

Revolutionizing Accreditation System: Basis for Proposing a Databank System Using Two-Factor Authentication and String Searching Algorithm

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Abstract: *Accreditation stands as a hallmark of quality assurance in higher education and ensures that academic institutions meet the rigorous standards set by the accrediting bodies. However, accreditation documents which are paramount for maintaining compliance with the accreditation standards are often inaccessible or, perhaps, prone to security threats. It is for this reason that the current exploration aims to transform the accreditation process of Saint Michael College of Caraga by proposing a web-based databank system using two-factor authentication and string searching algorithm. Through the utilization of descriptive research design using mixed-methodology research approach, the study investigates stakeholders' evaluation of the current document storage system and compelling needs for the proposed system. The research findings revealed that the current system lacks user authentication to identify the actual user, compromising data privacy ($WM = 4.07$) and vulnerable to ransomware or other viruses that could potentially compromise the integrity of the documents ($WM = 4.07$). The respondents have a high level of agreement in terms of integration of a single web-based platform ($WM = 4.60$), two-factor authentication security ($WM = 4.60$), and cloud-based solutions or advanced databases ($WM = 4.53$). This comprehensive initiative will incorporate a cutting-edge string-searching algorithm to overcome limitations of the current document storage. Key functionalities such as secured storage, role-based access control, electronic clearance generation, and advanced reporting and analytics will be integrated to streamline accreditation workflows. The study highlights the importance of modernizing document management practices, improving accessibility, and ensuring compliance with accreditation standards, laying the groundwork for future enhancements and innovations.*

Keywords: Accreditation system, web-based databank framework, document management, string-searching algorithm, mixed-method research, efficiency, compliance, modernization.