Assessing The Intelligence Of A Student Through Guessing The Word Game

B.Jabber, Tatikonda Ravi Teja, P.Yashoda Krishna, G.Teja Sai

Abstract: The guidance for a student to select his appropriate career is given by the Expert system. Generally, the student is assessed by his/her academic excellence which includes his marks, CGPA and percentage in various subjects. Apart from them, the students need to be assessed in different factors like his ability to learning, patience, Intelligence and the problem solving capacity. By assessing him/her in all psychological aspects then the student is competent to know in which suitable job he/she is applicable. In such a way it is easy for a student to select his/her appropriate job and also gives the student’s cognitive model. All this process is outcome by using an Expert system called “Finding the Words” game. Keeping in mind the score student has obtained and the average time to complete the game reflects his/her fastness and capability of problem solving ability. Not only the time also the patience of the student is also reflected by the attempts he make. We can say that the student has great learning ability when his/her score increases day by day. Finally, after assessing all the psychological elements of the student, a table is designed with appropriate future careers for student. Also it chooses the best career from the predicted career’s by comparing the academic report and the report which is given based upon the psychological elements. The user who is a student play the game with the specialist framework and the framework can evaluate the mental elements of the students knowledge. By playing finding words game, evaluating mental components turns out to be simple. A lifelong evaluation framework (master framework) can propose reasonable jobs that suit an understudy.

Index Terms: Cognitive Model, Intelligence, Expert System, Game playing, Learning ability, Assessing psychological factors , Game Playing.

1. INTRODUCTION:

1.1 Prediction Guidance for Career:
An professional career guidance program may determine the best occupations for a student based on a student’s cognitive template. The behavioral model is made up of a number of different psychological factors like the intelligence and the problem solving capacity in terms of speed. He/she can play the game by an cognitive Expert System and this system can determine the students psychological factors. Though playing the game finding the words it becomes easy to determine the psychological factors. A career guidance program can recommend an appropriate career for student. Various approaches are there to assess a student’s intellect including the IQ tests which include reasoning and aptitude. For contrast of these techniques Intelligence is also measured when playing a computer game.

1.2 Finding Words Game:
This game is a clever match which is useful for determining the student’s psychological elements. The rules of the game are as follows:
1. This game was played by both the students and as well as Computer.
2. The student need to select the three options which were give i.e
   1. Vowels
   2. Consonants
   3. Misspelt
3. If the student selects vowels, a paragraph will be displayed with some vowels hidden with “* *”.
4. The student must identify the vowels correctly.
5. For each and every word identified the student will be awarded points.
6. The player have to identify the words with in the time provided by the system.
7. This is the same in case of consonants and misspelt words also, the process repeats.

1.3. Reason to survey mental components:
Profession appraisal is the most significant undertakings in understudy’s scholastic life. In light of the profession prescribed by master framework an understudy can choose a suitable subject and course in his/her future investigations to pick the best vocation way in understudy’s life. Profession appraisal is for the most part significant for definite year understudy's to secure what positions they are appropriate for in programming industry. Consequently, it is significant for master framework to survey the mental components of an understudy, for example, knowledge, persistence and tirelessness levels, and so forth

1.4. Subjective model:
Subjective model implies a model identified with mental forms like recognition, memory, thinking, insight, critical thinking capacity, judgment, and so forth. It contains

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rough estimations of the degrees of human knowledge, memory control, critical thinking capacity, learning capacity, persistence, constancy, and so forth.

1.5. Master framework:
It is a framework dependent on AI and it mimics the conduct of a human master. It has an information base, a database, a deduction motor and an interface.

1.6. Problem Definition:
Finding words game expert system is designed in net beans using UI repository.

Objectives:
1. The psychological elements through finding the words game are assessed.
2. From the results of the assessment the cognitive model is built.
3. Basing on the results of the cognitive model the appropriate career’s are identified and suggested.
4. The students report based on academics and the psychological elements, the correlation is established.

