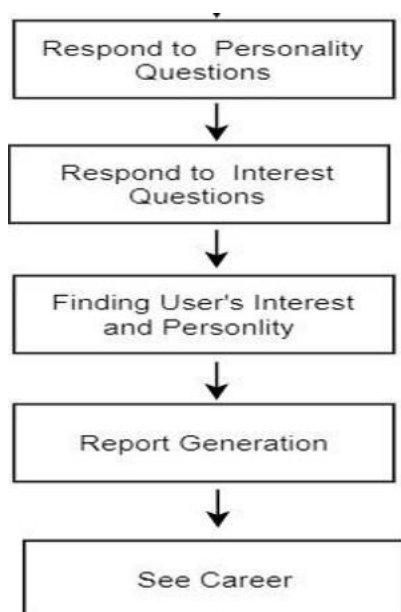


Fig-1 Career Recommendation system

3. ALGORITHMS

Algorithm 1 Flow of the System

Input: MCQ responses (i.e. “Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree”)

Output: Career Domains, Personality Type and Interest

1. Run personality module using **Algorithm 2** to obtain personality test sectional score which is for finding personality type.

2. Run interest module using **Algorithm 3** to obtain the interest test sectional score which is further used for finding interest.

3. Run **Algorithm 4** to generate report.

4. Run **Algorithm 5** to find the career.

5. Generate final career report.

Algorithm 2 Personality Analysis

Input: MCQ Responses

Output: Total Sectional Score

1. Display personality questions one at a time from question 1 to question 60 (10 questions each of Realistic, Investigative, Artistic, Social, Enterprising, Conventional).
2. Store responses for each question as one of “Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree”.
3. Calculate total score for individual section such that for a response from “Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree” a score from “0, 0.25, 0.50, 0.75, 1” respectively is added.
4. Return sectional total scores.

Algorithm 3 Interest Analysis

Input: MCQ Responses

Output: Total Sectional Score

1. Display questions on the basis of interest one at a time from question 1 to question 25. These questions will be covering all subjects.
2. Store responses for each question as one of “Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree”.
3. Calculate total score for individual sections such that for a response from “Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree” a score from “0, 0.25, 0.50, 0.75, 1” respectively is added.
4. Return sectional total scores.

Algorithm 4 Generate report according to above tests

Input: Score Set from Personality Module and Score Set of Interest module

Output: Career Report

1. Find broad career domains using score set from personality module.

2. To find the personality we can find the type which has got max score from the score set.
3. Find the interest from the score set received from the interest module.
4. To find the interest we can select all the type which has got score more than 2 from the score set.
5. Save and display the personality type and interest of the user.

Algorithm 5 Find the career domains

Input: Type of personality and interest from algorithm 4

Output: Final Career Report

1. We already have careers list in form of object, each of which has personality type and an array of interest.
2. Now we will combine both the personality and interest.
3. Match the traits with the given careers in the way that personality type is same of both the user and career and then match the interest array with that of user.
4. If anyone interest is matched then that career id is pushed to an array.
5. Now all the careers are displayed from the array.
6. Return final jobs and aptness score.

4. CONCLUSION

We are successfully able to find right career according to student's personality and interest. We have designed the algorithm in such a manner that it will consider both the personality and interest of a student as a major factor in deciding career as both plays very important role for a successful career. As we all have gone through this phase we know how much difficulty is faced by students in deciding the career. Before implementing this website, Testing and Analysis of website is performed to focus on application reliability and effectiveness. Test results once gathered and evaluated, provide a qualitative indication of the software quality and reliability and serve as basis for design modification if required. The testing phase of the implementations works accurately and efficiently before live operation commences. This website provides a list of careers that are derived from user's personality and interest. This website gives user a personalized and user-friendly environment which they can trust upon. This web app will provide user with the facility to have an insight of multiple career options on basis of their data we will collect from asking them different questions. Our application will not require login and also it focuses on interest as well as personality. We have given equal weightage to both interest

and personality. This project can be extended by providing career details of all the recommended careers and we can further connect the students with the working professionals through some social media application.

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