

Stream Analysis Using Online Aptitude Test

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Abstract— This paper proposes a project named Stream Analysis using Online Aptitude test to help students who are pursuing their educational degrees, to choose a stream best suited for them, according to their proficiency. Due to misguidance or peer pressure students generally seem to choose the course which their friends have chosen, and therefore we are often left with students who end up choosing an academic major which is incompatible with their interests and passion. To avoid this dilemma, we have proposed this website wherein, students of will have a platform to test their skills in different streams to see where exactly they excel. Depending on their scores in the aptitude tests containing questions from different streams, the system suggests the student which stream is best suited for him/her, as their scores indicate their level of interest, skill and knowledge in that particular stream. This website is developed particularly to cater to the needs of the students of SSC and HSC and consists of tests containing questions from the pertinent subjects and streams.

Index Terms— Stream Analysis, Apriori Algorithm, Decision Making, Major Selection, Rule Based Reasoning, Aptitude, SSC, HSC.

1 INTRODUCTION

In the current scenario, most of the students in our country usually don't have the proper guidance to decide which major they should pursue for their further education. The choice is usually made based on what the majority is pursuing. However, since each person is uniquely gifted and not everybody has the capability to pursue what the others are doing, students usually tend to struggle a lot in their further studies. This leads to various psychological issues for the students as they try to fit into a stream which is incompatible with their proficiency and passions. Although there are various systems in the form of applications and online modules which provide the students with the opportunity to take a free Online Aptitude test, there is nothing which provides the students with the explicit guidance or advise as to which stream they are supposed to pursue. This system—Stream Analysis using Online Aptitude Test fills into this void. With the help of this website, students can not only appear for an Aptitude Test online, but at the end of the test, along with the marks, the students are also suggested with the stream or academic major which is best suitable for them according to their proficiency. The marks of the students indicate their level of interest, knowledge etc. in that particular stream. This system is uniquely designed with tests for students from different streams—SSC students are provided with tests from science, commerce and arts, whereas HSC students are provided with tests from their pertinent streams. This system would help students to choose which stream is most likely suitable for them in a hassle free manner. Stream Analysis using Online Aptitude Test System helps the students/candidate to understand which academic stream or major is most suitable for them. Its mission is to offer a quick and easy way to appear for the test and it also provide the

result immediately after the test^[4]. It consists of various sections which contain multiple choice type tests, it can provide special advantages to the applicants/students that can't be found anywhere else.

The working of the project is as follows:

The first page provides several links. The Home link contains information about the different online aptitude tests that are available. It provides a link to the login page. In the Login link a user have to login before entering for the exam. An already registered user can simply type in his\her valid username and password, and then click the "Login" button.

The Link Rules and Regulations show some rules and regulations that should be followed by the user. Logout Link will help the user to logout.

2 MOTIVATION

An aptitude is a component of a competency to do a certain kind of work at a certain level. Outstanding aptitude can be considered "talent". Aptitudes may be physical or mental. Aptitude is inborn potential to do certain kinds of work whether developed or undeveloped. Ability is developed knowledge, understanding, learned or acquired abilities (skills) or attitude. The innate nature of aptitude is in contrast to skills and achievement, which represent knowledge or ability that is gained through learning. According to Gladwell (2008) and Colvin (2008) often it is difficult to set apart an outstanding performance merely because of talent or simply because of hard training. Talented people as rule show high results immediately in few kinds of activity, but often only in single direction or genre.^[13]

Online Aptitude Test is a well-known way of evaluating an individual's capability to execute well in given circumstances.

