

PENGEMBANGAN FITUR AUTENTIKASI TANPA PASSWORD PADA SISTEM SSO UNDIKSHA DENGAN TEKNOLOGI FIDO2 PASSKEY

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ABSTRAK

Penelitian ini membahas tentang pengembangan fitur autentikasi tanpa password berbasis Fido2 Passkey pada layanan Single Sign-On (SSO) Undiksha, yang merupakan sistem autentikasi pengguna berbasis website untuk mengakses layanan sistem informasi di Universitas Pendidikan Ganesha. Masalah utama yang dihadapi adalah kelemahan keamanan yang disebabkan oleh penggunaan metode autentikasi password yang rentan terhadap kebocoran data karena banyak pengguna menggunakan password yang lemah. Penelitian ini merupakan jenis research and development dengan menggunakan Metode SDLC (Software Development Life Cycle) dan model waterfall, terdiri dari empat tahap: Requirement Analysis, Design, Implementation, dan Verification. Penelitian dilakukan pada SSO Undiksha di UPA-TIK Undiksha. Terdapat tiga pengujian yang dilakukan: verifikasi blackbox dengan hasil presentase 100%, verifikasi whitebox dengan hasil presentase 100%, dan Usability Testing menggunakan metode System Usability Scale (SUS). Hasil dari Usability Testing menunjukkan peningkatan dari sistem autentikasi lama yang menggunakan password, yang mendapatkan nilai 69,5 (kategori D atau OK), sedangkan sistem baru dengan FIDO2 Passkey memperoleh skor 78 (kategori C atau Good).

Kata Kunci: FIDO2, Passkey, Webauthn, SSO Undiksha

**DEVELOPMENT OF PASSWORDLESS AUTHENTICATION FEATURE IN
UNDIKSHA SSO SYSTEM USING FIDO2 PASSKEY TECHNOLOGY**

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ABSTRACT

This study discusses the development of passwordless authentication feature based on Fido2 Passkey in the Single Sign-On (SSO) Undiksha service, which is a user authentication system based on a website to access information system services at Universitas Pendidikan Ganesha. The main issue addressed is the security weakness caused by the use of password authentication method, which is vulnerable to data breaches due to many users using weak passwords. This research adopts a research and development approach using the Software Development Life Cycle (SDLC) method and waterfall model, consisting of four stages: Requirement Analysis, Design, Implementation, and Verification. The study was conducted on SSO Undiksha at UPA-TIK Undiksha. Three tests were performed: blackbox verification with a 100% success rate, whitebox verification with a 100% success rate, and Usability Testing using the System Usability Scale (SUS) method. The results of Usability Testing show an improvement from the old password-based authentication system, which scored 69.5 (category D or OK), whereas the new system with FIDO2 Passkey obtained a score of 78 (category C or Good).

Keywords: FIDO2, Passkey, Webauthn, SSO Undiksha