

To assess the Psychological Factors of a Student through Quiz Interaction Sessions and predict a Suitable Career

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Abstract---*Predicting accurate career (s) for the different types of students throughout career guidance which is performed based on the student capability. Generally consultants will check the student CGPA and predict the appropriate profession for a student. Based on the academic record and performance of the student may change because of the various reasons. Irrespective of the student's psychological factors like intelligence, velocity in problem solving, persistence etc. in order to predict the career in a better way. In this paper, A New Enhanced Career prediction model (ECPM) is used to predict the student profession based on academic career and also student behaviour factors. Results show the performance of the proposed system.*

Keywords--- CGPA, ECPM, Student.

I INTRODUCTION

Choosing a profession constantly performs a very important function in our lives from a very early age. This problem continually continues tricking our minds as to what our pastime lies in. This tension starts to mount as we develop up and recognize that we have already reached a stage the place we have to figure out what has to be accomplished subsequent in life, but nevertheless are confused. Parents who have teens pursuing their undergraduate publications are tensed about their future and quit up passing their nervousness to their children. Children, in turn, have no thought what job to take up and what existence they want to lead. This professional gadget is basically the ultimate comfort for both, college students and their parents. We aim to guide college students through main them into problem-solving check which will provide them a notion how to start and what to do further. This test is designed to identify the careers that suits them the best. This specialist software will guide college students from the undergraduate courses choosing the right career choice to have a profitable professional life. This specialist gadget has a one-of-a-kind strategy towards checking out the students, it will verify through QUIZ interaction.

How this specialist system is different apart from others is, it will examine the psychological factors of a scholar and construct a cognitive model that consists of the psychological elements like speed, talent and patience stages of the student. two Basing on the ratings acquired by the student, the software builds a cognitive model of the student. A profession table is maintained via the prediction software which carries the list of careers, the minimum tutorial record like CGPA and the minimum tiers of psychological elements that are required for every profession in order to take up that career by the scholar in future. A matching manner is

carried by the system in order to predict the exceptional matching career(s) for the student, basing on his/her cognitive model.

This procedure of evaluation is very essential for every student, it will assist the scholar to make selections about their profession in the right way. After the completion of the test, a remaining document is given to the students which are favorable to students for training to accumulate their suitable career.

The QUIZ recreation takes a look at is carried on the students to check their intelligence. This check can be performed through taking help of a professional system. If a scholar ranking high in this take a look at then his/her intelligence can be regarded as high. Some of the students, who have secured excessive CGPA and intelligence, can be categorized as college students with low concentration at the time of the test. Students with low CGPA and excessive reminiscence rating can be categorized as college students who are now not willing to use their talent for achieving high CGPA. The brain of a student can be graded as Excellent, Very good, Good and Average. This prediction system is required for assessing the brain of a scholar and based totally on the consequences which were assessed, it predicts the career(s) for which the scholar is suitable.

An existing model of an career selection is already under implementation by haria jose, Our Approach of the project is to consider the Psychological factors of a student which deals with the willingness of the student to do so

It is very fundamental to pick an appropriate career(s) for a student. Usually, human specialists pick out the fabulous career(s) for a scholar basing on his/her tutorial record. A specialist gadget is constructed to alternative a human prediction. To outline a specialist system, it is a computer application that represents and reasons with help of a specialized domain with a view to resolve troubles or supply advice. This prediction software can be used to figure out the most appropriate profession for a student. Apart from the academic report of a precise student, various psychological elements like Intelligence, the pace of solving etc. of a scholar are regarded by means of the gadget to make a clear and ideal choice regarding the selection of career.

II Literature Survey

Prakash, V. Chandra has developed a specialist software for the profession instruction to a student, to examine the reminiscence electricity of a student. In order to furnish the high-quality career appropriate for a scholar by way of checking out the reminiscence power, a cognitive mannequin was once constructed that consists of various psychological factors like intelligence, pace of recollection, perseverance etc. A student's reminiscence electricity was examined through various tests like phrase test, names test, training and objects test, identifying objects in a photo check and face attention test. Based on the performance of the scholar in these tests, the student will acquire the score. Based on the scores, a cognitive model used to be built which consists of the academic file like CGPA and the psychological factors to predict the suitable profession for the student.

