METIOR

**Motivation: Why do you think this problem is worth solving? (Max 200 words)**

Tests are conducted usually at the course or frequently in the case of continuous internal assessment. Whatever the case may be, the purpose of such test are of two folds. First and obvious one is to evaluate the student how much they have learned. This factor is evident and clear but the second reason is to make them study which is hidden. In the present scenario, COVID 19 situations, many are conducting the test mainly through online. But because of inadequate knowledge of conducing through virtual mode and also the lack of invigilation, many times students take advantage of this and perform unethically and thus result in failure to meet the purpose of conducting the examination. Here comes the necessity of a new model to conduct the examination in a manner where we can attain both the objectives. In our model we proposes not only the way to conduct but also how to conduct to eradicate most probable ill things

**Write down the Synopsis of the Problem Statement selected**

Conducting exam is challenging mainly because of two factors. Lack of invigilation and identification of proper platform for conducting the examination. Currently in market, there are good online platform available to use and conduct the examination online like mettl. But these platforms are high cost to use and also not provides 100 percentage authentication.

Our model addresses the issues in the following categories

* Invigilation
* Components of assessment
* Preparation of question bank
* Normalization

1. Invigilation

Invariably one cannot do invigilation perfectly during the online examination using laptop camera or mobile camera whatever the students use for writing their examination. So to reduce sophisticated tools and devices we recommend parent/guardian invigilation. That is parents or guardian of the student will be monitoring their ward’s examination. Even though this is not ideal for couple of reason , but still very good solution to the current scenario. It is not ideal because very few parents may help their wards for getting good marks by compromising ethics. This support from parents or guardians also will not last and may be for a longer run this will be stopped automatically by themselves. Another issue that may arise is parent’s availability. This can address either my making this as an optional or by asking them to substitute with a suitable guardian.

1. Assessment components

Here we recommend the following components with respective weightage

Viva- 20 %

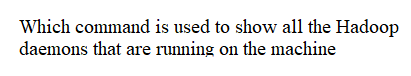
Multiple choice questions- 20 %

Descriptive- 60 %

The viva component will give a complete assessment of the student and will normalize the mark automatically

The multiple choice questions and descriptive questions should not be given as such, instead can be provided as an image.

For example



This will prevent a student to copy the content from the question paper and paste in a search engine to search for answers. If they want to do then they have to type the complete question which will be a time consuming one.

1. Question bank preparation

There should be enough questions in the question bank for which almost unique question should be given to every individual students. The questions are also of different levels like basic, moderate, complex etc.

1. Normalization

To eliminate the malpractice attempts we recommend to reduce the examination duration drastically. This methodology will give pressure to students and they may not get time to switch between answer window and to other malpractice options. If they try to copy then obviously they can very less time and will be not be able to complete not even 50 %.

This will affect the good students’ performance also and will not be the actual representation of a student assessment. To address this we recommend normalize the marks received by all the students to higher grade if required.

Our model consist of parent invigilation, appropriate assessment components like viva and proper question bank and also method of normalization

**What are the foreseeable outcomes? (Max 200 words) \***

The university or college need not employ anyone for invigilation or no need to spend a huge amount for online exam platform to conduct the exam. Without these also they will be able to conduct the examination in more perfect way where there will be very less chance of malpractice. This malpractice attempt also will be for an interim period and will decay.

Once students realize that, there will be no chance to pass other than proper study, they will start study and this will meet our second objective of conducting examination that is make students to study and learn.

**Explain your choice of the dataset for experimentation: Why do you think the data you are planning to use is relevant and sufficient? (Max 200 words) \***

We take our students online examination dataset with different component and the respective marks scored by the students. We are started well in advance and are experienced in conducting online examination. And also we have conducted online examinations for both undergraduate and postgraduate students. These data is readily available and also represents massive similar type.

**Please cite the source if the data is public or argue for a choice of synthetic data generation. (Max 200 words) \***

Currently the dataset is not public, but with permission form higher authorities we can make sample dataset publically available. Our team is handling multiple batch of undergraduate and postgraduate students, we can access the data for analysis purpose by prior permission.

**Have you participated in any Hackathon and secured a prize? If yes, please provide details**

No

**Explain how you would build your solution within 36 hours and explain in detail the architecture, platform, tools and programming languages you plan to use (Max 200 words) \***

We have our own dataset with students those who have conducted in online examination. But we can arrange a test for experimentation for multiple batches of students in a very shorter period with our model parameters and results can be recorded. This dataset with prior dataset will be analyzed using python and will validate our model. Apart from this a questionnaire also will be circulated to the students at the end of the examination to know more about the pattern of examination and its success ratio

**Please list possible input test cases and the output you expect (Max 200 words) \***

Students’ scores from examination both online and prior offline examination. Their feedback also will be one of the input. These data will be analyzed

The expected output is percentage of similarity between offline exam and online exam for same set of students

Team

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1. Each team will have a team leader who will front end all interactions on behalf of the team, including registration

2. A team can have a maximum of 5 members including Team Leader

3. The team need to choose one of the 5 problem statements published

4. The teams have to provide all requested information for the problem statement chosen

5. All participants should provide a valid Government ID as proof of identity

6. All teams will be assessed periodically at various stages (Requirement Analysis, Design, Solution development, testing, documentation, presentation, etc)

7. A maximum of 15 teams (maximum 3 teams from each solution group) will be shortlisted for the final round

8. The shortlisted teams will have 15 minutes to present their solution followed by 5 minutes for Q & A

9. Decisions of the Organizing Committee and Jury will be final

10. The teams have to submit their works on the repository provided before every assessment stage

11. Plagiarism and copyright violations are strictly prohibited and will immediately invalidate participation

12. The teams shall indemnify, defend and hold harmless IEEE, IEEE Computer Society, Oracle, NIC, and Government Departments and their officers, directors, agents, and employees from and against all claims, losses, expenses, fees (including attorneys’ and expert witnesses’ fees), costs and judgments that may be asserted against IEEE, IEEE Computer Society, Oracle, NIC, and Government Departments and subsidiaries:

a. that results from the negligent, reckless or intentionally wrongful performance of [his/her/its] duties during this event

b. that results from or arising in any way out of any claim resulting from any breach of the warranties

13. Intellectual Property Rights: All teams/participants agree that all Intellectual Property created, conceived, or made by the teams/participants in developing the solutions, whether or not protectable, shall be solely owned by and becomes the property of NIC and Government departments. “Intellectual Property” includes, without limitation, discoveries, creations or ideas, processes, machines, useful or ornamental designs for articles of manufacture, or any improvement of the foregoing (whether or not patentable); all materials for which copyright may be sought including, but not limited to, writings, web pages, datasets, computer software programs, artistic works, designs, graphs, drawings, blueprints, audio and/or visual works or other works of authorship (whether or not copyrightable); marks, names, phrases, colors, designs or other indications useful to identify the origin of any goods or services (whether or not protectable as trademarks); trade secrets and know-how. All such Intellectual Property shall be deemed “FREE”. Teams/participants hereby assign, without further consideration, all rights, title and interest in such Intellectual Property to NIC and Government Departments and agree to execute and deliver, promptly on request, any documents which may be reasonably requested to evidence exclusive rights as provided above and to enable or assist to obtain and protect the rights therein.

14. NIC and/or Government departments may use the works submitted by the teams, in part or full, for building solutions

By participating in the hackathon, participants agree to all terms and conditions mentioned herein.

References

“Challenges of online examination “, http://www.testbudha.com/challenges-of-online-examination

, accessed on 25 October 2020