



Automatic Questions Recommendation System In Examination Using AI

YASHARTH SHUKLA

B.Tech (Computer Science and Engineering)
School of Computing Science and Engineering
Galgotias University, Greater Noida, India

Abstract- In this millennium, the computer technology is emerging in large areas of specialization. People have been using the computer to make life easier. Internet today has become a new way of life. Every year millions of people buy computers to get connected to the World Wide Web (WWW). The Internet is expected to take over our lives. Internet is going to be used to buy groceries, pay phone and electricity bills and check your bank account. All of these can be done by using the Internet. Online services are also used in education. There are many online services such as online registrations for new students, online result to check examination result, online experiment and distance learning. Currently, we are starting to have online exam where the students can give the exam based on their intelligence using the Internet.

Students who have registered for exam will be recorded in the database. After that the website give an ID to the student where user can login for give the exam. When the students finish their final examination, the student wants to see their result. The main problem of this whole process is that the system cannot transfer the data to the students directly and they have to go through certain procedures before the students obtain the results. Moreover, the students always receive their results late. This is the main complaint that was received from the parents. In the online examination only authorized personnel are allowed to enter the grades, the overall process is very slow. To overcome these problems, this thesis proposes an online examination result. With this new system, the students can view their results faster and easier using their home computer or cyber cafe as long as the computer is connected to the Internet. Online System can reduce paperwork before producing the result. Generally, the web-based system can help the students to get faster result through the Internet. Students will have the opportunity to view their results. By using web-based online system, students will not have to wait for a long time to review their results. Moreover the test conducted will be adaptive. This means that the difficulty level of questions will upgrade or degrade according to the answers given by students in each question. For each correct answer, the difficulty level of next question will upgrade and for each wrong answer, the difficulty level of question will go down.

Index Terms- adaptive, items, performance, CAT, IRT, collection, termination

Contents-

- Introduction
- Identification, Research and Idea Collection
- Studies and Findings
- Data Flow Diagrams
- Disadvantages of Current System
- Characteristics of Proposed System
- Conclusion
- References

I. INTRODUCTION

In this thousand years, the PC innovation is developing in enormous zones of specialization. Individuals have been utilizing the PC to make life simpler. Web today has become another lifestyle. Consistently a huge number of individuals purchase PCs to get associated with the World Wide Web (WWW). The Internet is relied upon to assume control over our lives. Web will be utilized to purchase goods, cover telephone and power tabs and check your ledger. These should be possible by utilizing the Internet. Online administrations are likewise utilized in instruction. There are numerous online administrations, for example, online enrollments for new understudies, online outcome to check

assessment result, online test and separation learning. As of now, we are beginning to have online test where the understudies can give the test through the Internet.

Understudies who have enlisted for test will be recorded in the database. After that the site gives an ID to the understudy where client can login to give the test. At the point when the understudies finish their last assessment, the understudy needs to see their outcome. The fundamental issue of this entire procedure is that the framework can't move the information to the understudies legitimately and they need to experience certain strategies before the understudies get the outcomes. In addition, the understudies consistently get their outcomes late. This is the primary protest that was gotten from the guardians. In the online assessment just approved faculty are permitted to enter the evaluations, the general procedure is moderate. To beat these issues, this proposition proposes an online assessment result. With this new framework, the understudies can see their outcomes quicker and simpler utilizing their home PC or digital bistro as long as the PC is associated with the Internet. Online System can decrease desk work before delivering the outcome. By and large, the electronic framework can assist the understudies with getting quicker outcome through the Internet. Understudies will have the chance to see their outcomes. By utilizing electronic online framework, understudies won't need to trust that quite a while will survey their outcomes. By utilizing the online assessment framework, director will just inform the outcome once and everything will be created by the system. The main features of this project are

- Secure
- Easy to use
- Reliable and accurate
- No need of examiner

II. IDENTIFICATION, RESEARCH AND IDEA COLLECTION

CAT progressively chooses inquiries to boost the exactness of the test dependent on what is thought about the examinee from past questions. From the examinee's point of view, the trouble of the test appears to tailor itself to their degree of capacity. For instance, if an examinee performs well on a thing of halfway trouble, they will at that point be given an increasingly troublesome inquiry. Or then again, on the off chance that they performed ineffectively, they would be given a less complex inquiry. Contrasted with static various decision tests that almost everybody has encountered, with a fixed arrangement of things regulated to all examinees, PC versatile tests require less test things to show up at similarly precise scores. (obviously, there is nothing about the CAT approach that requires the things to be numerous decision; however similarly as most tests are different decision, most CAT tests likewise utilize this organization.)The basic computer-adaptive testing method is an iterative algorithm with the following steps:

1. The pool of accessible items is looked for the ideal thing, in view of the present gauge of the examinee's capacity.
2. The chosen item is presented to the examinee, who then answers it correctly or incorrectly.
3. The ability estimate is updated, based upon all prior answers.
4. Steps 1–3 are repeated until a termination criterion is met.