Organizations use a common device as a pre-employment need. It is done by placing together a framework of assessments that evaluate different places such as reasoning, troubleshooting, and language potential. Based on what place an individual is implementing for, online aptitude test can be common or industry-specific. For example, IT roles may have tested items that evaluate your information in on-line. Is this test worth the try? Job mismatch is one of the sad reasons why workers step down from their roles. After having gone through the career process, and after a few months or even several weeks on the job, an individual may understand that, it is not quite the job; he or she was looking for. The financial commitment of your energy and effort, sources, and training actions all go to spend in such circumstances. Online aptitude test is valuable, to both the worker and the company. Personal objectives, working style, options, and social skills are all part of what the assessments can evaluate. In order to get precise information and test outcome, solutions to concerns must be sincere without much thought on what your response may indicate. The more sincere you are with your solutions, the more precise your outcomes will be, and the more likely you are to get the job that suits your abilities, strong points, and options. Through such test, test facilities can help you find the job you have always desired, the job in which you will most likely succeed. Testing facilities have an extensive data source of possible careers, which will then be used to produce which ones coordinate your options the best. They may not be doubling precise, but they will definitely be able to information you in selecting which career you should take. For more details, below are some pros and cons of online aptitude testing: Advantages You are free from the stress of having to go to test places. The test can be done online, and can be taken in the comfort of your home-or wherever you are. All you need is a pc and Internet access. The outcomes can be produced right away. You can also get appropriate sources and details on the careers that coordinate your test outcomes. [13]

3 DESIGN

Less Expensive:

Advertising your business through various forms such as printed media, radio and television or by other means. Investing in advertising is necessary, but it takes a lot of money. Having a website will make promoting your company less expensive. Many versions of offline advertising available on the internet are sometimes free [12]

Satisfaction:

Having a website will be more convenient for your customers and leads. Make it easy for your customers to purchase from you! Many will be more likely to visit your website, rather than driving a car to your physical location and browsing for your products. From a customer's point of view, it's better for them if they don't have to ask anything. They can just find what they're looking for on your online site. [12]

Increase Customers

Most businesses have local popularity, but what about potential customers outside their city? A website can help you generate more customers. Not just outside your city, but worldwide. The internet offers a global community. With a website, your business will be visible around the world. [12]

Accessibility

Have you ever experienced having to turn customers away because it's closing time? Well, you don't have to close the doors of your website. An online site can be visited any time of the day or night. People will look to your site instead of going to your shop because it is more accessible. Just make sure to post enough information about your products and services. [12]

Opportunity

A website gives you the opportunity to prove your credibility. You have to tell your customers why you deserve their trust through your website. This can earn positive feedback for your service and products. Also, your website serves as a place for a potential investor to explore what your business is about and what it can do in the future. [12]

