|  | **COLLEGE OF ENGINEERING AND INFORMATION TECHNOLOGY EDUCATION** | |
| --- | --- | --- |
| **TOPIC ABSTRACT FORM** | | |
| Proponent/s |  | |
| Program | Bachelor of Science in Information Technology | |
| Proposed Title : Biometric Enrollment System In Asia Technological School of Science and Arts College | |  |
| **Background of the Proposed Topic**: | | |
| Over the past few years, schools and other educational institutions have struggled to ensure the security and integrity of their student enrollment systems. Conventional approaches, including paper-based registrations and manual identification verification, tend to be prone to errors, fraud, and time lags, resulting in inefficiencies in administrative processes and student services. With the fast pace of technological progress, biometric systems have been identified as a potential solution to these problems. Biometrics, like fingerprint scanning, facial recognition, and iris scans, provide high accuracy and security that can speed up the enrollment process, confirm the authenticity of students' identities, and limit the possibility of fraudulent activities.  The Asia Technological School of Science and Arts College , similar to other institutions, appreciates the significance of embracing cutting-edge technologies in order to make its operations more efficient and secure. Introducing a biometric enrollment system would tremendously enhance the enrollment process, which would be quicker, safer, and more trustworthy. Additionally, the system would have further advantages of lower administrative workloads, less chance of identity theft, and a more convenient experience for both students and faculty members.  The goal of this research is to design and test a biometric enrollment system that suits the needs of the Asia Technological School of Science and Arts College that can easily to enrolled the students that didn’t need to consume the time .while emphasizing the functionality in both the technical and practical sense. Through the adoption of such a system, the research aims to add to the existing literature on the use of biometric technologies in schools and offer a model for other institutions looking to enhance their enrollment process. | | |
| **Objectives of the Study** | | |
| **To design a biometric enrollment system:** tailored to the needs of the Asia Technological School of Science and Arts College, with a focus on usability, security, and efficiency.  **To develop a functional prototype of the biometric enrollment system**: incorporating biometric technologies such as fingerprint recognition, facial recognition, or iris scanning, ensuring integration with the college’s existing enrollment infrastructure.  **To evaluate the system's performance:** in terms of accuracy, speed, and security, comparing it with traditional manual enrollment systems to assess improvements in processing time, student identification accuracy, and system reliability.  **To assess user acceptance and satisfaction:** by conducting surveys and interviews with students, faculty, and administrative staff, evaluating their experience and perceptions of the biometric enrollment system.  **To analyze the potential impact** of the biometric system on the college's enrollment process, including cost-effectiveness, efficiency gains, and security enhancements.  **To propose recommendations for future implementation** and scaling of the biometric system to other administrative functions at the Asia Technological School of Science and Arts College, should the initial implementation prove successful.  **To easily enrolled through biometric** that we didn't need to consume more time. | | |
| **Significance of the Study** | | |
| **Improvement of Enrollment Efficiency:** The adoption of a biometric system is expected to streamline the enrollment process, reducing the time and effort involved in manual data entry and student identification. This could result in faster processing times during enrollment periods, reducing long queues and improving the overall experience for both students and administrative staff.  **Enhanced Security and Fraud Prevention:** By utilizing biometric technology, which is unique to each individual, the system provides a higher level of security compared to traditional identification methods (e.g., ID cards). This reduces the risk of identity fraud, impersonation, and unauthorized access, ensuring that only legitimate students are enrolled in courses and accessing campus facilities.  **Cost Reduction for the College:** In the long run, the implementation of a biometric enrollment system can help reduce administrative costs related to paperwork, manual processing, and the need for physical ID verification. This system would also lessen the burden on staff, allowing them to focus on other critical tasks.  **Technological Advancement in Education:** The study contributes to the body of knowledge on the use of biometric systems in educational settings. By assessing the feasibility and effectiveness of such technology, the research can encourage other institutions to explore similar solutions, driving innovation in the field of educational technology.  **Improved User Experience:** The biometric system offers a user-friendly experience for students, who can easily register and authenticate their identity without needing to remember passwords or carry physical cards. This system could also be extended to other administrative processes, such as library access or exam room entry, creating a more seamless campus experience for students and faculty.  **Contribution to Future Research and Implementation:** The findings of this study will provide valuable insights into the practical challenges and successes of implementing biometric systems in a higher education institution. It will also lay the groundwork for future research into enhancing biometric technologies and their applications in other aspects of campus life, such as security, attendance tracking, and access control.  **Support for Policymakers and Educational Administrators:** The results of the study can guide educational institutions and policymakers in making informed decisions regarding the adoption of biometric technology, ensuring that they understand both the benefits and challenges of such systems before implementation. | | |
| **Methodology:** | | |
| **Rapid Agile Development** because the Rapid Agile Development methodology to design, develop, and evaluate a biometric enrollment system for the Asia Technological School of Science and Arts College (ATSSAC). Rapid Agile is a flexible and iterative approach that emphasizes quick development cycles, regular feedback, and continuous improvement, which is essential for creating a system that meets the dynamic needs of both the college and its users. The key stages of this methodology include planning, design, development, testing, and deployment, executed in rapid iterations or sprints. | | |
| **References:**  minimum of 10 references per topic  5 years (2021-current)  only published journals  **Impacts of Digital Technologies on Education and Factors Influencing Their Integration**  <https://link.springer.com/article/10.1007/s10639-022-11431-8?utm_source>  **Attendance Monitoring System of Schools in the Philippines with an Inclusion of Optimization Query**  **Algorithm**  <https://www.ijitee.org/wp-content/uploads/papers/v10i8/H91490610821.pdf?utm_source=chatgpt.com> Biometric Identification Systems with Noisy Enrollment for Gaussian Sources and Channels <https://www.mdpi.com/1099-4300/23/8/1049>A class participation enrollment system based on face recognition <https://ieeexplore.ieee.org/abstract/document/7984556> EvaBio platform for the evaluation biometric system: Application to the optimization of the enrollment process for fingerprints devices <https://ieeexplore.ieee.org/abstract/document/7509985>  **An Introduction to Biometric Authentication Systems**  [**https://link.springer.com/chapter/10.1007/1-84628-064-8\_1**](https://link.springer.com/chapter/10.1007/1-84628-064-8_1) Adaptive ECG biometric recognition: a study on re-enrollment methods for QRS signals <https://ieeexplore.ieee.org/abstract/document/7015440> | | |
| **TOPIC EVALUATION COMMITTEE**  The topic abstract has been thoroughly reviewed by the Topic Evaluation Committee. | | |

|  | **Signature** | **Remarks** |
| --- | --- | --- |
| Panel Member | Prof. Jorge F. Resurreccion |  |
| Panel Member | Prof. Charlyn A. Malimata |  |
| Chair - Panel / OIC- Dean | Prof. Rozaida C. Tuazon |  |