

ABSTRACT

BACK-END DESIGN OF PROFIT AND LOSS CALCULATION INFORMATION SYSTEM AT POINT OF SALES UMKM BASED ON WEBSITE WITH EXTREME PROGRAMMING METHOD

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Micro, Small, and Medium Enterprises (MSMEs) play a very vital role in the Indonesian economy, contributing significantly to job creation and the preservation of local culture. One of the MSMEs involved in this sector is CemantingArt Ecoprint, which specializes in batik, ecoprint, and fashion. However, like many other MSMEs, CemantingArt Ecoprint faces challenges in financial management, which is still largely done manually. This causes difficulties in accurately understanding financial conditions, increases the risk of recording errors, and loss of important data. This research aims to develop the backend of a website-based MSME Point of Sales (POS) profit and loss calculation information system using Express.js and MySQL. In addition, this research also aims to ensure system functionality by conducting Blackbox Testing. The method used in developing this system is Extreme Programming (XP), which allows active participation of business owners and flexibility in dealing with changing needs. The backend infrastructure was developed using Express.js as the main framework and MySQL for database management, which was chosen for its speed of development and reliability in handling large amounts of data. The results of this study show that the developed system can record transactions automatically and structured, reduce the risk of data loss due to manual recording, and provide accurate and realtime financial reports. Based on Blackbox Testing using the POSTMAN application, each API Endpoint has functioned properly. Testing various endpoints such as Login, Product, Selling Price, Raw Expenditure, Stock, Customer, Transaction, and Testimonial showed that the server responds quickly (average 141.25 ms per scenario) and efficiently in bandwidth usage (average 464 bytes per scenario). The system is reliable and resource-efficient in handling user requests.

Keywords: Backend, Extreme Programming, MSME, Website Design