3.1 Figures

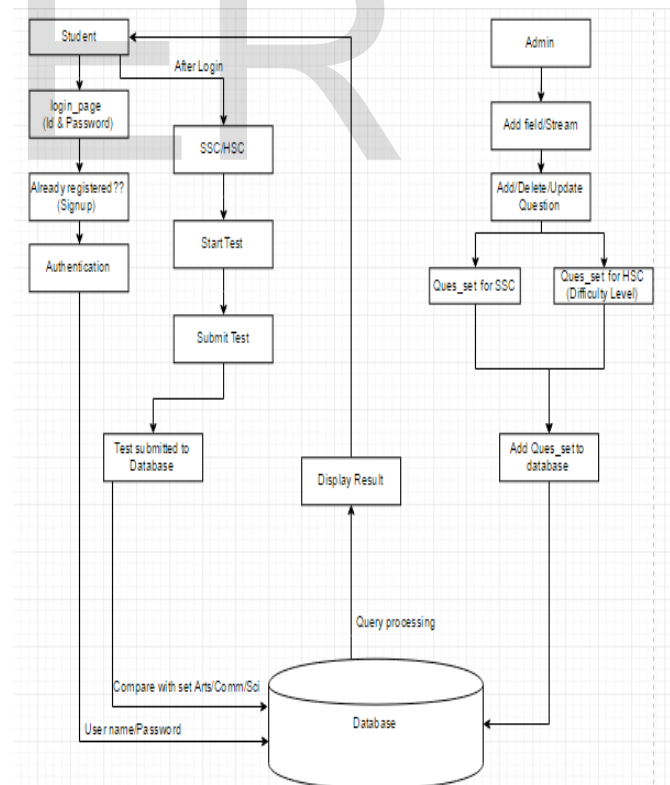


Fig 3.1 System Architecture

4 METHODOLOGY

Once the user visits to the website or homepage, he/she needs to logins into the system. Login page consist of two things one is admin and other is student . If the user is already registered then he can proceed for test ,if the user is not registered needs to enter the details and has to login again into the system. Admin Login consist of various functions like adding questions, editing questions, deleting the questions, he can also view registered candidates. Student login consist of applying for test and if needed can also change the password. User/ Admin gets logged out once the task is completed and session gets ended.

5 ALGORITHM

Step 1: Start

Step 2: Login into system

Connection Established with database using SqlConnection
con = new SqlConnection();

If the student has already registered then sign-in else register.

Step 3: After Login

The student has two options to choose from – HSC or else SSC.

Step 4: After selecting stream , the user proceeds for test

Code for add question:-

```
public class Add_Question : System.Web.UI.Page
{
    SqlConnection con=new SqlConnection();
    protected void Page_Load(object sender, EventArgs e)
    {
        if (Session["Add"] == "Add")
        {
            Page.ClientScript.RegisterStartupScript(GetType(),
            "msgtype", "alert('Data Added !!!)', true);
            Session["Add"] = "";
        }
    }
}
```

Step 5: After submitting test

Answer selected by student (String1) is compared with the answer stored in database(String2)

If String1= String2 then score=+1 or else score=0.

Step 6: If the student has appeared for an HSC test and has secured minimum for clearing the test then he will redirected to another test.

Step 7: After processing the results of the test into database the results are displayed to the student

Step 8: Along with displayed result the system also provide feedback to the user regarding which stream he/she should select.

For example marks secured in Arts Test is 25/30.

You should go for Arts.

Step 9: End .

6 HELPFUL HINTS

6.1 Figures and Tables

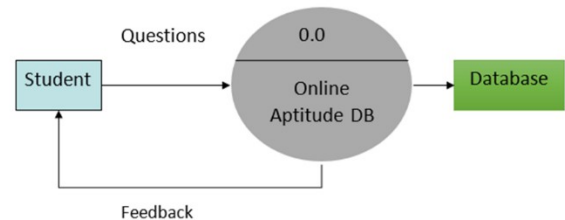


Fig 5.1 Level 0 DFD

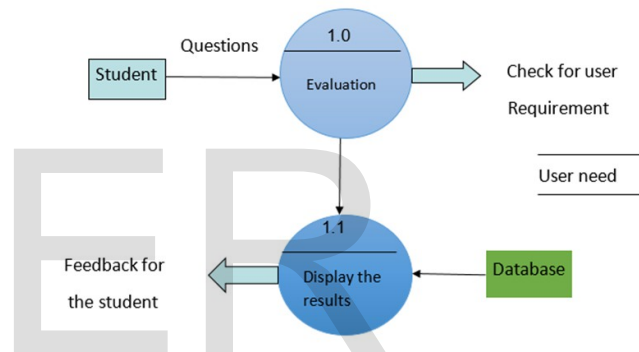


Fig 5.2 Level 1 DFD

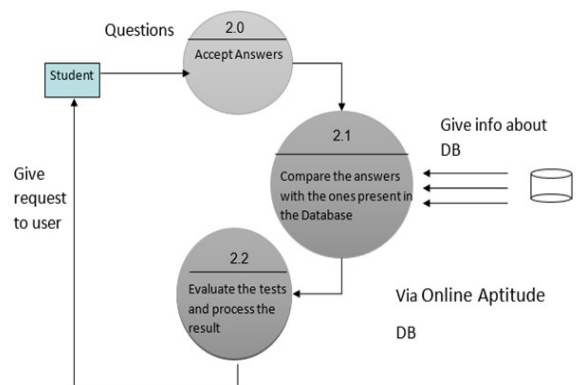


Fig 5.3 Level 2 DFD

7 CONCLUSION

In this website there is a provision where students will have a platform, to test their skills in different streams to see what they actually excel in. We will try to develop a system that will be free from errors, developed with much care and at the same time more efficient and less time consuming.

