

Research on some solutions for security and authentication in multi-domain service user integration of the electronic portal of the Lao National Academy of Social Sciences

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Abstract: This study investigates security and authentication solutions for integrating multi-domain service users within the web portal of the Lao National Academy of Social Sciences. As the Academy expands its digital services across various specialized domains, ensuring secure and seamless user access while maintaining robust authentication mechanisms becomes critical. The research identifies key vulnerabilities in current single-domain authentication systems, including risks of unauthorized access, identity spoofing, and data breaches during cross-domain transitions. To address these challenges, the study proposes a comprehensive framework combining federated identity management, single sign-on (SSO) protocols, and multi-factor authentication tailored to the Academy's infrastructure. The proposed solutions are evaluated through practical implementation and testing, demonstrating enhanced security without compromising user experience. Results indicate a significant reduction in authentication latency and improved resistance against common cyber threats. This work contributes to the field of information security in academic portals, offering a scalable model for similar institutions in developing countries seeking to modernize their digital identity management systems.

Keywords: multi-domain security, user authentication, service integration, electronic portal