**Advanced Online Proctoring Solution for Academic Integrity**

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**1. INTRODUCTION**

**1.1 Introduction**

Online proctoring significantly influences the educational landscape, as online platforms are now essential components of both learning and assessment. This shift has brought forth new challenges, particularly in ensuring the integrity of examinations conducted in virtual environments. As educational institutions navigate these challenges, the demand for advanced online proctoring solutions has grown significantly. In response to this need, this capstone project presents the development of an Advanced Online Proctoring Solution for Ensuring Academic Integrity tailored specifically for institutions like the College of Information and Computing Sciences (CICS) at Marinduque State College.

Online proctoring, often facilitated through third-party applications, has emerged as a critical tool for educators seeking to uphold academic standards in remote learning environments. Much like educators utilize platforms such as Google Forms for creating quizzes and exams, integrating a proctoring system is essential for ensuring the integrity of assessments conducted online. While existing solutions like Quilgo have demonstrated the potential of online proctoring, there remains a need to enhance capabilities and customization options to meet the unique requirements of academic institutions like CICS.

By harnessing the power of advanced technology, the proposed proctoring solution aims to address various challenges inherent in online assessments, including identity verification, cheating prevention, and maintaining exam integrity. Through innovative features such as facial recognition, real-time behavior monitoring, and secure exam environments, educators can confidently administer exams while ensuring fairness and transparency for all students.

This capstone project not only seeks to address the immediate needs of CICS but also aims to contribute to the broader conversation surrounding the integration of technology in upholding academic integrity. As educational institutions continue to embrace online learning modalities, the development of proctoring solutions becomes not only a necessity but also a fundamental pillar in maintaining the credibility and value of academic assessments.

**1.2 Objectives of the study**

The online proctoring system aims to ensure that exams taken online are fair and secure, thereby preventing cheating and accurately assessing each student's performance. The specific objectives include:

1. Implementation of facial recognition and live proctoring functionality to enable real-time monitoring of online exams, ensuring exam integrity and deterring cheating behavior.
2. Application of real-time behavior monitoring to uphold exam integrity online, employing secure features that detect and prevent unauthorized screenshot capture and tab switching during exams.
3. Integration of a plagiarism checker to ensure the originality and integrity of submitted exam answers.
4. Utilization of timed question sessions to ensure efficient exam completion and deter reliance on external materials for answers.

**1.3 Significance of the Project**

With the increasing implementation of online academic assessments in digital learning environment the need for strong measures to maintain academic honesty is more important than ever. The proposed "Advanced Online Proctoring Solution for Academic Integrity" is very important for educational institutions like the College of Information and Computing Sciences (CICS) at Marinduque State College.

By using advanced technology and special features like facial recognition, real-time behavior monitoring, and secure exam environments, this project aims to change how online assessments are done. Implementing such a proctoring solution doesn't just make exams fair and transparent, but also strengthens the trustworthiness and importance of academic assessments.

Moreover, this project is significant beyond just CICS, as it adds to the broader discussion about using technology to keep academic standards high. By offering a solution that can be adjusted to meet the specific needs of educational institutions, this project sets an example for effectively using technology to keep academic quality high.

In the end, the importance of this project is in its ability to change online assessments into a reliable, fair, and fair way of evaluating student performance. By ensuring exam integrity, the Advanced Online Proctoring Solution for Ensuring Academic Integrity helps educators confidently use online learning while protecting the value of academic achievements.

**1.4 Project Scope and Limitations**

The project scope encompasses the development and implementation of the Advanced Online Proctoring Solution for Ensuring Academic Integrity within the College of Information and Computing Sciences (CICS) at Marinduque State College. This includes designing, building, and integrating advanced features such as facial recognition, real-time behavior monitoring, and secure exam environments. User testing, feedback sessions, and the provision of training materials for educators and administrators are also within scope. However, resource constraints may limit the depth and breadth of features, and long-term maintenance and support are not covered. Technical challenges in integrating with existing systems, varying user adoption rates, and compliance with legal and regulatory requirements are factors that may impact the project's implementation and effectiveness. These scope and limitations provide a framework for project activities while acknowledging potential constraints and challenges.

**1.5 Definition of Terms**

**Online Proctoring:** Monitoring exams conducted remotely to uphold academic honesty and prevent cheating.

**Facial Recognition:** Utilizing biometric technology to verify test-takers' identities by analyzing their facial features.

**Live Proctoring:** Monitoring test-takers in real-time during online exams to detect and deter cheating behavior.

**Real-Time Behavior Monitoring:** Continuous surveillance of test-takers' actions during exams to ensure adherence to exam rules and prevent misconduct.

**Plagiarism Checker:** Software tool used to compare submitted content against a database to identify instances of plagiarism and ensure the originality of responses.

**Secure Exam Environment:** Creating conditions for online exams that prevent unauthorized access and maintain exam integrity, often through measures like browser lockdown and monitoring software.

**Timed Question Sessions:** Imposing time limits on answering individual exam questions to encourage efficient completion and discourage reliance on external resources.

**User Testing:** Evaluating the usability and effectiveness of the proctoring solution by allowing actual users to interact with it and provide feedback.

**Feedback Sessions:** Gathering input from stakeholders, including educators, administrators, and students, to refine and improve the proctoring solution based on user needs and preferences.

**Training Materials:** Resources such as guides, tutorials, and manuals provided to users to help them understand and navigate the proctoring solution effectively.