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# Automated Proctored Online Exam Portal

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**Abstract:**

A automated online test entryway is an electronic assessment framework where assessments are given on the web. It permits understudies to take tests from anyplace and whenever, as long as they have a web association. Mechanized web-based test gateways can be utilized for different purposes like placement tests, enlistment tests, and certificate tests. Computerized web-based test entries are intended to be easy to understand and simple to utilize. They are outfitted with highlights like computerized evaluating, moment criticism, and itemized reports. Mechanized evaluating guarantees that the reviewing system is fair and unprejudiced. Moment input assists understudies with grasping their assets and shortcomings, while definite reports give experiences into their presentation. Mechanized internet based test entryways are likewise gainful for instructive organizations as they assist with saving time and assets. They dispose of the requirement for paper-based tests, which can be tedious and costly. Mechanized web-based test entryways additionally decrease the gamble of cheating as they can be intended to keep understudies from getting to outside assets during the test. In any case, there are a few difficulties related with mechanized web-based test gateways. One of the fundamental difficulties is guaranteeing the security of the framework. Robotized online test entrances can be powerless against hacking and other security dangers.

Index Terms –Online test, Against swindling measures.

## I. INTRODUCTION

Computerized web-based test delegating is a strategy for observing understudies during on the web tests utilizing man-made brainpower (simulated intelligence) innovation. It is intended to guarantee that understudies don't cheat during tests by observing their way of behaving and distinguishing any occurrences of scholastic unfortunate behavior. Mechanized internet based test delegating can be valuable since it doesn't need a human delegate to be available during the test. This implies that understudies can require some investment and from anyplace. Robotized online test delegating is additionally more productive than conventional administering strategies since it can recognize scholarly unfortunate behavior with expanded accuracy. In any case, there are a few difficulties related with computerized web-based test delegating. One of the primary difficulties is guaranteeing that the framework is secure and that it can't be hacked or controlled. Another test is guaranteeing that the framework is fair and impartial. Computerized internet based test administering can once in a while be mistaken, which can prompt uncalled for results. Computerized web-based test delegating can be valuable in more ways than one. One of the greatest advantages is that it eliminates a significant number of the booking bothers related with online tests. With administering administrations that join computerized delegating and live delegating, understudies can plan their internet based test during a period that works for their bustling timetables, 27/8/2023. One more advantage of

computerized internet based test delegating is that it can forestall and dissuade cheating. Administered testing highlights can identify any strange or dubious exercises in video to screen the test. This establishes a fair internet based test climate for understudies. Robotized online test administering additionally gives nitty gritty revealing that gives knowledge into student conduct and examples. This can assist instructors with recognizing regions where understudies might be battling and offer extra help. Taking everything into account, robotized online test delegating is useful on the grounds that it guarantees scholarly uprightness during tests by observing understudy conduct and identifying any cases of scholastic unfortunate behavior. It likewise gives point by point detailing that can assist teachers with recognizing regions where understudies might be battling and offer extra help.

## II. PROBLEM STATEMENT

The conventional strategy for directing tests is tedious, costly, and inclined to mistakes. With the progression of innovation, computerized internet based test entrances have arisen as an option in contrast to customary strategies. In any case, there are as yet a few provokes that should be tended to.

A portion of the normal issues looked via computerized internet based test entryways are:

- **Specialized misfires**: Specialized errors, for example, server free time, slow web speed, and programming bugs can upset the test cycle, prompting disappointment and burden for the two understudies and test managers.
- **Security concerns:** Online tests are defenseless to cheating and different types of wrongdoing. Guaranteeing the security of online tests is quite difficult for test overseers.
- **Openness issues:** Not all understudies approach PCs and fast web, which can make aberrations in the test cycle.
- **Absence of individual collaboration**: Online tests come up short on private communication among understudies and h can influence the nature of training and learning results.

Generally speaking, the computerized internet based test entries can possibly change the school system, yet it means quite a bit to address these difficulties to guarantee a smooth and compelling test process.

