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# Online Descriptive Examination System Using Natural Language Processing

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***Abstract:*** *Conduction of examination is currently a restless process. Taking an test is intended to estimate a pupil's knowledge and understanding of a particular subject or in general. In this epidemic physically conducting examinations is veritably dangerous and typically is an precious, resource- consuming, and a time taking process. The major job conditions to take a successful test includes generation of question paper, generation of answer key, anon-partial conduction of test and evaluation. Question paper setting requires a lot of trouble and professed mortal work and the same thing goes with the answer crucial generation. Also, manually assessing tests take an ample quantum of precious time, plutocrat and other different coffers. Standard evaluation of the answer distance is always a concern in terms of mortal partiality. Our end is to break these problems and make an automated examination system using machine literacy and other web technologies to give a way for faculties to pierce their scholars by taking an test which will be way easier and further effective.*

***Key Word:*** *Online Examination System, Machine Learning, NLP, Web application*

## I. INTRODUCTION

Cleaning Educational Institutions have evolved over the days, due to technological advancements. With smart classrooms and Learning Management Systems( LMS), it's now easier for preceptors to conduct interactive literacy sessions, chart pupil's knowledge, and produce progress reports. These advancements make it easier for scholars to find out efficiently and for preceptors to estimate scholars with lower trouble and in lower time. But now the matter arrives while conducting a test to estimate pupil's; performance beyond cheating. the tip of this work( Online Examination System) is to create a reasonable, effective and accurate software platform that generates questions automatically together with their answers independently to conduct a web examination. Online examination if considered to match or exceed the trustability of mortal observers also it'll reduce the price, coffers, and time needed for conduction of ordinary examination

## II. LITERATURE SURVEY

### 2.1. K. Jayakodi, M. Bhandara and I. Perera

Assessment is an essential exertion to achieve the ideal of the course being tutored and to ameliorate the tutoring and literacy process. There are several educational taxonomies that can be used to assess the efficacity of assessment in engineering literacy by aligning the assessment tasks in line with the intended literacy issues and tutoring and literacy conditioning. This exploration is concentrated on using a literacy taxonomy that fits well for computer wisdom and engineering to classify and assign weights to test questions according to the taxonomy situations. Being Natural Language Processing( NLP) ways, Wordnet similarity algorithms with NLTK and Wordnet package were used and a new set of rules were developed to identify the order and the weight for each test question according to Bloom's taxonomy. Using the result the observers can dissect and design the question papers to measure the pupil knowledge from colorful aspects and situations. Previous evaluation was conducted to identify utmost suitable NLP preprocessing ways to the environment. A sample set of end semester examination questions of the Department of Computer wisdom and Engineering( CSE), University of Moratuwa was used to estimate the delicacy of the question bracket; weight assignment and the main order assignment were validated against the homemade bracket by a sphere expert.

### 2.2. N. Ishikawa, K. Umemoto, Y. Watanabe

Some druggies in a community point abuse the obscurity and attempt to manipulate dispatches in a community point. These druggies and their cessions discourage other druggies, keep them from reacquiring good communication records, and drop the credibility of the communication point. To break this problem, we conducted an experimental study to descry druggies suspected of using multiple stoner accounts and manipulating evaluations in a community point. In this study, we used dispatches

in the data ofYahoo! chiebukuro for data training and examination.

**2.3. G. Zhang, and H. Ke**

Paperless examination is an important part of ultramodern education, which can effectively reduce the preceptors' workload and ameliorate work effectiveness. Still, the current paperless examination system substantially deals with the objective questions, it's nearly insolvable to deal with private questions similar as programming languages, particular in SQL. There's no similar practical system as far as know. This composition describes a new SQL- grounded paperless examination system, including objective questions as well as SQL programming questions.

**2.4. S. Luo, J. Hu and Z. Chen**

Computer greatly influences our educational environment. Over the last years, automatic computer examination systems have been widely used for computer-based tests. But these systems are based on traditional question-answer examination style which is not fit for the sequenced test. The sequenced test should consider the context of the examinee, e.g. the order of questions or the permissions of the examinee, to grade an examinee. In this paper, we propose an effective and practical automatic examination architecture based on task. The task is abstracted from the examination process and can meet the requests of the sequenced test, such as order and dependency. At the end of the paper, we implement an automatic examination system based on task for the stake test which proves quite efficient in practice.