Manisha L. Waghmode, Pallavi P. Jamsandekar proposed an prediction system used for desirable career resolution for students due to the fact they may additionally fail due to unsuitable resolution of area except suitable decision. The career decision is primarily based on profession assessment assessments which consists of aptitude test, General aptitude check battery, personality assessment, brain take a look at two and activity test. This machine is tested by way of area predictions on the data obtained from a number of tests. The information

acquired is translated into a two Knowledge base the use of applicable rules. Based on this understanding base, the system suggests a suitable profession with the satisfaction of grades and career options given students.

Drigas has developed that the method of matching an unemployed with a sure job too frequently wishes to be completed in an extra structured and thorough manner than the simple. This specialist gadget makes use of a Neuro-Fuzzy technique for analyzing a corporate database of unemployed and enterprises profile data. The elements viewed are age, experience, training, experience, language information and pc knowledge. The fields of age and previous employment were discovered to be very strongly weighted by the system. It combines neural networks and rule based totally analysis to in shape the personnel of a company with a sure new project. Methods used by way of CASPER and worker agent EMA have been substantially used in recommendation and data retrieval and are correctly beneficial in job information retrieving also.

New Enhanced Career prediction model (ECPM)

The k-nearest neighbours (KNN) algorithm is most widely used in many ways. This is the supervised machine learning algorithm that uses for both classification and clustering. In various cases and by using various datasets the performance of KNN will be vary. The only drawback of this is it becomes very slow based on the size of the dataset.

The following are steps follow the KNN are.

1. Load the training and testing dataset.
2. Select the value of k
3. Every point in the test data:

The Euclidean distance to all training data points.

$$\sqrt{\sum_{i=1}^k (x_i - y_i)^2}$$

Training data points

the euclidean distance is to store and in a list and sort it.

the first k points are chooses.

assign a class to the test point based on the majority of classes present in the chosen points

4. End

System Architecture

A prediction system consists of various modules. First, the student needs to register before starting the test. The student who is new to the system must provide with details like Name, Id, Email Id, Password, Phone number, Year of studying, CGPA (or) Percentage. The student can continue the test after providing the required details. The registered student need to login with his/her Email Id and Password to continue the test. The system will check the record if the student tries to give the wrong information and if the file is not found, then the system will display that particular record is not found, please register. So, the student needs to register before login.

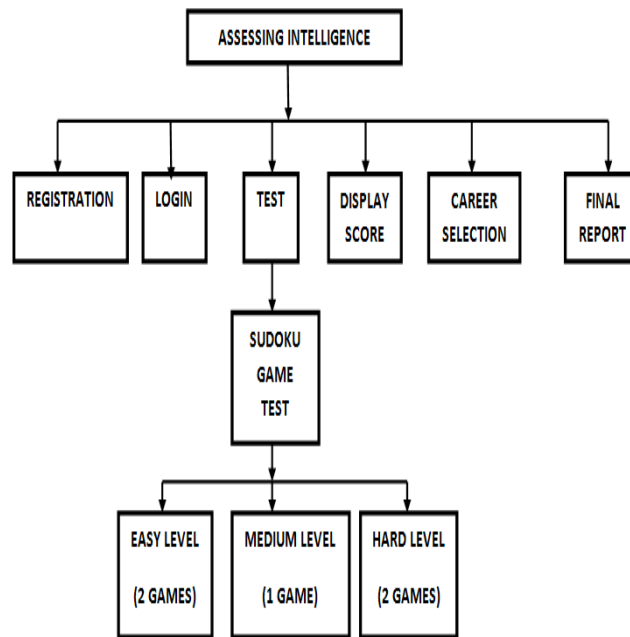


Figure: 1 Proposed System Architecture

In this test, the QUIZ partial grid is displayed with hints based on the levels i.e. Easy, Medium and Hard.