## III. PROPOSED SYSTEM

A proposed framework for computerized web-based tests would include the turn of events and execution of an extensive stage that tends to the different parts of leading tests on the web. Here are a few key parts that could be remembered for the proposed framework:

1. **Test Creation and The board:** The framework ought to give an easy to understand point of interaction to teachers to make and oversee tests. It ought to permit educators to characterize test boundaries, for example, span, question types, weighting, and trouble levels. The stage ought to likewise uphold the production of inquiry banks to guarantee a different and randomized set of inquiries.
2. **Client Confirmation and Security:** To guarantee the honesty of the test cycle, the framework ought to incorporate hearty client verification components. This can include secure login certifications, two-factor validation, and personality confirmation estimates like facial acknowledgment or biometric verification. Encryption conventions ought to be carried out to safeguard information transmission and capacity.
3. **Test Conveyance and Access:** The framework ought to give a safe and solid stage for conveying tests to understudies. This can include an internet based entrance open through web or versatile applications. The framework ought to help various gadgets and working frameworks, permitting understudies to advantageously get to tests.

4. **Question Randomization and Personalization**: To moderate cheating, the framework ought to integrate question randomization methods. Every understudy ought to get a novel arrangement of inquiries from an inquiry bank, limiting the possibilities duplicating. Also, the framework can customize tests by choosing questions in view of the understudy's exhibition or learning goals.
5. **Hostile to Swindling Measures:** The framework ought to incorporate enemy of conning elements to screen and identify any dubious way of behaving during the test. This can include remote administering instruments, for example, webcam checking, screen recording, and artificial intelligence based conduct investigation. Keystroke following and program lockdown highlights can likewise be carried out to forestall unapproved exercises.
6. **Computerized Reviewing and Criticism:** The framework ought to incorporate mechanized evaluating abilities for genuine inquiry types like various decision or fill-in-the-clear. It ought to likewise give quick input to understudies, including right responses, clarifications, and execution investigation. For abstract inquiries, teachers can physically grade and give criticism through the framework.
7. **Information Investigation and Revealing:** The framework should gather and break down test information to produce savvy reports. This can incorporate test measurements, individual understudy execution, class midpoints, and thing examination. The information can assist teachers with recognizing areas of progress, evaluate the viability of test questions, and pursue information driven choices.
8. **Openness and Facilities:** The framework ought with focus on availability by complying to openness rules and furnishing facilities for understudies with inabilities. This can include highlights like screen

peruser similarity, customizable text dimensions, variety contrast choices, and broadened time for understudies with extraordinary necessities.

| PROPOSED SYSTEM | CURRENT SYSTEM |
|---|---|
| The application is made with a simple UI. | Design is made easier for non-technical people |
| Implemented Python for scalability | Used MySQL database for structured data store and easy access to the data |
| Simple UI design for generating or taking test | Option for AI proctoring a camera enabled examination process easy evaluation with answer key |

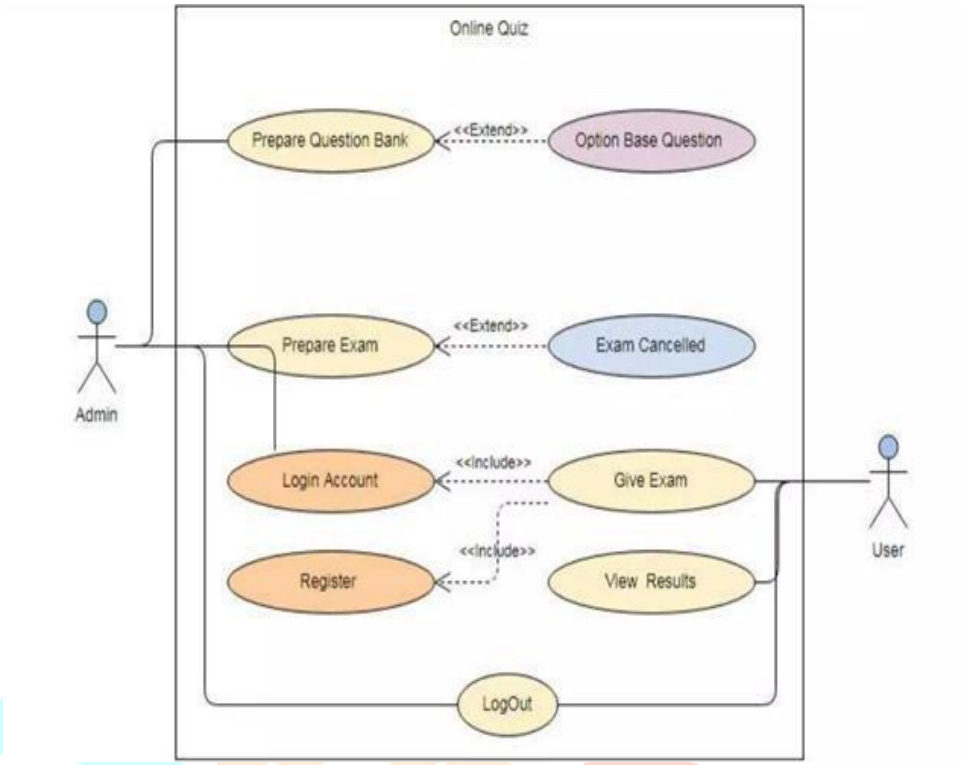


**Fig1:** System architecture of automated online exam portal

## IV. SYSTEM DESIGN

By using a web program, the client associates with the server side through the web. MySQL and Python live on server-side, for setting up the assessment cycle and saves the data that are gotten back from the data set.

**Begin Test Interaction:** The test cycle starts, commonly when the understudy gets to the test stage or chooses a particular test to take.

**Client Validation:** The understudy's personality is verified to guarantee that main approved people can get to the test. This might include entering login qualifications or other check strategies. Test Directions: The understudy gets guidelines and rules for the test, remembering subtleties for the test design, time limit, question types, and a particular prerequisites or rules.

**Test Questions:** The understudy is given the test questions. The inquiries might be shown each in turn or in a predetermined request.

**Answer Accommodation:** The understudy gives replies to the test questions. The responses can be submitted separately for each inquiry or as a total set. Answer Approval and Scoring:

This process may involve automated grading for objective questions or manual grading for subjective questions. Exam Completion: Once all the answers are submitted and scored, the exam is considered complete for the student. Result Display: The student's exam results are displayed, showing the score achieved, any feedback or explanations, and a summary of performance. End Exam Process: The entire exam process concludes, and the student no longer has access to the exam.

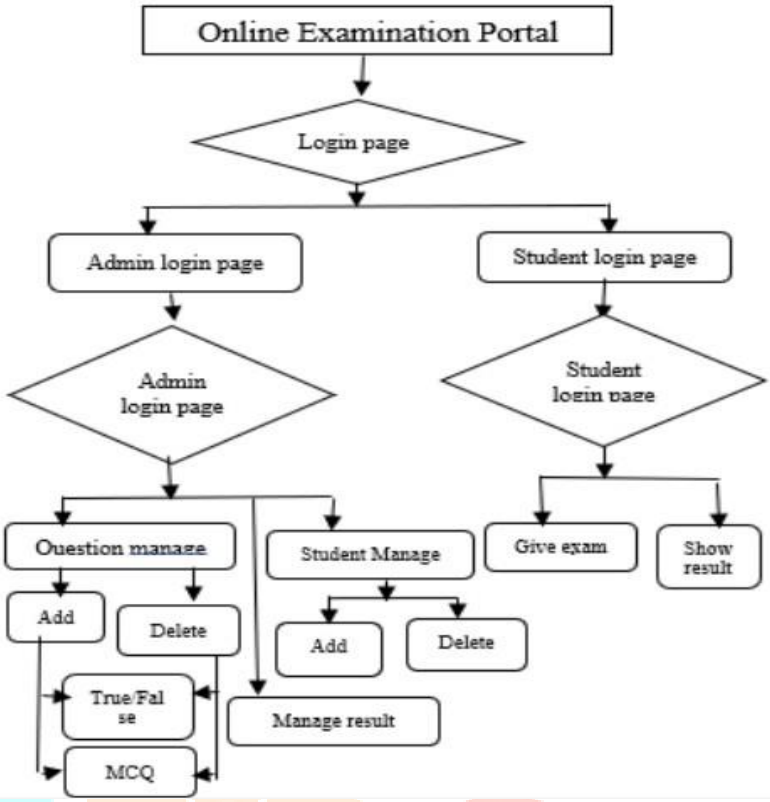


**Fig2**: Flow diagram of Automated exam portal

## V. IMPLEMENTATION

Implementing an automated online exam portal involves several steps. Here's a general outline of the process:

1. **Arranging and necessities gathering:**

a) Define the goals and extent of the test entrance.

b) Determine the sorts of tests to be directed (various decision, paper, and so forth.).

c) Identify the highlights and usefulness required, like client enrollment, test creation, question the executives, reviewing, revealing, and so forth.

d) Consider a particular security necessities, for example, forestalling cheating and guaranteeing information protection.

2. **Plan and engineering:**

a) Create a framework engineering that frames the various parts of the test gateway.

b) Design the UI (UI) for various client jobs (administrator, inspector, and member).

c) Define the data set construction to store client data, tests, questions, replies, and results.

3. **Improvement:**

a) Implement the backend usefulness utilizing a reasonable programming language and system.

b) Develop the frontend UI utilizing HTML, CSS, and JavaScript or a frontend system like Respond .

c) Implement client validation and approval instruments to guarantee secure access.

d) Create modules for test creation, question the board, test taking, evaluating, and detailing.

e) Integrate a safe installment entryway whenever expected for paid tests.

4. **Testing and quality confirmation:**

a) Conduct unit testing to guarantee individual parts are working accurately.

b) Perform mix testing to check the collaboration between various modules.
c) Test the entrance with various situations, including client enlistment, test taking, and result age.
d) Identify and fix any bugs or issues found during testing.

**5. Organization and facilitating:**

a) Set up a creation climate to have the test gateway.
b) Configure the fundamental servers, data sets, and systems administration framework.
c) Ensure the framework is versatile to deal with countless simultaneous clients.
d) Set up normal reinforcements and carry out safety efforts to safeguard client information.

**6. Client backing and upkeep:**

a) Provide documentation and client advisers for help members, inspectors, and heads.
b) Monitor the framework for execution, security, and ease of use issues.
c) Address any announced bugs or client criticism quickly.
d) Continuously improve and upgrade the test gateway in light of client needs and evolving prerequisites.

## VI. RESULT AND DISCUSSION

**User Registration:** Users should be required to create an account on the platform. During the registration process, collect necessary information such as username, email address, and password. You mayalso want to include additional verification steps like email verification or phone number verification to ensure the authenticity of the user.

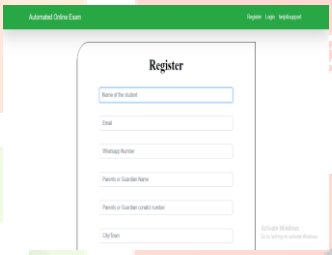


Fig3: Registration system

**User Login:** Implement a login system where users can enter their credentials (username/email and password) to access the exam portal. Use strong encryption techniques to securely store and compare passwords.

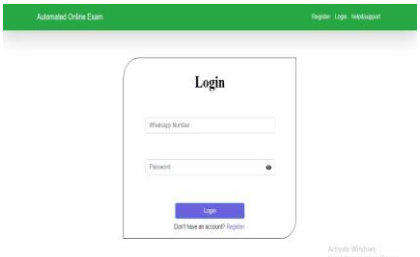


Fig4: Login system

**Admin Dashboard:**A dashboard in an automated online exam portal provides an overview of various important information and features to the administrators or instructors managing the


system. It helps themmonitor and manage the exam-related activities efficiently.

Fig 5: Admin control

**Exam Overview:** Display a summary of ongoing and upcoming exams, along with key details such as exam name, date, time, and duration. Include information about the number of registered participants and any notifications or updates related to the exams.

