Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

EXPLORING THE DEVELOPMENT OF INVENTORY ASSET MANAGEMENT SYSTEM (IAMS)

Che Maliki Che Mohd Zaid[1]
Mohamad Rahimi Mohamad Rosman[2]
Nur Ainatul Mardiah Mat Nawi[3*]
Awais Karni Ahmad[4]

1 Faculty of Information Science, Universiti Teknologi MARA Kelantan Branch, 18500 Machang, Kelantan, Malaysia (2024794501@student.uitm.edu.my)

2 Faculty of Information Science, Universiti Teknologi MARA Kelantan Branch, 18500 Machang, Kelantan, Malaysia (rahimimr@uitm .edu.my)

3 Faculty of Information Science, Universiti Teknologi MARA Kelantan Branch, 18500 Machang, Kelantan, Malaysia (ainatulmardiah@uitm.edu.my)

4 Pejabat Setiausaha Kerajaan Negeri Kelantan, Malaysia (awais@kelantan.com.my)

*Corresponding author: ainatulmardiah@uitm.edu.my

Article history
Received date : 9-3-2026
Revised date : 10-3-2026
Accepted date : 24-3-2026
Published date : 15-4-2026

To cite this document:
Che Mohd Zaid, C. M., Mohamad Rosman, M. R., Mat Nawi, N. A. M., & Ahmad, A. K. (2026). *Exploring the development of inventory asset management system (IAMS). International Journal of Accounting, Finance and Business (IJAFB),* 11 (64), 215 – 220..

Abstract: *Asset inventory and management help organizations efficiently track, manage, and maintain physical assets such as equipment, electronics, and furniture. However, currently, many organizations are still using manual recordkeeping to manage their assets. Thus, this paper explores the development of a computerised asset management and inventory system (IAMS). The proposed system is built using Laravel and MySQL; the system replaces outdated manual and spreadsheet-based methods with a unified digital platform that has role-based access for Staff, Technicians, and Administrators. The main functionalities of this system include asset registration with various details or information, movement tracking for borrowings and returns, maintenance logging with condition updates, approval workflows, and automated reporting. The system strengthens user accountability, reduces asset loss, supports preventive maintenance, and provides real-time visibility into asset status. Although fully functional, future enhancements such as barcode scanning, mobile accessibility, and other system improvements are recommended to make it usable for a longer time.*

Keywords: ***Asset Management System, Web-based Application, Laravel, Physical Asset Tracking, Maintenance Management, Automated Reporting, Role-based Access.***

Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

Introduction

System Background and Context

The Inventory Asset Management System (IAMS) is a web-based system developed to help organizations manage and track their IT assets more efficiently. Nowadays, most of the organizations depend too much on technology, such as computers, laptops, servers, printers, network devices, and software to carry out daily operations (Alias et al., 2024; Haleem et al., 2025; Khallaf et al., 2025; Lallie et al., 2025). Due to this, there is a necessity to have proper record-keeping for every single IT asset, which is very important to the organization, so they must ensure that it is well-maintained and used properly. However, the drawbacks are that many organizations still use manual methods, such as Excel spreadsheets or paper records to manage their IT assets (Rebman Jr et al., 2023; Rosman et al., 2021; Sprague Jr, 1995). These methods are not only time-consuming but also easily cause errors, missing data, and difficulties in updating asset information. It also becomes hard to track maintenance history, asset location, and asset condition when the number of assets increases. Thus, the development of IAMS system provides a platform that is compatible with different things, such as where IT staff can record asset details, monitor asset status, manage maintenance activities, process asset returns, and generate reports automatically. With this system, all asset information can be stored in one place and accessed easily when needed. This project was developed to help improve the efficiency of IT asset management while also giving practical experience in developing a web-based system. By using modern technologies and database systems, IAMS aims to reduce manual work, improve data accuracy, and make asset management more organized and effective.

Problem Statements

Many organizations still manage their IT assets using manual methods such as spreadsheets or paper-based records. These methods become difficult to maintain and often result in inaccurate or outdated information because of the number of assets keeps on increasing every day (Alshamrani et al., 2019; Wilkins et al., 1997). One of the crucial criteria for the record keeping of assets is that asset details that track things like serial numbers, locations, conditions, and assigned users are not properly organized, which can lead to confusion and poor asset tracking. Another major problem is the lack of proper maintenance management, as the maintenance records are usually incomplete or stored separately, making it difficult for the technician to monitor asset performance and schedule the service proficiently. This may be the main reason for the equipment having breakdowns frequently, increased repair costs, and reduced productivity of the technician. Asset movement and returns also become challenging to track especially when assets are transferred between departments or returned after use, updates are often delayed or forgotten. This may cause asset misplacement, ownership of the assets is unclear, and difficulty locating equipment definitely will rise when it is truly needed. In addition, approval processes for asset usage, maintenance, and returns are usually handled manually. This leads to slow processing, lack of transparency, and difficulties in tracking request status. Staff members may experience delays and miscommunication during these processes. Lastly, preparing asset reports manually is time-consuming and the errors totally will happen without a question because they are human. Management may not receive accurate or up-to-date information for them to make better decision-making. Therefore, a unified IT Asset Management System is needed for the asset tracking, maintenance monitoring, approval process, and report generation automate generated to improve efficiency and data accuracy of their organization.

Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

System Objectives

The objectives of the system development are as follows:

a. To develop a centralized web-based system for managing IT asset information efficiently.
b. To replace manual asset tracking methods with a digital and organized platform.
c. To enable real-time tracking of IT asset location, condition, and usage status.
d. To record and manage asset maintenance history systematically.
e. To automate asset approval and return processes.
f. To generate accurate asset reports automatically for management purposes.

Scope

In relation to system scope, the IAMS system covers the following functionalities:

a. Recording and storing IT asset information such as asset name, serial number, category, condition, and location.
b. Tracking asset maintenance history and status.
c. Managing asset return processes.
d. Handling approval workflows for asset requests and returns.
e. Generating automated reports in PDF format 3
f. Managing user accounts and access roles

Literature Review

Tracking all of the public property and supplies in government offices is a pretty big challenge because every department keeps so many different items, like office furniture, computers, vehicles, stationery, medical supplies, and equipment to be used in their daily life as a staff in an organization (Dawes & Helbig, 2010). For a long time, countless government offices have used old methods like logbooks, handwritten registers, or simple spreadsheets to keep track of these assets (Mnjama & Wamukoya, 2007). These outdated ways of working often lead to human errors, are hard to update quickly, and it is mostly don't offer good reporting features and functionality, which makes it difficult for the staff to be transparent and accountable with the assets given to them that were bought with public money, which is one of their responsibility as honest worker (Bowman & West, 2021; Richardson & Cassop Thompson, 2024). Some modern software has been created to help with these problems. Programs like Zoho Inventory, TradeGecko, and Odoo Inventory work well for businesses that focus on sales and stock management, but they aren't really built for a government that needs processes such as audit trails, compliance tracking, and working across different departments. On the other hand, tools made just for tracking assets like Snipe-IT and AssetTiger are good at managing fixed items, but they don't handle inventory well, so things like office supplies or medical stocks still need to be tracked separately.

Accordingly, researchers suggested that the best systems for the government offices show that it should have certain important features, which is they clearly need to have a real-time tracking, so that every staff member always knows where assets are and who is responsible for them, which helps prevent loss, misuse, and accountability if something happens to the asset. Next, the system should be easy to use so people from any department can learn it quickly without needing to have the IT experts teach every person in that organization, and only need one of the representatives of every department to come to the launch seminar, then provide the guidance for other staff. It is also must keep automatic complete records for audits and compliance

Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

procedures, making sure everything is transparent without any manipulation. In addition, this government systems need to work across many departments and locations based on who is using it while keeping data secure from every single threat since all of the records is confidential and only authorized person can access it. Finally, since taxpayer money pays for everything, the system should be affordable to set up and maintain, with the chances for the system to have improvement such as policies and evolution of the functionality.

Currently, many government offices still struggle to have a good record keeping because they use a different system for assets and inventory that is supposed to be combined, or they stick with old manual methods (Abdul Aziz et al., 2024; Mnjama & Wamukoya, 2007; Ndenje-Sichalwe et al., 2011; Rao, 2011). This creates numerous troublesome issues like valuable time being wasted, missing property, and, much worse, the services for the public being delayed. A merged system that brings everything together in one place can help solve these issues, making it easier for government offices to track what they have, use resources wisely, and able to serve people better than before in the future.

Benchmarking

The following Table 1 shows the comparison between readily available products in the market.

Table 1: Comparison Table

Criteria	Snipe-IT	AssetTiger
Features	Provides asset-only tracking with check-in/out, maintenance logs, and license management without any unique functionality	Mainly covered on asset supervision, that include things like warranty tracking, basic analytics, and check-in/out operations.
Performance	Reliable for everyday asset searches, though it may slow down during large update packages or complex report generation.	Operates on a cloud framework that ensures stable speed but offers minimal options for customization or external connectivity to other systems.
Security	Provides essential access levels and login safeguards, but doesn't keep detailed records of who changed what and when	Comes with basic login features, and there is no detailed control over what each user can see or do in the system.
Usability	Clear and approachable for asset-related tasks, featuring an organized dashboard that combines all of the elements	Accessible design that can be used with a mobile application, even though the flexibility in layout and features is limited for the user
Efficiency	Effective for tracking assets, yet required an additional system for handling inventory items.	Works well for monitoring the asset, yet does not include the capability to manage stock or supply

Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

Conclusion

The purpose of the paper is to illustrate the development of the Inventory Asset Management System (IAMS). A structured system development methodology was adopted, and the successful deployment of the information systems signalled the success of the project. The proposed system manages to improve efficiency via comprehensive management of organizational assets, and at the same time it also reduce time taken to track the availability or the status of the asset.