2. LITERATURE REVIEW:
It is essential to pick the correct career(s) for an understudy. Regularly, guides (human specialists) what to select as the suitable career(s) for an understudy basing on his/her scholastic record. To fail is human. That implies while choosing the proper vocation, even a human master may submit mistake now and again. Utilizing AI Techniques a specialist framework can be worked to supplant a human master. That framework can be utilized to choose which job(s) are generally reasonable for an understudy. Aside from the scholastic reputation of an understudy, different mental components like Intelligence, speediness of taking care of issue, and so on of the understudy ought to be well thought-out by the framework to settle on a superior choice in regards to the choice of reasonable career(s) to the understudy. Game Playing is such system by which understudies mental variables can be surveyed. The accompanying gives a review of writing toward this path.

2.1. Master framework:
Master framework (ES) utilizes human information put away inside a PC to take care of issues those require human mastery for illuminating. ES is utilized in numerous segments viz medicinal, farming, mining, training, industry and so on. As mentioned in [1] proposed and built up a specialist framework for educating postgraduate understudies rather with respect to the customary route in exhorting by the office's counsels. This framework intends to help postgraduate understudies of CS major in (KAU) to choose the reasonable courses which were appropriate for studying during their PG program. The proposed framework empowers the understudies to choose and get an arrangement to every semester without expecting to counsel counselors. As mentioned in [2] has illuminated writing survey of profession determination master frameworks. As in paper [3] concentrated on the development of an Cognitive model that is online which directs the understudies for the choice of their college classes after the consummation of higher optional school training. The built information base can be questioned with area related inquiries and this Expert System gives the most significant subtleties to the inquiry. As mentioned in paper [4] portrayed the job of master framework in vocation choice. Specialists gathered area information from space specialists, and structured a system of master framework for profession choice. Scientists utilized distinctive AI classifier calculations for ordering information into various profession streams utilizing Weka device. The presentation of the classifiers is portrayed in the paper.

2.2. Intellectual model:
As mentioned in reference paper [5] made a systematic examination and identified the game Sudoku which is one of the most excellent game to evaluate mental components of an understudy, particularly basic leadership intensity of an understudy. The creators proposed an Expert framework that behaviours. Sudoku game for an understudy, evaluates different mental components, constructs a psychological model of the understudy and gives profession appraisal. As mentioned in reference paper [6] present a basic report on pertinence for game Sokoban in evaluating understudy's mental factors so an Expert framework can construct a psychological model of an understudy for vocation appraisal. As mentioned in reference paper [7] they built a cognitive model using the expert system in playing Tic Tac Toe game. This is useful in making the guidance system for the suitable career. Taking into consideration this tic-tac-toe game and eight-puzzle game that was designed “Finding the word” game.

2.3. Guidance and Assessment in Career Choices:
As mentioned in reference paper [8] created an Cognitive model for Career advisory, named iAdvice to manage understudies occupied with their advanced education to decide their profession ways and to choose their course or the elective subjects to be an accordance with their vocation objectives. Master System highlights, for example, thinking capacity, giving clarifications giving elective arrangements, giving vulnerability and likelihood measures, addressing capacity are available in reference paper [9] structured and built up an Career Guidance which is online as Information System focusing on understudies in pre tertiary establishments in Nigeria. The Career Guidance through online web framework was planned and executed utilizing information gathered from talking human advocates and reviews. Chandra Sekhar [10] structured and built up an Cognitive System to evaluate the capacity of brain which memorises the students memory and helps in selecting the best career based on his capability. In reference paper [11] the author introduced an examination planned for exploring the utilization of semantic data in the novel Natural Language Processing application, (ECG), in German. As mentioned in reference paper [12] contends that strategy of vocation direction plans to shape an aggressive workforce, yet what's more pioneering and dependable residents. The creator talks about what attractive
subjectivities legislature of profession self administration develops in connection to re-directed obligation in the state and individuality. Diminish plant [13] talked about different issues and strategies in identified with value in Career supervision.

3. DESIGN OF FINDING WORD GAME:
The design in this game consists of three modules they are:
- Registration
- Login
- Game Module
- Record Score
- Display Score
- Finding Result
- Report generation

By playing this game we can assess the career of the student. In this paper the career assessment of the student is based on the Intelligence, Patience and Learning ability of the student.

