

# Online paper checking and result generating system

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**Abstract-** In today's technological world, as everything is going online, the examination papers of the students should also be checked, reviewed in less time and with high efficiency, which will help to generate the results of the student, in a fast manner, in a limited span of time. At the current scenario of COVID-19, the teachers are not able to take offline classes, and so the classes as well as the examinations are being taken online, so with the use of Amazon Web Services (AWS), Python and Django, this system is beneficial at this crucial time. After generation of the result, students can check the result as well as can view the papers uploaded by them after checking, so that in less time, the system will get easier and more efficient for the students as well as the teachers. There are many systems available for taking multiple choice question (mcq) exams, but there was no system for conducting the handwritten and theoretical exam papers and also grading the papers at the same time. This system helps student to upload exam answer sheets and let teachers to evaluate them easily.

**Keywords—***Amazon Web Services (AWS), Python, Django, mcq*

## 1. INTRODUCTION

With the globalisation and advancement of technology, the paper checking system and then generating the result in limited span of time is beneficial for both students as well as the teachers. As the papers are being uploaded online for online evaluation, the invigilator can check the papers anywhere, anytime and according to their comfort. This will reduce the stress which invigilators face, which is caused when they have to check offline papers in a fixed hour of duration. As the papers will be checked efficiently, the students will get desirable results, according to their performance.

The system as separate sections for invigilators and students and everyone has been allowed entry to log-in, after successful signing and authentication to use the system. The system will help the teachers to track the performance of the students. The invigilators will easily start evaluating paper from the paper last time they had been evaluating, so they do not need to remember the paper number they were checking or have to check, whenever they resume evaluating the papers next time. This system is flexible and effective for all types of colleges, schools and students too. The answer sheets of the students, results and their overall performance will be available and stored in the database of the system. The system is easier to use also faster and can run smoothly on web, android, tablet as well on the desktop and the laptops, making the system affordable to every student. The system let teachers to conduct theoretical exams for all the students as students have to upload answer sheets of the paper in allotted time given by the teacher. The students who upload answers sheets in a given time, only they can upload the answer sheets and after the allotted time gets over then the student can upload the answer sheets, making the system to conduct exams in a fair manner. The Head of the Department of the particular department will have watch on the performance of all the teachers and students of their respective department and they can add or remove the students and teachers from the system. The system is well suited for all types of the colleges and the institutions.

This system is helpful for both students as well as the teachers, as in the current situation it is neither possible to take papers in examination hall nor paper can be evaluated physically due to risk of the virus of the Covid-19.

## 2. OBJECTIVES

The system is helpful for the various colleges and distance learning centres. The various objectives of the system are as follows:

- To develop the system which is flexible and reduces the anxiety of the teachers.
- To develop the system which will be helpful for teachers, students, HoDS, admins for the long term.
- The system will help to promote online interaction among the students, teachers and HoDs.



- The system is designed in such a way that it becomes user-friendly.
- The system is quite secure because of authentication provided by Amazon Web Services (AWS).
- Access only to the students, teachers and HoD of the particular college, institution.

### 3. MODULES OF THE SYSTEM

1. Student
2. Teacher
3. HOD
4. Paper uploading
5. Result generation
6. Revaluation of the paper
7. Notification
8. Time table
9. Feedback
10. Search
11. Statistics

### 4. TECHNOLOGIES USED

1. Amazon web server (AWS)
2. HTML/CSS
3. Python
4. Django

### 5. LITERATURE SURVEY

Earlier, the students used to write the papers in the college room and then have to submit the paper to the concerned teacher. Then the teacher used to check paper in a specific time allotted by college for checking the paper and the unchecked papers were checked on next day which was taking too much time and as checking of paper was taking time, the process of result generation was much more time. The physical process to retrieve, re-check and counting the marks was hectic and a burden for the teachers. Now, this system provides a way to especially teachers to check the paper efficiently and to track the progress of the whole class as well as the particular student.

The students has also eagerness to view their results after exams in a shorter span of time which the previous system was not able to provide and now this new system can provide the students with their results in a shorter span of time. Earlier the bunch of papers need to be stored and maintain in a shelf for longer time and there was also the risk of loss of paper or misuse of the papers. This problem is solved through this system and now the papers can be stores easily in the database for a quite longer period.

The researchers have developed some sort of solutions to provide the colleges and institutes with the answer checking system of the students but mostly they are concerned with checking multiple choice questions(mcq). All the researchers have contributed to the system to design system in such a way that they become more efficient and are user-friendly. The survey was conducted based on the researchers summarised below:

Bagwan KhajaBhai B., Bhosale Yogesh H., Narute Anil D. and Dhotre Virendrakumar [1] have proposed a web application which allows to take e-examination anywhere in the world. The exams are taken at the allotted time and after the exam gets over results get generated automatically by the server. The administrator and co-ordinator can change, create or remove the paper at any sort of time. User can give the exams on the web application and can get the results.