**User Management:** Provide a section to manage user accounts, including options to add new users, view existing user profiles, and make necessary modifications. This section may include features such as user search, filtering, sorting, and bulk operations like importing or exporting user data.

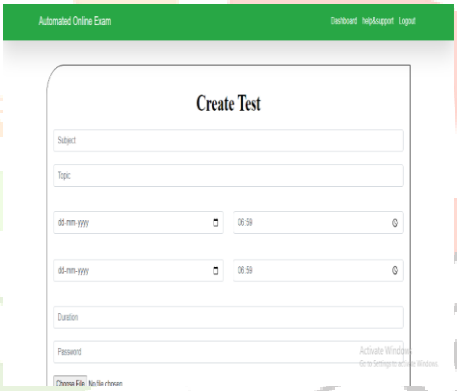


Fig 6: Admin create test

**Exam Creation and Configuration:** Enable the administrators to create new exams, set up exam parameters, and configure specific settings. This could include options to define the exam format (e.g., multiple-choice, essay), time limits, question bank selection, and exam instructions.

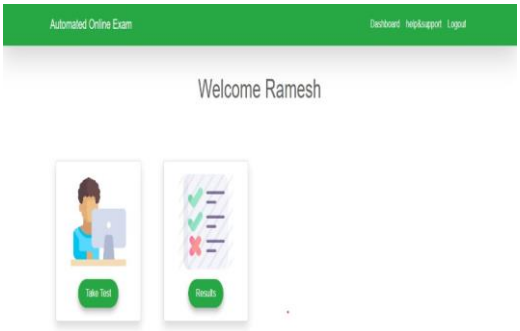


Fig7: Student Dashboard

**Exam Monitoring:** Include a real-time monitoring section where administrators can track the progress of ongoing exams. This can display the number of participants, their current status (e.g., started, in progress, completed), and any flagged activities or issues that need attention (e.g., suspected cheating, technical difficulties).

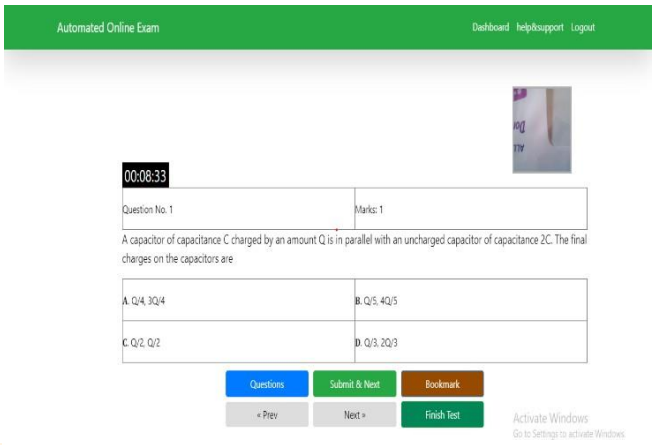


Fig 8:Exam Progress and Timer

**Exam Progress and Timer:** During an ongoing exam, display a timer indicating the remaining time. This helps students manage their time effectively. Additionally, provide a progress bar or an indicator to show the completion status of the exam.

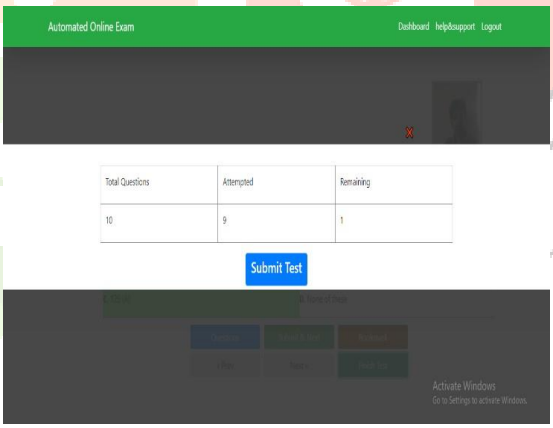


Fig 9: Submission and Confirmation

**Submission and Confirmation:** Once students complete an exam, guide them through the submission process. Include a confirmation message to acknowledge the successful submission.

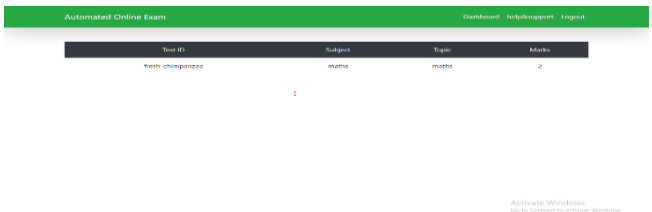


Fig 10: Exam Results

# VII. CONCLUSION AND FUTURE ENHANCEMENT

## a) CONCLUSION

In conclusion, the implementation of an automated online exam portal offers numerous advantages in terms of convenience, flexibility, cost-effectiveness, and efficiency. By allowing participants to take exams remotely, the portal eliminates the need for physical attendance and offers the flexibility to schedule exams at their convenience. This not only saves costs associated with physical exam centers but also provides immediate feedback through automated grading. The portal streamlines administrative tasks, such as exam creation, question management, and result generation, while also ensuring enhanced security measures to prevent cheating. Additionally, the system can generate comprehensive reports and analytics, providing valuable insights into exam performance and trends. Overall, an automated online exam portal improves the examination process by leveraging technology to create a user- friendly, efficient, and secure environment for both participants and administrators.

## b) FUTURE ENHANCEMENT

Robotized online tests have made considerable progress in giving proficient and secure evaluation arrangements. Notwithstanding, there are still regions for future work and upgrades. Here are a few possible bearings for future improvement in computerized web-based tests:

**Upgraded Safety efforts:** As innovation progresses, there is a nonstop requirement for more grounded safety efforts to forestall cheating and guarantee the uprightness of tests. Future work can zero in on executing further developed remote administering strategies, for example, computer based intelligence based conduct examination, eye-following, or progressed biometric verification.

**Versatile Testing:** Versatile testing includes progressively changing the trouble level of inquiries in light of the understudy's exhibition. This customized approach can give more exact evaluations and work on the productivity of tests. Future work can investigate integrating versatile testing calculations and philosophies into computerized web-based test frameworks.

**Cooperation and Gathering Evaluations:** Cooperative and gathering appraisals are progressively significant in present day training and work environment settings. Future work can zero in on creating highlights that empower cooperative tests, permitting numerous understudies to cooperate on a common stage while as yet keeping up with individual responsibility and evaluation.

**Availability and Inclusivity:** Guaranteeing openness for understudies with handicaps is significant in web-based tests. Future work can include further developing availability highlights, like similarity with assistive advances, elective organizations for content show, and adjustable points of interaction to address assorted issues.

**Information Investigation and Experiences:** Utilizing the information gathered from computerized web-based tests can give important bits of knowledge into understudy execution, test quality, and evaluation adequacy. Future work can zero in on creating powerful information examination devices to produce extensive reports and significant experiences for teachers and foundations.

**Reconciliation with Learning The board Frameworks (LMS):** Consistent coordination with famous Learning The executives Frameworks can upgrade the general insight of mechanized internet based tests. Future work can include creating normalized APIs and reconciliations to permit smooth information trade and synchronization between the test framework and LMS stages.

**AI and artificial intelligence Based Approaches:** AI and artificial intelligence based approaches can be used to work on different parts of robotized online tests, like inquiry age, tricking identification, mechanized evaluating, and versatile testing. Future work can investigate the use of cutting edge AI strategies to additional improve the abilities and precision of robotized test frameworks.

**Convenience and Client Experience:** Working on the ease of use and client experience of computerized web-based test frameworks is a continuous center region. Future work can include directing client studies, gathering input from clients, and executing natural connection points, smoothed out work processes, and intuitive highlights to upgrade the general client experience.

## REFERENCES


1. I.E. Allen and J. Seaman, "Grade change: Tracking online education in the united states 2013", Babson Survey Res. Group Quahog Res. Group LLC, vol. 3, no. 5, pp. 3-18, 2014.
2. D. L. King and C. J. Case, "E-cheating: Incidence and trends among college students", Issues Inf. Syst., vol. 15,no. 1, pp. 20-27, 2014.
3. M. Reale, S. Canavan, L. Yin, K. Hu and T. Hung, "A multi-gesture interaction system using a 3-D iris disk model for gaze estimation and an active appearance model for 3-D hand pointing", IEEE Trans. Multimedia, vol. 13, no. 3, pp. 474-486, Jun 2011.
4. B. Xiao, P. Georgiou, B. Baucom and S. Narayanan, "Head motion modeling for human behavior analysis in dyadic interaction", IEEE Trans. Multimedia, vol. 17, no. 7, pp. 1107-1119, Jul 2015.
5. G. Cluskey, C. R. Ehlen and M. H. Raiborn, "Thwarting online exam cheating without proctor supervision", J. Acad. Bus. Ethics, vol. 4, pp. 1-7, 2011.
6. Wahid, Y. Sengoku and M. Mambo, "Toward constructing a secure online examination system", Proc. 9th Int. Conf. Ubiquitous Inf. Manage. Commun., 2015.
7. P. Guo, H. Feng Yu and Q. Yao, "The research and application of online examination and monitoring system", Proc. IEEE Int. Symp. IT Med. Educ., pp. 497-502, 2008.
8. Jung and H. Yeom, "Enhanced security for online exams using group cryptography", IEEE Trans. Educ., vol. 52, no.3, pp. 340-349, Aug 2009.
9. W. Rosen and M. Carr, "An autonomous articulating desktop robot for proctoring remote online examinations", Proc. IEEE Frontiers Educ. Conf., pp.1935-1939, 2013.
10. X. Li, K.-M. Chang, Y. Yuan and A. Hauptmann, "Massive open online proctor: Protecting the credibility of MOOCs certificates", Proc. 18th ACM Conf. Comput. Supported Cooperative Work Social Comput., pp. 1129-1137, 2015.
11. L. Nguyen, D. Frauendorfer, M. Mast and D. Gatica-Perez, "Hire me: Computational inference of hirability in employment interviews based on nonverbal behavior", IEEE Trans. Multimedia, vol. 16, no. 4, pp. 1018-1031, Jun 2014.
12. H. Hung and D. Gatica-Perez, "Estimating cohesion in small groups using audio-visual nonverbal behavior", IEEE Trans.Multimedia, vol. 12, no. 6, pp. 563-575, Oct 2010.
13. Lefter, L. J. Rothkrantz and G. J. Burghouts, "A comparative study on automatic audio–visual fusion for aggression detection using meta-information", Pattern Recog., vol. 34, no. 15, pp. 1953-1963, 2013.
14. S. S. Chua, J. B. Bondad, Z. R. Lumapas and J. D. L. Garcia, "Online examination system with cheating prevention using question bank randomization and tab locking", 2019 4th International Conference on InformationTechnology (InCIT), pp. 126-131, 2019.
15. C. Watkins, A student says test proctoring ai flagged her as cheating whenshe read a question out loud. others say the software could have more dire consequences, October 2020.
16. S. Hu, X. Jia and Y. Fu, "Research on abnormal behavior detection of online examination based on image information", 2018 10th International Conference on Intelligent Human-Machine Systems and Cybernetics (IHMSC), vol. 02, pp. 88-91, 2018.
17. G. E. Bancud and E. Palconit, Human pose estimation using machine learning for cheating detection, Apr. 2021.
18. S. Hu, X. Jia and Y. Fu, "Research on abnormal behavior detection of online examination

based on image information", 2018 10th International Conference on Intelligent Human-Machine Systems and Cybernetics (IHMSC), vol. 02, pp. 88-91, 2018.

19. C. Indi, V. Pritham, V. Acharya and K. Prakasha, "Detection of malpractice in e-exams by head pose and gaze estimation", International Journal of Emerging Technologie
20. M. Y. Nam, P. K. Rhee and C. S. Lee, "A real time pupil location system using multiple illuminations clustering under varying environment", 2009 Digest of Technical Papers International Conference on Consumer Electronics, pp. 1-2, 2009.