3.1. Registration:
Prior to playing Finding word game, each understudy needs to experience the procedures of enlistment. In the enlistment procedure, the understudy needs to give student registration number, name, telephone number, email and so on.

3.2. Login:
In this module the user need to login to the game with appropriate user name and password which he has registered before.

3.3. Game playing:
Once when the user logins, the understudy is permitted to cooperate with the framework. The underlying and objective conditions of the 8 riddle game are produced by the framework and are shown to the understudy. The understudy can move each tile in turn. Along these lines, the understudy needs to begin at beginning state, move to various transitional states lastly arrive at the objective state.

3.4. Estimating psychological factors:
Mental factors are identified with human knowledge, speed of critical thinking, persistence and determination, and so on of the understudy. These elements mirror the mentality of the understudy and characterize the individual's reasoning capacities, basic leadership and furthermore have significant impact in his everyday life. An) Assessing Intelligence and arranging capacity "Insight" signifies "the capacity to apply the information and expertise to tackle the issue". So as to get highest score in finding word game, significant level of knowledge is required to understand the paragraph in least measure of time. For the most part, an understudy with high scholastic record will verify high score as student is canny. An understudy with low scholastic record may verify low score. In any case, there is another likelihood that the understudy with middle average or low scholastic record may verify high score in comprehending finding word game. This implies he/she has high insight levels. That understudy may get great score in scholastics in future expectations if the understudy gives great consideration in examenes.

Table 2: represents scoring in arranging capacity
Table 3: Fastness in Solving Problem – converting into Quantitative and Qualitative

<table>
<thead>
<tr>
<th>Learning ability</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>High</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
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<tr>
<td>3.</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speed Of solving</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Fast</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.</td>
<td>Slow</td>
</tr>
<tr>
<td>4.</td>
<td>Very Slow</td>
</tr>
</tbody>
</table>

3.5. Finding appropriate careers:
All the games which were played by all the students are recorded. The perseverance and the patience are calculated based upon the n times the student will play the game. Based on the n value they are predicted and identified.

4. RESULT ANALYSIS:
All the B-tech 4th year students played finding word game. The results are noted in the system. The table shows the results containing the student registration number, CGPA, Intelligence, Patience and other psychological factors and also the recommended career that is suitable for the student is predicted. Generally speaking we will find if the good intellect is presented by the student then the student gains good marks. We are trying to prove the hypothesis of the course. A high intelligence student may not be able to gain good marks due to some reasons. Also it is the same in case of the student who possesses high CGPA and has low intelligence or average intelligence. This is due to some causes or reasons. In the diagram above it is found that a high intelligence student possess low percentage. The explanation for this problem may be either that student does not have good memory capacity or not interested in reading the questions in the course. The graph was linear to some degree by eliminating these strange students. There is a link between the rating of CGPA and Intelligence. That is there is high CGPA for the students who have good intelligence. When the user logs in to the game then he selects any three options which were provided i.e vowels, consonants or misspelt word. After selecting any option, the user need to play that game and gets the score based upon their performance. Based upon these results the students career is decided and predicted. Also the intelligence and CGPA plays the key role in predicting the solution for this model.

5. CONCLUSION:
Here the student capability is assessed by the help of the various psychological issues like endurance fastness along with the academics. The prediction always shows the career of the student in an accurate way to sort a student and his mental ability in his/her career. The genuine traditional tests like reasoning aptitude tests IQ etc were also helpful for the assessment of the student but in place of this we have brought this finding word game which is useful for predicting a students career. This novel is innovative idea of assessing the student career by considering the game that is more attractive for all the students inspite of their daily routine of exams. A new game is designed which supports all situations here the students capability is assessed by considering more number of samples from the game and the history of the individual student is taken whereas the correlation among the score intelligence and the academics calendar record is instituted and this makes our system in an correct way of assessing ones data with respect to the academics. Thus the implementation of one’s career along with software career for the final year students is proposed by this finding word game and this proposed system helps in quick prediction of the results without any test or exams that were dependent on the CGPA or percentage.

6. REFERENCES:


