A Maintenance Documentation Presented to the

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**INTRODUCTION**

Project Overview

The Kape Kalinaw Order Management System (OMS) is a desktop-based program made using VB.NET 2010 to help coffee shops manage their daily operations more easily. The system is designed to handle order taking, billing, and sales tracking in a simple and organized way. It provides a dashboard that shows real-time sales information, order history, and product availability.

By using this system, the café can reduce mistakes from manual recording, save time in serving customers, and keep accurate sales and inventory records. Overall, the Kape Kalinaw OMS helps improve work efficiency and business performance.

Importance of Maintenance

Regular maintenance is important to keep the system running smoothly and efficiently. It helps prevent errors, improve performance, and ensure the system stays secure. Maintenance also allows developers to fix bugs, update features, and adapt the system to changes in the café’s needs or hardware setup. Without proper maintenance, the OMS may experience slow performance, data errors, or compatibility issues over time.

Scope of Maintenance

The maintenance process for the Kape Kalinaw OMS includes:

Software updates: Adding improvements and new features when needed.

Bug fixes: Correcting any issues found after deployment.

Security patches: Updating the system to protect against threats and data loss.

Performance optimization: Ensuring the software runs quickly and efficiently.

Database maintenance: Backing up data and checking for consistency or errors.

**MAINTENANCE PLAN**

Overview

The maintenance plan for the Kape Kalinaw Order Management System (OMS) focuses on keeping the system stable, secure, and up to date. It provides a clear process for identifying, fixing, and improving different parts of the system over time. The main goal of this plan is to make sure the OMS continues to run smoothly and supports the daily operations of the café without errors or delays.

Regular maintenance also helps extend the system’s life, improves performance, and ensures that it remains compatible with the latest technology and business needs.

Types of Maintenance

1. Corrective Maintenance

This type of maintenance is done when a problem or error is found in the system. The goal is to fix bugs, crashes, or incorrect data results that affect daily operations.  
Examples:

Fixing login errors or crashes when processing orders.

Correcting wrong calculations in the billing section.

Repairing database connection problems.

2. Adaptive Maintenance

Adaptive maintenance is needed when there are changes in the café’s environment, such as new hardware, operating systems, or database versions. The system is updated or modified to work properly with these changes.  
Examples:

Updating the OMS to work with a newer version of Windows or SQL Server.

Adjusting settings when the café adds new computers or devices.

Changing the system configuration for new network setups.

3. Perfective Maintenance

Perfective maintenance focuses on improving system performance and user experience. These changes are not fixes but enhancements that make the system faster, easier, or more useful.  
Examples:

Adding new features such as sales summaries or charts.

Improving the design of forms and buttons for easier use.

Optimizing database queries to make loading faster.

4. Preventive Maintenance

Preventive maintenance is done regularly to avoid possible problems in the future. It helps keep the system secure, stable, and reliable.  
Examples:

Backing up data regularly.

Checking system logs for unusual activities.

Updating security settings or antivirus protection.

Cleaning unused files or records to improve performance.

**MAINTENANCE SCHEDULE**

The maintenance schedule helps ensure that all parts of the Kape Kalinaw Order Management System (OMS) are checked and updated regularly. Each task has a specific time frame, purpose, and person in charge. Following this schedule helps prevent problems, improve performance, and keep the system running smoothly at all times.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Description | Frequency | Responsible Person | Status |
| Database backup | |  | | --- | |  |  |  | | --- | | Create full backups of the system’s database to prevent data loss in case of errors or hardware failure. | | Weekly | Joshua Lorenzana | Ongoing |
| Security Updates | Install patches and software updates to keep the system safe from security risks and bugs. | Monthly | Dev Team | Scheduled |
| Bug Fixes | |  | | --- | |  |  |  | | --- | | Review and fix any reported issues or system errors found during use. | | As needed | Support Team | Pending |
| System Performance Check | Monitor the system’s performance, clean unnecessary files, and optimize database queries to improve speed. | Quarterly | IT Team | Not Started |

**ISSUE TRACKING & BUG REPORTS**

This section lists all reported issues or bugs found during the use or maintenance of the Kape Kalinaw Order Management System (OMS). Each issue is tracked with a unique ID, description, severity level, date reported, and current status. Tracking bugs helps ensure that all problems are properly fixed and the system continues to run smoothly.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Issue ID | Description | Severity | Reported By | Date Reported | Status |
| BUG001 | Login page does not load properly when the system starts. | High | User A | |  | | --- | | 10/05/2025 |  |  | | --- | |  | | Fixed |
| BUG002 | |  | | --- | |  |  |  | | --- | | Payment process stops when connecting to the billing module. | | Critical | User B | |  | | --- | | 10/07/2025 |  |  | | --- | |  | | Fixed |
| BUG003 | |  | | --- | |  |  |  | | --- | | Dashboard chart not showing updated orders data. | | Medium | Admin | |  | | --- | | 10/10/2025 |  |  | | --- | |  | | Resolved |
| BUG004 | Reports export feature saves with wrong file format. | Low | Cashier | |  | | --- | | 10/12/2025 |  |  | | --- | |  | | Open |

**BACKUP & RECOVERY PLAN**

The Backup and Recovery Plan makes sure that all important data in the Kape Kalinaw Order Management System (OMS) is safe and can be restored if something goes wrong such as system failure, accidental deletion, or hardware problems. This plan helps protect important café data like sales records, inventory, and user accounts.

5.1 Backup Procedures

Backup Frequency:

Backups are created weekly to ensure that the most recent data is always saved.

Admins can also make manual backups anytime before system updates or major changes.

Storage Locations:

Local Backup: The system automatically saves a backup copy on the café’s main computer.

External Drive Backup: A copy is stored on a USB or external hard drive for safety.

Cloud Backup (Optional): Another copy can be uploaded to Google Drive or OneDrive to protect data even if the local computer fails.

Backup Policy:

Keep at least three (3) latest backup files and delete older ones to save space.

Verify the backup files regularly to make sure they are complete and usable.

5.2 Recovery Steps

If the system fails or data is lost, follow these steps to restore the backup:

1. Identify the Problem

Check if the issue is due to a system error, virus, or accidental data loss.

1. Find the Most Recent Backup File
   * Look for the latest backup file in the local folder, external drive, or cloud storage.
2. Restore the Database
   * Copy the backup file and replace the corrupted or missing database file.
   * Reconnect the database to the OMS using the same settings as before.
3. Test the System
   * Open the system and check if all data (orders, products, and sales) are working properly.
   * Try a few test transactions to make sure everything is functioning as expected.
4. Document and Confirm
   * Record the date of the recovery and note any issues encountered.
   * Confirm that the OMS is running normally again.

Technical Support Contact

If recovery cannot be completed or errors continue to appear, contact the Technical Support Team:

* Support Email: support@kapekalinaw.com
* Contact Number: (0912) 345-6789
* Support Hours: Monday to Friday, 9:00 AM - 6:00 PM

**PERFORMANCE MONITORING**

The Performance Monitoring plan helps ensure that the Kape Kalinaw Order Management System (OMS) runs smoothly and efficiently. Regular monitoring allows the development and IT team to detect problems early, maintain system speed, and ensure that the café staff can use the system without delay or interruption.The system’s performance is measured using several Key Performance Indicators (KPIs) that track uptime, response speed, and error rate.

|  |  |  |  |
| --- | --- | --- | --- |
| Metric | Description | Threshold | Monitoring Tool |
| Server Uptime | |  | | --- | |  |  |  | | --- | | Measures how often the system is available and running without downtime. | | 99.9% | |  | | --- | |  |  |  | | --- | | System Log Monitor (or AWS CloudWatch if hosted) | |
| Response Time | |  | | --- | |  |  |  | | --- | | The time it takes for the system to open forms, load data, or process orders. | | Less than 3 seconds | Google Lighthouse or manual stopwatch testing |
| Error Rate | |  | | --- | |  |  |  | | --- | | The number of failed actions or errors compared to total requests. | | < 1% | Application Error Logs or Log Analyzer |

**SECURITY MEASURES**

The Kape Kalinaw Order Management System (OMS) includes several security measures to protect user information, sales data, and business records. Security is an important part of system maintenance to prevent unauthorized access, data loss, and system misuse.