**2.5. Y. Atoum, L. Chen, A. X. Liu, S. D. H. Hsu, and X. Liu**

This study found journalists use government sites most often to retrieve information. Problems include difficulty with verification, unreliable information and lack of contact information.

## III. EXISTING SYSTEM

This world has seen a lot numerous examination doors that are stationed over several waiters which are used to conduct online examination for colorful purposes among which some may include conducting a test for entrance examinations, or Olympiads at public and transnational position and while some doors are designed to conduct a test for placement purposes. But what we've seen is that substantially all the doors are designed to conduct tests that contain multiple choice questions. The disadvantages of this are low Efficiency and online examination system features only multiple choice type of questions.

## IV. PROPOSED SYSTEM

In the proposed model we're taking the online examination system to a new position by enabling the examinee to write descriptive answers which will get estimated on their own The estimated answers will be stored in the database and they can be viewed anytime and a particular pupil profile will be maintained for better evaluation of the student. Talking about the technology used in order to make such a model for assessing descriptive answers, NLP or Natural Language Processing is has a great part to play.

### System Architecture

The main objective of this online exam system is to reduce the work of conducting the exam. A description of the program architecture is presented. Subsystem design ,Login Page, Login Module, Admin Login, Feature Matching, Score Calculations with description is to be presented. Below figure 1 represents the architecture diagram

## V. MODULES

- Exam cell
- User
- Admin
- Programming and Test cases

**Exam cell:**

Exam cell conducts the exams on particular technologies. first it will store all questions about particular technology into the database. Then store all answers of every technology into the database. After conducting the exam it will check the student answers with database answers. Finally by using nltk and nlp concept give the result to students.

**User:**

The content of it may be lapping with that of others, but it also has its own discipline characteristics and is constantly developing new propositions and styles. stoner after login into the session they will choose their particular test. Also pupil will write the test

and submit theanswers. after clicking test affect automatically pupil will get the result grounded on their performance. all these generalitiesie getting of pupil score by using nltk and nlp generalities.

