ABSTRAK

Muhammad Iqbal Tawakkal. 2026. Rancang Bangun Sistem Inventaris Barang pada SMK Modern Ngawi Berbasis Website. Skripsi. Program Studi Teknik Informatika, FT, Universitas PGRI Madiun. Pembimbing (I) Sri Anardani, S.Kom., M.T.(II) Saifulloh, S.Kom., M.Kom.

SMK Modern Ngawi merupakan sekolah menengah kejuruan yang memiliki banyak item barang yang tersebar di berbagai ruangan. Pengelolaan barang di sekolah ini masih dilakukan menggunakan Google Sheets dan Google Forms, sehingga menimbulkan berbagai permasalahan seperti data yang tidak akurat, proses pelaporan yang lambat, dan tidak adanya mekanisme formal untuk pengajuan kebutuhan barang. Penelitian ini bertujuan untuk merancang dan membangun sebuah Sistem Manajemen Barang berbasis website yang dapat mengintegrasikan pengelolaan data barang, data perolehan, data ruangan, data pengajuan, laporan kerusakan barang, dan manajemen pengguna dalam satu platform. Sistem dikembangkan menggunakan metode *Waterfall* dengan bahasa pemrograman PHP, *framework* Laravel, dan basis data MySQL. Perancangan sistem menggunakan pemodelan *UML* yang meliputi *Use Case* diagram, *activity* diagram, sequence diagram, dan class diagram, serta Entity Relationship Diagram (ERD) untuk perancangan basis data. Pengujian sistem dilakukan menggunakan metode *Black box testing* untuk menguji fungsionalitas sistem dan *System Usability Scale* (SUS) untuk mengukur tingkat kebergunaan sistem. Hasil pengujian *Black box testing* menunjukkan bahwa seluruh fitur sistem berfungsi sesuai dengan kebutuhan yang telah ditetapkan, sedangkan hasil pengujian *Usability* menunjukkan bahwa sistem berada pada kategori A layak digunakan (excellent). Sistem ini diharapkan dapat membantu SMK Modern Ngawi dalam meningkatkan efisiensi, akurasi, dan transparansi pengelolaan aset sekolah, serta menggantikan proses pencatatan manual yang sebelumnya digunakan.

Kata Kunci: sistem manajemen barang, inventaris, website, Laravel, *Waterfall*, *Black box testing*, *System Usability Scale*

ABSTRACT

Muhammad Iqbal Tawakkal. 2026. *Design and Development of a Web-Based Inventory Management System for SMK Modern Ngawi. Undergraduate Thesis. Informatics Engineering Study Program, Faculty of Engineering, Universitas PGRI Madiun. Advisors: (I) Sri Anardani, S.Kom., M.T. (II) Saifulloh, S.Kom., M.Kom*

SMK Modern Ngawi is a vocational high school that manages more than, items of equipment distributed across various rooms. The management of school assets is still carried out using Google Sheets and Google Forms, resulting in several problems such as inaccurate data, slow reporting processes, and the absence of a formal mechanism for submitting equipment requests. This research aims to design and build a website-based Item Management System that integrates the management of item data, procurement data, room data, request data, damage reports, and user management into a single platform. The system was developed using the Waterfall method with the PHP programming language, the Laravel framework, and a MySQL database. The system design employed UML modeling, including Use Case diagrams, activity diagrams, sequence diagrams, and class diagrams, as well as an Entity Relationship Diagram (ERD) for database design. System testing was conducted using the Black box testing method to evaluate system functionality and the System Usability Scale (SUS) to measure the system's Usability level. The Black box testing results showed that all system features functioned according to the established requirements, while the Usability testing results indicated that the system falls into the acceptable category. This system is expected to help SMK Modern Ngawi improve the efficiency, accuracy, and transparency of school asset management, replacing the manual recording process previously used.

Keywords: *item management system, inventory, website, Laravel, Waterfall, Black box testing, System Usability Scale*