These security policies and rules help keep the system safe and ensure that only authorized users can access specific features or data.

Access Control Rules

* The system uses role-based access control with two roles:
  + Admin: Has full access to manage products, prices, users, and reports.
  + Cashier: Can only process orders, handle payments, and view sales data.
* Each user is required to log in with a unique username and password.
* Unauthorized users are restricted from accessing sensitive pages or settings.
* Admins can add, edit, or remove users through the User Management module.

Authentication Mechanisms

* Users must log in using a secure login form before using the system.
* The system checks credentials against stored data in the database to verify user identity.
* Password validation ensures that passwords meet minimum length and complexity standards.
* After three failed login attempts, access is temporarily blocked to prevent brute-force attacks.

Data Protection and Encryption

* User passwords are stored in encrypted form in the database to prevent exposure.
* Sensitive information, such as sales records and financial data, is protected through controlled access and read-only permissions for non-admin users.
* The system performs regular database backups, and backup files are stored in secure, password-protected locations.
* Data transmission between system components is protected using secure connection protocols (if connected over a network).

Security Best Practices

* Keep antivirus and security software updated on all café computers.
* Change Admin and user passwords regularly.
* Limit access to the database and program files to authorized personnel only.
* Review login logs and access records every month to detect suspicious activities.

**DOCUMENTATION UPDATES**

The documentation updated is important to make sure all information about the Kape Kalinaw Order Management System (OMS) stays accurate and helpful. When new features are added, bugs are fixed, or system settings are changed, the documentation must also be updated to match the latest version of the system.

This helps developers, admins, and users clearly understand how the system works and what improvements have been made.

Purpose of Documentation Updates

* To record all changes made to the software or system setup.
* To make sure instructions, screenshots, and procedures match the newest system version.
* To help new users and developers easily follow the correct process.
* To maintain consistency between the actual system and the written documents.

Update Procedures

1. Review system changes after every update or maintenance activity.
2. Identify which parts of the documentation (such as installation guide, user manual, or maintenance plan) are affected.
3. Revise outdated information, images, and steps.
4. Add version numbers and update dates to track changes.
5. Save and distribute the new documentation to all concerned users and staff.

**CONCLUSION & RECOMMENDATIONS**

The maintenance phase of the Kape Kalinaw Order Management System (OMS) has helped ensure that the system continues to run smoothly, securely, and efficiently. Regular maintenance tasks such as database backups, bug fixing, performance checks, and security updates have been completed to keep the system reliable and stable.

Through these maintenance activities, common issues such as slow performance, minor display bugs, and connection errors were identified and resolved. The backup and recovery plan was also tested to make sure that data can be restored quickly in case of system failure. The system now operates efficiently, with improved performance and better data protection.

Overall, the maintenance process ensures that the OMS remains effective in supporting the daily operations of the café and continues to meet the needs of both Admin and Cashier users.

9.2 Recommendations

To further improve the system and ensure its long-term performance, the following recommendations are suggested:

1. Regular Backups:  
   Continue performing weekly database backups and store copies in multiple secure locations to prevent data loss.
2. System Updates:  
   Apply software and security updates regularly to keep the OMS compatible with the latest technologies.
3. User Feedback:  
   Collect feedback from café staff regularly to identify areas for improvement and new feature requests.
4. Performance Optimization:  
   Monitor system speed and response times to ensure the application runs smoothly, even during busy hours.
5. Documentation Updates:  
   Review and update all manuals, maintenance records, and user guides whenever there are system changes or improvements.
6. Training and Support:  
   Provide refresher training for staff to help them use the system effectively and understand new features or updates.