UNIVERSITY TEKNOLOGI MARA

A WEB-BASED LIBRARY MANAGEMENT SYSTEM FOR SMK CHENDERING

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ABSTRACT

Library management plays an important role in supporting teaching, learning, and information access in schools. An efficient system helps libraries manage resources, reduce workload, and improve user experience for students and staff. In SMK Chendering, the existing library system relied on an offline and standalone application, which limited access, increased data loss risk, and restricted reporting functions. Prior to this project, the school lacked a web-based library system that supported real-time access, automatic data backup, self-service features, and structured reservation management using clear rules. The main objective of this project was to design and develop a web-based Library Management System for SMK Chendering, which improves daily library operations and user satisfaction. The project applied the System Development Life Cycle with an Evolutionary Prototyping approach, involving planning, analysis, design, development, testing, and documentation. Data collection methods included interviews with the school librarian, questionnaires for users, system prototyping, and functional testing. The system was developed with separate roles for librarians, staff, and students, and integrated features such as self-borrowing and returning, book reservation using the First In First Out principle, real-time dashboards, and report export in PDF and Excel formats. Expert evaluation results showed strong performance across all criteria, with mean scores of 4.33 for interface design, 4.56 for navigation, 4.67 for usability, and 4.67 for satisfaction, resulting in an overall mean score of 4.56 out of 5 or 91.2 percent. User evaluation involving 30 respondents also reported high satisfaction levels. The system achieved overall mean scores of 4.67 for interface, 4.77 for navigation, 4.79 for usability, and 4.75 for satisfaction, with low standard deviation values indicating consistent user responses. These results indicate that the developed system meets functional and usability requirements and supports efficient library operations. This project shows that a web-based library system helps schools improve efficiency, protect data, and support independent access to library services, while providing reliable information for planning and decision making.