S. Vasupongayya, T. Kamolphiwong, S. Kamolphiwong, S. Sae-Wong [2] had developed “The interactive examination management system (iEMS)” which is a web application created from groovy language. The web application supports seven kind of questions which are: mcq, true or false, match the pairs, fill in the blanks, ordering in correct sequence, short

answer and essay questions. This system is basically a test management tool. The four goals of the iEMS are the architecture should be good, having simple interfaces, ease of uses and rich in features.

Zhang Yong-sheng, Feng Xiu-mei1, Bao Ai-qin [3] had designed “The Research and Design of Online Examination System” using MySQL database and related technology and the system is based on the Web and uses the B/S model, which uses the Java modelling language and adopts the IDEA (IntelliJ IDEA 13.1.3), Tomcat, JDK technology, The user needs to login to the system where the examinee will take the tests, and there will be automatic marking on the paper solved by the user.

Y. Zhenming Y., Z. Liang and Z. Guohua [4] had designed the application namely “A Novel Web-Based Online Examination System for Computer Science Education” which is based on browser/server framework providing auto-grading for all types of objective questions and also for operating questions. This web application concerns with practical skills.

M Z. Rashad, M S. Kandil, A E. Hassan, and M A. Zaher [5] had developed the web application for mass evaluation, using various open source technologies such as HTML, AJAX and PHP, MYSQL. The system had been tested in the quality assurance centre of the Mansoura university and the test results determine that this system had validity to evaluate more numbers of students at a specific time.94% students like the interface and 85% of the students agreed for the usability of the system. Authors concluded that the system designed by them is satisfying the requirements.

### 6. STRUCTURE OF THE SYSTEM



Fig. 1: Structure of the system

The proposed structure describes how the actual system will work. The students will upload their answer sheets in the web-based system and the answer sheets will directly get uploaded in the database server- AWS. The invigilators will evaluate the answer sheets submitted by the students on the server. After the successful evaluation of the answer sheets, the evaluated answer sheets will be uploaded in the server automatically with the uploaded marks. The students can then check their evaluated answer sheets and if they are not satisfied from the evaluation, the answer sheets can again be applied for the process of re-evaluation.

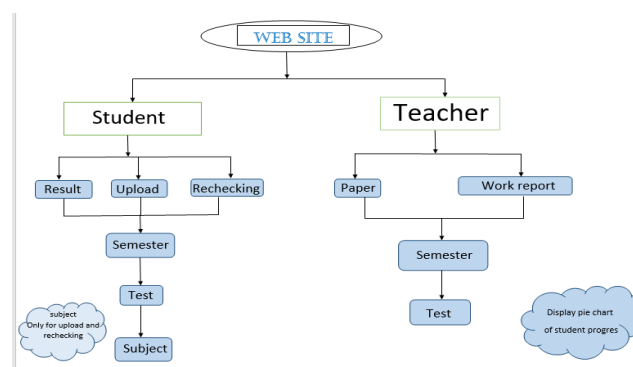


Fig. 2: Student – teacher tabs structure

The students, teachers and HODs will have their respective sections in their view, once they log-in in the system.

#### A. STUDENT SECTION

Student can upload their papers, view the papers and result after evaluation by the teacher. The student section will have various options for choosing what they want to do in the system.



1. Result- By clicking on the result tab. Students will be able to view their results. No other person can view the result of any student and the results can only be viewed by log-in in the correct student id,
2. Upload- The students have to upload their written paper in the desired time in the upload section and via student section papers will be transferred to teachers' section for evaluation.
3. Rechecking- If student want to get his/her paper re-evaluated on the basis of a desirable reason, the paper can be applied for re-evaluation by clicking on the tab/option.
4. Semester- This tab will have option to choose from semester 1 – 8 and the students have to choose the semester to which they belong, and choosing the inappropriate semester to which the students do not belong will lead to not getting the papers checked and also result will not be generated.
5. Test- The test option determines whether the test is formative assessment, summative assessment or normal weekly test.
6. Subject- The subject option will have subjects relevant to the particular semester. After only clicking the proper subject, the test paper will get submitted to the relevant teacher/invigilator of that subject.

#### **B. TEACHER SECTION**

The teacher will have certain tabs in their section and they have to choose from the certain tabs, the type of work they want to do.

1. Paper- The paper in the teacher section will have papers consisting of various students belonging to various semester and only then subject relevant teacher will get papers of their subject respectively.
2. Work Report- The work report will consist of the work done by the teacher and the work left. The work report tab will get to know the numbers of paper been checked and similarly about the no. of unchecked papers.
3. Semester- The semester tab in the teacher's section will let the respective teacher to get the papers of the relevant semester to which he/she belongs and is the invigilator of that semester
4. Test- The test tab will help get to access the papers of the tests of which the teacher wants to evaluate.
5. Add student – This tab will enable teacher to add new students in the system. As every year, new students get admitted to the college, in the same way they need to get admitted to this system and all the new students are been provided with new college domain ids to enable them to access the system.