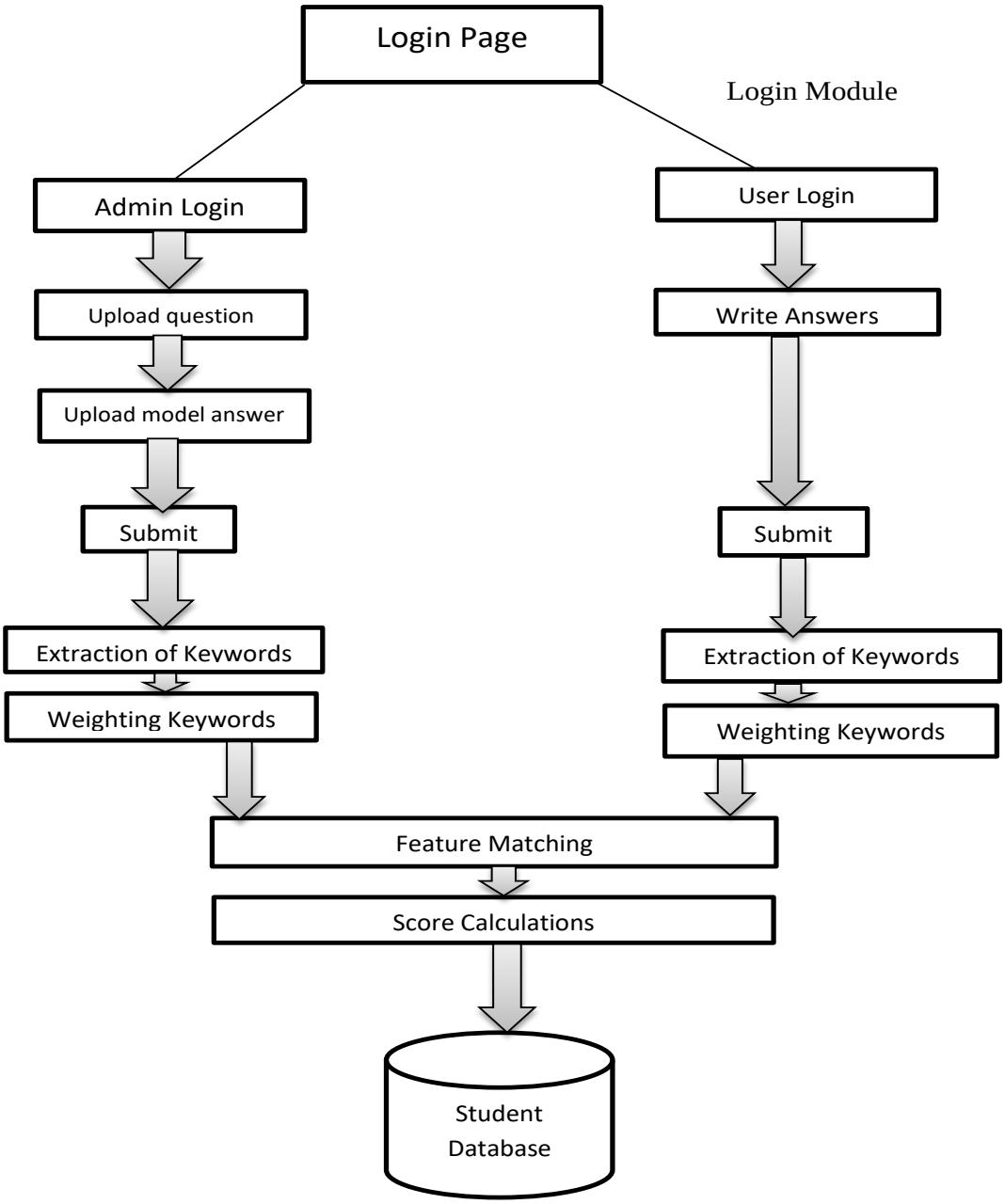


*Figure No.1 Architecture diagram*

**Admin:**

Admin will give authority to Exam-cell and students. In order to facilitate activate the Exam Cell and activate the students. the admin can see the details ofExamcell and students.. Admin can see the score of all students.

**Programming and Test Cases:**

Python is an decreasingly popular tool for data analysis. In recent times, a number of libraries have reached maturity, allowing R and Stata druggies to take advantage of the beauty, inflexibility, and performance of Python without immolating the functionality these aged programs have accumulated over theyears.python focus on simplicity and readability, python it boasts a gradational and fairly low literacy wind. This ease of literacy makes an ideal tool for beginning programmers. Python offers programmers the advantage of using smaller lines of law to negotiate tasks than one needs when using aged languages.

***Table-1:*** *Login Test Cases*

| SI | Test Case | Input | Expected Outcome | Actual Output | Result |
|---|---|---|---|---|---|
| 1. | User name and password is correct | User name and password | Login succesfully | Login succesfully | PASS |
| 2. | User name and password is correct | User name and password | Login succesfully | Login failure | FAIL |
| 3. | User name and password is incorrect | User name and password | Login failure | Login failure | PASS |

***Table-2:*** *User Input test cases*

| SI | Test Case | Input | Expected Outcome | Actual Output | Result |
|---|---|---|---|---|---|
| 1. | Display system pages | Tested on renowned browsers such as chrome,mozilla firefox,etc. | Successfully displayed | Successfully displayed | PASS |
| 2. | Email check | Input without @ | Invalid email | Invalid email.must have @ | PASS |
| 3. | Special Character | Input name without special characters | No Special Characters | No Special Character is allowed | PASS |

## VI. CONCLUSION

It can be seen by conducting tests using such an algorithm at regular intervals that one can determine the trend in the marks obtained by different students and we can give them an analyzed report on the different subjects they need to focus on for which they are weak. With the existing data, we can also implement a predictive machine learning model on the data so that it can predict marks that the students will score in the future. It is observed that students mainly study those subjects that are placement oriented or which are required for placement purpose only. While students neglect the subjects of their core domain. Deep knowledge in the domain is required as it is of no use to study if you do not have a core domain knowledge. So it can help students get quality knowledge as everything will be digital and there will be no cumbersome process of conducting a pen-paper test. Also, answers are evaluated at that moment itself and the student can see the solutions and can correct the mistakes or errors committed while appearing for the exam.

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