

# **DEVELOPMENT OF AN INTEGRATED OFFICIAL VEHICLE DATA MANAGEMENT SYSTEM USING QR CODES AND ACTIVITY LOGS**

## **Abstract**

This study aims to design and implement an integrated web-based Official Vehicle Management Information System utilizing QR Code technology and operational logs, named SIPAKAD (Sistem Informasi Pengelolaan Kendaraan Dinas Angkatan Darat). The system was developed to address inefficiencies, recording errors, and data redundancy commonly found in manual management of official vehicles within military environments. The research employed a system engineering approach with black-box testing to evaluate key functions such as vehicle, driver, and route data management, operational log recording, real-time GPS tracking, and report export features. The implementation results show that SIPAKAD is capable of managing data centrally, accurately, and in real-time, supporting operational monitoring through interactive maps, and reducing human resource requirements and operational costs. The system is considered effective in improving efficiency, transparency, and accuracy in official vehicle management and holds potential for further development in maintenance scheduling and additional security integrations in the future.