Acknowledgements

The authors would like to thank Universiti Teknologi MARA Kelantan Branch and Pejabat Setiausaha Kerajaan Negeri Kelantan for support and assistance throughout the student's internship.

References

Abdul Aziz, M. A., Hussin, N., Abdul Rahman, A. L., Mohamad Rosman, M. R., & Ab Ghani, N. A. (2024). Records as strategic resource in the Malaysian public sector. *Jurnal Intelek*, *19*(1), 171-185.

Alias, N. R., Rosman, M. R. M., Rosli, N., Shukry, A. I. M., Razlan, N. M., & Alimin, N. A. (2024). Investigating factors affecting the adoption of BYOD in educational sectors: A structured literature review approach. *Journal of Islamic, Social, Economics and Development (JISED)*, *9*(66), 682-697.

Alshamrani, A., Myneni, S., Chowdhary, A., & Huang, D. (2019). A survey on advanced persistent threats: Techniques, solutions, challenges, and research opportunities. *IEEE Communications Surveys & Tutorials*, *21*(2), 1851-1877.

Bowman, J. S., & West, J. P. (2021). *Public service ethics: Individual and institutional responsibilities*. Routledge.

Dawes, S. S., & Helbig, N. (2010). Information strategies for open government: Challenges and prospects for deriving public value from government transparency. International Conference on Electronic Government,

Haleem, A., Javaid, M., Ahatsham, Suman, R., Rab, S., & Singh, R. P. (2025). Cloud computing applications for Industry 4.0: A literature-based study. *Journal of Industrial Integration and Management*.

Khallaf, F., El-Shafai, W., El-Rabaie, E. S. M., & Abd El-Samie, F. E. (2025). A Systematic Review of New Technologies for Cybersecurity Healthcare Applications: A Systematic and Comprehensive Study. *Transactions on Emerging Telecommunications Technologies*, *36*(7), e70183.

Lallie, H. S., Thompson, A., Titis, E., & Stephens, P. (2025). Analysing cyber attacks and cyber security vulnerabilities in the university sector. *Computers*, *14*(2), 49.

Mnjama, N., & Wamukoya, J. (2007). E-government and records management: an assessment tool for e-records readiness in government. *The Electronic Library*, *25*(3), 274-284.

Ndenje-Sichalwe, E., Ngulube, P., & Stilwell, C. (2011). Managing records as a strategic resource in the government ministries of Tanzania. *Information Development*, *27*(4), 264-279.

Rao, V. R. (2011). Collaborative government to employee (G2E): Issues and challenges to e-government. *Journal of e-Governance*, *34*(4), 214-229.

Rebman Jr, C. M., Booker, Q. E., Wimmer, H., Levkoff, S., McMurtrey, M., & Powell, L. M. (2023). An Industry Survey of Analytics Spreadsheet Tools Adoption: Microsoft Excel vs Google Sheets. *Information Systems Education Journal*, *21*(5), 29-42.

Richardson, N., & Cassop Thompson, M. (2024). How improved understanding of what

Volume: 11 Issues: 64 [March, 2026] pp. 215-220
International Journal of Accounting, Finance and Business (IJAFB)
eISSN: 0128-1844
Journal website: www.academicinspired.com/ijafb
DOI: 10.55573/IJAFB.116417

constitutes “value” may lead to better underpinning of corporate social responsibility (CSR). *Journal of Global Responsibility*, *15*(1), 1-18.

Rosman, M. R. M., Zawawi, M. Z. M., Fadzil, F. H., Abdullah, N., Arshad, I. H., & Saleh, M. S. M. (2021). Does Information System Aids Decision Making Approach? The Case of Jury Management System. 2021 International Conference on Decision Aid Sciences and Application (DASA),

Sprague Jr, R. H. (1995). Electronic document management: Challenges and opportunities for information systems managers. *MIS quarterly*, *19*(1), 29-49.

Wilkins, J., Van Wegen, B., & De Hoog, R. (1997). Understanding and valuing knowledge assets: overview and method. *Expert systems with applications*, *13*(1), 55-72.