

ASSET AND MAINTENANCE INFORMATION SYSTEM AT PT. OMRON

UNDERGRADUATE THESIS
Submitted as one of the requirements to obtain
Sarjana Komputer



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CIKARANG
JULY, 2025

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1.1 Problem Identification

1.1.1 Background of the Issue

In the current era of digitalization, efficient and structured data management is one of the keys to the company's operational success. PT Omron as one of the companies engaged in manufacturing faces challenges in asset management and Maintenance Record (MR). Data management that is still done manually using paper documents is not only time consuming but also increases the risk of data loss or damage.

Currently, asset-related information only focuses on asset value, such as price or depreciation, without paying attention to maintenance history that can affect asset performance and service life. On the other hand, maintenance records that are separate from asset data make it difficult to conduct a thorough analysis, so companies cannot maximize the potential of their assets.

Manual processes are also a major challenge in managing Maintenance Records. Data is often difficult to find when needed, problem descriptions are only recorded in text without visual support, and tracking of approval status and maintenance progress is not transparent. This results in inefficiency and slows down problem solving which affects the company's productivity. Therefore, it is necessary to develop a web-based information system that can integrate asset management and Maintenance Record in an efficient, secure, and structured manner.

1.1.2 Problem Statement

At PT Omron, the asset management and maintenance record (MR) process is still done manually. Because of this, the data is not integrated, difficult to access when needed, and at risk of being lost.

For now at PT Omron has not used a system for managing its assets. A web-based information system will be able to overcome existing problems and the system must be able to integrate asset management and MR to improve efficiency, data security, and transparency of operational processes.

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ABSTRACT

In the era of digital transformation, operational efficiency is a primary demand in the manufacturing industry. One of the ongoing challenges in this sector is the recording and management of maintenance activities, which are still largely carried out manually such as using paper forms, physical signatures, and direct document transfers between departments. These processes are prone to human error, data loss, and delays in resolving issues, which can negatively impact overall productivity. This study aims to design a web-based Maintenance Record (MR) system using a descriptive development method, which includes user requirement analysis, system design, and iterative validation, to replace the manual process with a more streamlined digital workflow. The system employs a tiered workflow structure, where users across organizational levels are assigned structured access rights and responsibilities. Each stage from submission and approval to resolution is handled digitally, with status updates occurring automatically based on user actions, thereby implementing a basic form of workflow automation. The system has been developed and reviewed based on actual operational requirements in a manufacturing context and demonstrates its capability to enhance efficiency, transparency, and traceability in maintenance management. These findings offer practical contributions for the improvement of digital workflows in industrial maintenance systems.

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