Nothing is thought about the examinee before the organization of the primary item, so the calculation is by and large began by choosing an item of medium, or medium-simple, trouble as the principal item.

Because of versatile organization, various examinees get various tests. The psychometric innovation that permits fair scores to be processed across various arrangements of items is Item Response Theory (IRT). IRT is likewise the favored technique for choosing ideal items which are ordinarily chosen based on data as opposed to trouble, fundamentally.

III. STUDIES AND FINDINGS

Adaptive tests can give consistently exact scores to most test-takers. Conversely, standard fixed tests quite often give the best exactness to test-takers of medium capacity and progressively more unfortunate accuracy for test-takers with increasingly outrageous grades.

An adaptive test can regularly be abbreviated by half and still keep up a more elevated level of accuracy than a fixed version. This converts into a period reserve funds for the test-taker. Test-takers don't burn through their time endeavoring things that are excessively hard or inconsequentially simple. Also, the testing association profits by the time reserve funds; the expense of examinee seat time is generously decreased. In any case, in light of the fact that the advancement of a CAT includes considerably more cost than a standard fixed-structure test, an enormous populace is vital for a CAT testing project to be monetarily productive.

Enormous objective populaces can by and large be shown in logical and examine based fields. CAT testing in these viewpoints might be utilized to get beginning stage of incapacities or sicknesses. The development of CAT testing in these fields has expanded enormously in the previous 10 years. Once not acknowledged in clinical offices and research centers, CAT testing is presently energized in the extent of diagnostics.

Like any [computer-based test](#), adaptive tests may show results immediately after testing.

Adaptive testing, contingent upon the item choice calculation, may lessen presentation of certain things since examinees normally get various arrangements of items instead of the entire populace being controlled a solitary set. Nonetheless, it might expand the presentation of others (in particular the medium or medium/simple items introduced to most examinees toward the start of the test).

The primary issue experienced in CAT is the adjustment of the thing pool. So as to display the attributes of the items (e.g., to pick the ideal item), all the items of the test must be pre-directed to a sizable example and afterward examined. To accomplish this, new items must be blended into the operational items of a test (the reactions are recorded however don't add to the test-takers' scores), called "pilot testing", "pre-testing", or "seeding". This presents calculated, moral, and security issues. For instance, it is difficult to handle an operational adaptive test with fresh out of

the box new, concealed items; all things must be pretested with an enormous enough example to acquire stable item measurements. This example might be required to be as extensive as 1,000 examinees. Each program must choose what level of the test can sensibly be made out of unscored pilot test items.

Albeit adaptive tests have presentation control calculations to forestall abuse of a couple items, the introduction adapted upon capacity is regularly not controlled and can without much of a stretch become near 1. That is, it is regular for certain things to turn out to be exceptionally normal on tests for individuals of a similar capacity. This is a genuine security concern since bunches sharing things may well have a comparable practical capacity level. Truth be told, a totally randomized test is the most secure (yet in addition least proficient).

Audit of past items is by and large refused. Adaptive tests will in general oversee simpler items after an individual answers erroneously. As far as anyone knows, a sharp test-taker could utilize such hints to recognize wrong answers and right them. Or then again, test-takers could be instructed to intentionally pick wrong answers, prompting an inexorably simpler test. In the wake of fooling the adaptive test into building a maximally simple test, they could then audit the things and answer them accurately—potentially accomplishing an exceptionally high score. Test-takers as often as possible whine about the failure to review.

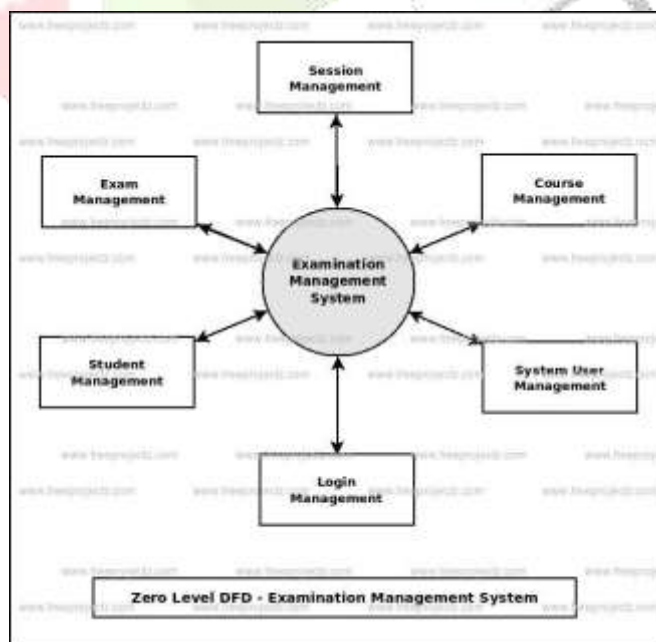
On account of the complexity, the advancement of a CAT has various prerequisites. The enormous example sizes (ordinarily several examinees) required by IRT alignments must be available. Items must be scorable continuously if another item is to be chosen immediately. Psychometricians experienced with IRT alignments and CAT reproduction look into are important to give legitimacy documentation. At long last, a product framework able to do genuine IRT-based CAT must be accessible.