#### **C. HEAD OF THE DEPARTMENT [HOD]/ADMIN SECTION**

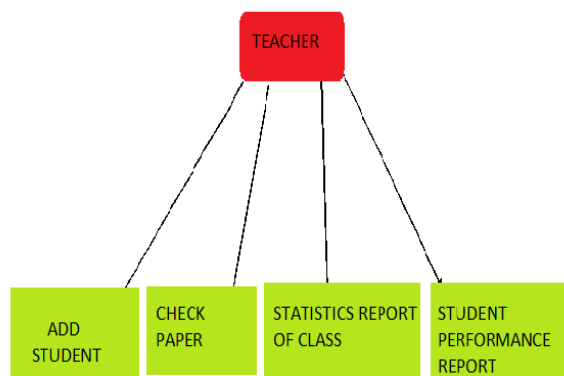
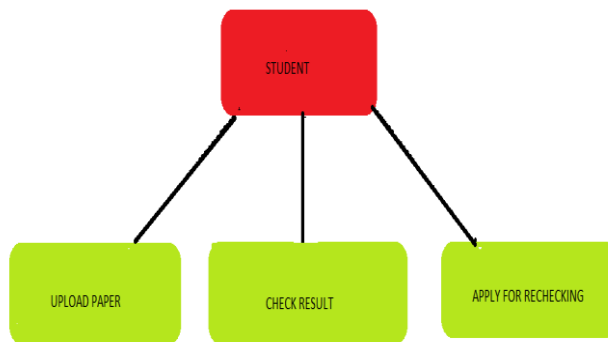
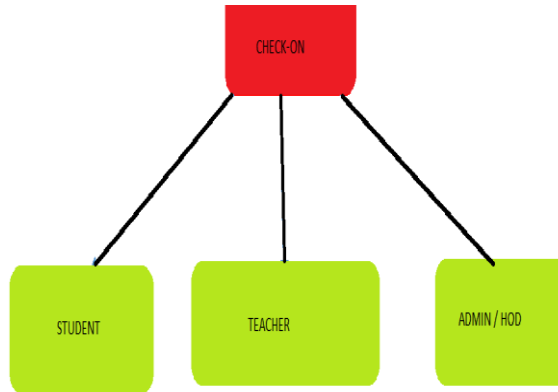
The HOD will also have certain tabs in their section to perform the things they want to perform

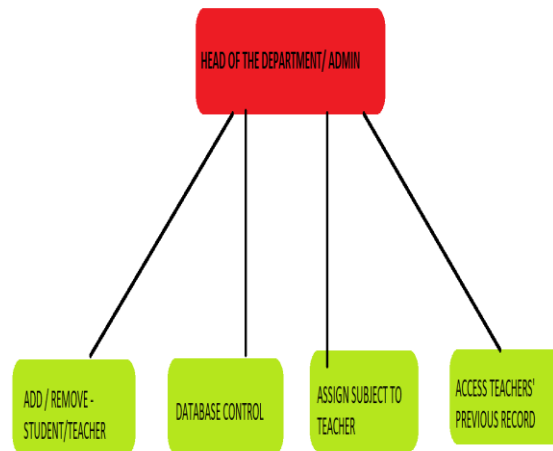
1. Add/Remove Teachers – The HOD's will have add and remove teachers tab in their section, in the same way as teachers have add students' tab/option. The new teachers also get appointed in the colleges as per demand. As the senior teachers get retired or leave the college for any reason, then new teachers have to get appointed and also been added in the system made for evaluation of papers and answer sheets of the students, in the same way the teachers who have left the college removed from the system and they do not have further access to the system.
2. Database Control – The Hod and more specifically the admin will have access to the data and have to control the database.
3. Assign Subjects – The HOD's will assign subjects to the new teachers as per their specialization, as well as to the senior teachers, if the condition or situation arise.
4. Access Teachers' previous record- The Hod will have records of the teachers of their respective department and can easily access the record of the teacher of any time. This will help to check the performance of the teacher for the development of the students.

### **6. ADVANTAGES**

- 1.. Easily accessible from any place.
2. Can be used from any device- mobile, tab, laptop.
3. Saves time.
4. Fast and secure.
5. Checking of handwritten exam papers.
6. Students performance can be checked anytime.
7. Data privacy.

## 7. FLOW-CHART





### 8. FUTURE WORK

1. Live interactive classes for students
2. Online attendance management
3. Online Admission and Exam form Filling
4. Section for Online Parents- Teacher interaction
5. Online Scanner to scan the paper so that the student can directly upload the paper.

### 9. CONCLUSION

This web-based system helps to evaluate the papers of the students in lesser time with great efficiency. It reduces the manpower and the system can be accessed from any platform. The system is safe and secure in all manner. The data in the system is stored in the AWS Server which makes it easier to store the data for a longer period and the data can be easily accessed. All the students, teachers and Hods' can get the information which they required in a limited span of time which makes the system much more efficient. The system is made in such a way that it user-friendly.

Being an integrated online examination system, it will reduce paper work. Without physical presence, students can easily submit papers and invigilator can easily evaluate the papers at any sort of time so there are no time bound issues. This system provides full mobility to students, teachers and HoD. After generation of the result, students can check the result as well as can review the papers uploaded by them after evaluation and generation of marks and the results.

### ACKNOWLEDGMENT

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