SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR, KARNATAKA

"Online Examination Security System"

Team Name		
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Problem Description

Online learning has grown exponentially on and off of college campuses and throughout education. It has enabled students all over the world to gain certifications and college degrees without physically residing on or commuting to campus. Unfortunately, the system is vulnerable to abuse and it's possible for some students to cheat. Providing proctors to monitor students taking online classes and exams from their personal devices in the confines of their own home can be very difficult. Preventing student cheating within the classroom is difficult enough. Pandemic e-learning has become essential for students staying at home.Online examination process security is one of the critical challenges. Proper authentication, authorisation process should be followed to ensure that the right candidate is appearing for he exam in a secure environment without any malpractices. Students in general are not necessarily becoming less honest. It's just become a lot easier to cheat with online courses, especially without proctors. Stressing out, fear of failure, professors who don't crack down, and students thinking they won't get caught have all led to increased cheating behaviour. We need a system should be able to audit the entire exam process to identify leaks or security lapses during the exam processes.

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Proposed Solution

In order to prevent malpractice during online examinations which is too common thesis days we decided to a create a website(which we can convert to desktop/mobile applications in future) which provides multiple functions at a single platform seeking transparency between the examiner and the student.

Key Points:

- ***Organising and assembling everything on a single platform**:It's too chaotic to switch between platforms for different requirements.So here we have decided to come up with an all-in-one platform which includes hosting meetings, conducting examination , uploading assignments/syllabus study materials and holding quizzes. Meetings will imitate our Webex, assignments and quizzes would be inspired by google classrooms and google forms respectively, but our main focus would be on the examination mode. Here we plan to create a just environment which restricts all the possible parts that could be used for malpractice by the students. Additional Features are listed below:*

- ***Restriction to changing tabs**: Students uses others tabs at the time of examinations for cheating through notes or by using social media/group discussion apps or browsing.The online*

conduction of examinations without an audit or invigilation gave the students the opportunity for this professional misconduct. So we will add a function that will restrict the students from using the other apps or jumping to other tabs in a web browser.If a student tries do so then a warning would appear on the students' computer screen 2 times, his/her 3rd attempt would lead to a notification to the invigilator as well as disqualification from that particular exam.(if the invigilator permits)

- ***Copying and Pasting Solutions****: A functionality of disabling the copying of questions while conducting quizzes and exams.As students have found ways of copying question and pasting directly on browsers and searching solutions in a very short span of time which leads to an easy way of finding solutions and encouraging them not to study.*

- ***Authentication while entering meetings****: This feature will be added to both the daily meetings and the examination meetings. In this feature an authentication will be done while entering the meeting via college mail id through Google.*

- ***Setting min Output level(Audio)****:Students also try to outsmart their teachers when they are asked to switch on their audios while writing their exams.They turn their output volume levels to zero and the teachers are unable to hear their voices irrespective of the mics unmuted.Again allowing them to*
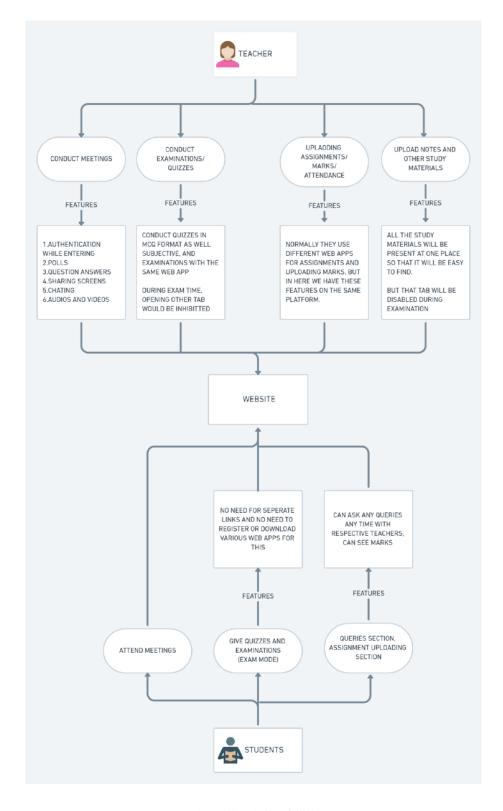
connect with their friends via calls or so.Hence, we would set a min output level that would not decrease any further.

- ***Network speed Analysis****: Students make excuses of having very low speed internet while giving the examination and switching off their video many times. So we will add a feature which will give network speed analysis of every system in which meeting is conducted to the host of the meeting so that it can check that whether the student is genuine or not.*

- ***Disabling tab having study materials****: During the exam mode, the study material tab access will be disabled. No student will be allowed to view the documents during that particular time period.*

- ***Evaluation and Results****: All the students will upload their answer scripts as well as assignments to space provided by the teachers and they will also be able to evaluate the same at the platform itself.We also plan to announce the results here.*

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Technology Stack

	Technology used	Description
1	Html, Css and java script	For the whole frontend of the website
2	VS Code	A text editor for writing codes and implementing logic
3	Firebase	Authentication through APIs and sending realtime network analysis
4	Mysql(Xampp)	For creating a database for the assignments and answer scripts with evaluations.

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Use Case Scenario

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The website will have two authentications for

1.Teachers

2.Students

The teacher will have all the access for the meeting, conducting examinations and holding quizzes. They can do the evaluations and give results on the same platform. Course materials can also be provided in the different section of the website, so that student can have all the things on the same platform.

Students can upload their answer scripts on the assigned space/link and access the study materials as well. All the meeting for them would be hosted in this platform and they would also have to give their exams here. This would provide authenticity in the whole online teaching system and maximum transparency could be achieved.

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