Analysis of Intelligence and other psychological factors

a) Assessing Intelligence

From the scores obtained during quiz assessment, the average score of the student is computed. This score reflects the intelligence of the student. The average score is obtained quantitatively. This can be converted in qualitative terms using Fig 2.

S.No	Score- X(Quantitative)	Qualitative
1.	$X \leq 10 \ \&\& \ X \geq 9$	Excellent
2	$X \leq 8 \ \&\& \ X \geq 7$	Very Good
3.	$X \leq 6 \ \&\& \ X \geq 5$	Good
4.	$X < 5$	Average

Fig 2. Intelligence levels- Quantitative to Qualitative Conversion table

b) Assessing Speed of solving problem

The time taken by the student for playing each game is noted earlier. While student is playing the quiz then the start time and end time of the quiz. The average time of play is computed in quantitative terms. This reflects the student's speed of solving problem. This can be converted in qualitative terms.

c) Finding suitable Careers

Generally, a student is selected for a career depending on his/her academic track record that is reflected by Cumulative Grade Point Average (CGPA). We propose that, apart from the candidate's CGPA, the various

psychological factors are also to be considered while selecting the suitable career for the student. Fig 5 shows some identified careers, CGPA and quality of various psychological factors required to perform the job.

Earlier, various psychological factors of the student were assessed both quantitatively and qualitatively. A matching process is carried on to match the student's psychological factors with those factors of each career (refer Fig 5) and the suitable careers are recommended. A Report displays the career(s) suitable to the students. The report generation format will be both Qualitative analysis and Quantitative analysis. Qualitative analysis is about describing the quality of the Students psychological factors in different categories, for example Excellent, very good, Good, Poor, Low, High etc, instead of giving the values. Quantitative analysis is contrast to Qualitative analysis; in this type the quantity of the data is measured instead of quality.

S.No	Career	CGPA	Intelligence level	Speed of Solving
1.	Software Engineer	>=7.5	Excellent	Fast
2.	Software Maintenance Engineer	>=7	Very Good	Moderate
3.	Software Tester	>=6.5	Good	Moderate
4.	Marketing Person	>=6	Average	Slow

Career v/s Required Academic Record and Psychological factors

S.No	Speed of Solving-T(Quantitative)	Qualitative
1.	T<50min	Fast
2	T>=50min && T<=60min	Moderate
3.	T>60 min && T<=75min	Slow
4.	T>75min	Very Slow

III Evaluation Results

SOFTWARE CAREER QUIZ

You're done! Here's what suits you best:

1. UX/UI Designer - Create beautiful experiences and make things artistically beautiful.
2. A Big Company - Secure job within a structured environment.
3. Product Company - Solves a problem really well at large scale [Eg: Flipkart]

As the student answers/takes the survey/quiz, we will get an output basing the technical and psychological schemes of generating result, we get a best suited career using KNN.

IV We can observe, in general, that if a student exhibits good intelligence, he/she also gets good marks and maintains a good academic record. We tried to prove this hypothesis. Of course, it is possible that a student with high intelligence may not study well and may not obtain good CGPA. It is also possible that a student with average intelligence may obtain a higher CGPA than what is expected. There are some reasons for this anomaly. For example, that student may have a very high memory power.

V Conclusion

This prediction machine for profession prediction assessing the psychological factors of the scholar is an innovative idea. This software presents opportunities to the students and makes realistic this medium to pick out the appropriate career. In modern-day competitive and technology-driven world, with numerous alternatives available, the scholar is usually stressed on choosing the proper or greater ideal career. The world these days is moving in the direction of "information streams". Instead of gaining knowledge of about the information, the statistics is thrown to the user. Keeping this in mind, it is felt that the proposed gadget has the ability to join to a number of students and assist them connect to most proper career. To conclude, the objective of designing this professional gadget is to lend a helping hand to the college students concentrated on for a bright future. By the use of our system, one will be guided closer to a career to pursue and how to work towards it. The deliberate software currently deals with guiding students in a way that is right for them i.e. to select a properly profession path relying upon the current abilities like logical skills, problem-solving skills etc.

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