In a CAT with a period confine it is unthinkable for the examinee to precisely financial plan the time they can spend on each test thing and to decide whether they are poised to finish a coordinated test area. Test takers may accordingly be punished for investing an excessive amount of energy in a troublesome question which is introduced from the get-go in a segment and afterward neglecting to finish enough questions to precisely check their capability in regions which are left untested when time expires. While untimed CATs are superb devices for developmental evaluations which control ensuing guidance, coordinated CATs are unsatisfactory for high-stakes summative appraisals used to quantify fitness for employments and instructive projects.

IV. DATA FLOW DIAGRAM

DFD's are normally utilized during issue examination. Information stream charts are not constrained to problem examination for programming necessity particular. A DFD shows the progression of information through the framework. It sees a framework as a capacity that changes the contributions to wanted yields. The DFD plan to catch the changes that occur inside a framework to the info information so that in the end the yield information is delivered. The specialist that plays out the change of information starting with one state then onto the next is known as a process (or bubble). The processes are shown by named circles and data flows are spoken to by named arrows entering or leaving the air bubbles. A square shape represents a source or sink and is a net originator or purchaser of information.

It ought to be brought up that DFD isn't a flowchart. A DFD speaks to the flow of data, while a flowchart shows the progression of control. A DFD doesn't represent procedural data. In drawing the DFD the designer needs to indicate the major changes in the way of the information spilling out of input to output.



V. DISADVANTAGES OF CURRENT SYSTEM:-

- The current system is very time consuming.
- It is hard to examine the test physically.
- To take test of more competitors more invigilators are required however no need of invigilator if there should arise an occurrence of online test.
- Results are not exact as computation and assessments are done physically.
- The odds of paper spillage are more in current framework when contrasted with proposed framework.
- Result preparing takes additional time as it is done physically.

VI. CHARACTERSTIC OF THE PROPOSED SYSTEM:-

The online test created for taking online test has following features:-

- In correlation with the current framework the proposed framework will be less tedious and is progressively effective.
- Analysis will be simple in proposed framework as it is mechanized.
- Result will be extremely exact and precise and will be proclaimed in exceptionally limited capacity to focus time since computation and assessments are finished by the test system itself.
- The proposed framework is secure as no odds of spillage of inquiry paper as it is subject to the administrator as it were.
- The logs of showed up competitors and their imprints are put away and can be reinforcement for sometime later.

VII. CONCLUSION

The Online test System is developed using JAVA and SQL fully meets the objectives of the system for which it has been developed. The system has reached a steady state where all bugs have been eliminated. The system is operated at a high level of efficiency and all the teachers and user associated with the system understands its advantage. The system solves the problem. It was intended to solve as requirement specification Scope of this project is very broad in terms of other manually taking exams.

Few of them are:-

- This can be used in educational institutions as well as in corporate world.
- Can be used anywhere any time as it is a web based application (user location doesn't matter).
- No restriction that examiner has to be present when the candidate takes the test.

REFERENCES

1. Moore M., (1993). Theory of Transactional Distance, In D. Keegan (Ed.) Theoretical Principles of Distance Education. New York: Routledge.
2. Tinio V., (2003). ICT in Education, UNDP Asia-Pacific Development Information Program (UNDPAPDIP).
3. Survey on The Observatory on Borderless Higher Education, <http://www.obhe.ac.uk>
4. Kuechler W. and Simkin M., (2003). How Well Do Multiple Choice Tests Evaluate Student Understanding in Computer Programming Classes?. Journal of IS Education, Vol.14 (4).
5. Ben-Naim D., Marcus N., and Bain M., (2011). Instructional Support for Teachers and Guided Feedback For Students In An Adaptive E-learning Environment presented at the IEEE, 2011 Eighth International Conference on Information Technology: New Generations.
6. Ben-Naim D., Marcus N., and Bain M., (2009). A User-Driven and Data-Driven Approach for Supporting Teachers in Reflection and Adaptation of Adaptive Tutorials. 2nd International Conference on Educational Data Mining, Cordoba, Spain.
7. Romero C., Ventura S., and García E., (2008). Data mining in course management systems: Moodle case study and tutorial. Computers & Education, Vol.51(1),pp. 368–384.