The positive point of our website is that it will guide students to select a more appropriate stream depending on their scores in the aptitude tests containing questions from different streams, Thus the system suggests the students which stream is best suited for him/her, as their scores indicate their level of interest, skill and knowledge in that particular stream.

The important thing is that this system can be used in schools, colleges, coaching and institutes, can also be implemented in different organizations that conduct regular exams. Also provision is provided for future developments in the system i.e more modules could be added to the system. This online system will be approved and implemented soon.

FUTURE SCOPE

Since the proposed project is targeted only for the HSC and SSC students, there still remains a wide scope for growth. In the future more functionality can be added which will facilitate the stream analysis of students from various different streams and majors. Some of the streams which can be added in the future are Engineering, medical, MBA etc. For example an engineering student can give an online aptitude test to determine which specialization he/she should pursue his BE degree in example Civil Mechanical, CSE etc.

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REFERENCES

Technical Papers:

[1] "Rough Apriori algorithm and the Application of an aid system of the Campus Major Selection."; (2009) International Conference on Research Challenges in Computer Science.

[2] "A Prototype for a Data Mining Based Pathfinder to Sudanese Universities ";(2014) UKSim-AMSS 16th International Conference on Computer Modelling and Simulation

[3] "Fuzzy MADM for Major selection at senior high school"; (Proc. of 2015) 2nd Int. Conference on Information Technology, Computer and Electrical Engineering (ICITACEE), Indonesia.

[4] "Prediction of study track by aptitude test using java."; http://www.e-ijaet.org/media/44I21-IJAET0721380_v7_iss3_1018-1026.pdf

[5] "Predicting university performance in a subject based on high school majors"; 978-1-4244-4136-5/09/ ©2009 IEEE.

[6] "Prediction and Analysis for Students' Marks Based on Decision Tree Algorithm"; Intelligent Networks and Intelligent Systems (ICINIS), 2010 3rd International Conference on Digital Object

Identifier:10.1109/ICINIS.2010.59 Publication Year: 2010.

[7] "Mining of student academic evaluation records in higher education"; Recent Advances in Computing and Software Systems (RACSS), 2012 International Conference on Digital Object Identifier: 10.1109/RACSS.2012.6212699 Publication Year: 2012 IEEE .

[8] "Data mining: Prediction for performance improvement of graduate students using classification"; Wireless and Optical Communications Networks (WOCN), 2012 Ninth International Conference on Digital Object Identifier:10.1109/WOCN.2012.6335530 Publication Year: 2012 IEEE.

[9] "Model Prediction of Academic Performance for First Year Students"; Artificial Intelligence (MICAI), 2011 10th Mexican International Conference on Digital Object Identifier: 10.1109/MICAI.2011.28 Publication Year: 2011 IEEE.

[10] "Classification Model For Predicting The Suitable Study Track For School Students"; Qasem A. Al-Radaideh, Ahmad Al Ananbeh, and Emad M. Al-Shawakfa A IJRRAS 8 (2) August 2011

[11] "Comparisons of classifier algorithms: Bayesian network, C4.5, decision forest and NBTree for Course Registration Planning model of undergraduate students"; Systems, Man and Cybernetics, 2008. SMC 2008. IEEE International Conference on Digital Object Identifier:

10.1109/ICSMC.2008.4811865 Publication Year: 2008 IEEE.

Other Reference Material:

W3Schools for HTML, CSS, ASP.NET

(<http://www.w3schools.com/>)

[12]<https://www.dogulindigital.com.au/advantages-benefits-website-for-business/>

[13] <https://en.wikipedia.org/wiki/Aptitude>