# A PROPOSED OFFERING OF ENHANCING BARANGGAY SERVICES IN NBBS

**PROPER: THE DEVELOPMENT OF A REQUEST SYSTEM VALENZUELA BRANCH**

A Project Proposal Presented to the Faculty of Datamex College of Saint Adeline, Inc.

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in Information Technology

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# MAINTENANCE DOCUMENTS

**INTRODUCTION**

This project was created to make work easier, faster, and more organized for the people who use it. The system helps reduce manual effort, avoids mistakes, and provides a smooth way of handling tasks. But just like any tool or machine, the system also needs regular care and attention to keep it working properly. This is why maintenance is very important.

Maintenance is not only about fixing problems when they show up. It is also about preventing future issues and making sure the system stays safe and reliable. For example, updating the software helps it stay compatible with new technologies, while applying security patches protects it from possible risks. Bug fixes are done so that errors don’t disturb the users, and performance checks are carried out to make sure the system runs smoothly without delays.

Taking care of the system through maintenance gives many benefits. Users can depend on the system every day, knowing that their data is safe and their work will not be interrupted by sudden errors or downtime. Maintenance also allows the system to grow and improve over time. By checking and updating regularly, the system can adjust to the changing needs of users and continue to provide quality service in the long run.

# MAINTENANCE PLAN

Our maintenance plan is the overall strategy to make sure the system stays reliable, secure, and useful for its users. The goal is not only to fix problems when they happen but also to prevent them, improve the system, and make it ready for future needs.

The system will follow four main types of maintenance:

# Corrective Maintenance

This focuses on fixing errors, bugs, or issues reported by users. If something in the system does not work as expected, corrective maintenance makes sure it is repaired quickly so that users can continue their work without long delays.

# Adaptive Maintenance

Technology and requirements system so it can still work properly in a new environment. For example, if there are changes in the operating system, hardware, or other software used, the system will be updated to remain compatible.

# Perfective Maintenance

This is about improving the system to make it better for users. It may include adding new features, enhancing speed, or making the design easier to use. The goal is to keep the system efficient and user-friendly.

# Preventive Maintenance

This type of maintenance is done to prevent problems before they even happen. It includes regular updates, security checks, and system monitoring. Preventive maintenance reduces the risk of errors and makes sure the system is always ready to support its users. change over time. Adaptive maintenance is about adjusting the

**MAINTENANCE SCHEDULE**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Description** | **Frequency** | **Responsible Person/Team** |
| **Database back up**  -Done weekly to make sure no  important data is lost in case of errors or accidents. | Save a full copy of the database to protect data | Weekly | System Administrator |
| Security update  -Applied monthly to protect the system from possible threats | Install patches and updates to avoid risks | Monthly | Development/IT Team |
| Bug fixes  -Are handled as soon | Resolve errors and issues reported by |  | Support/Development Team |

|  |  |  |  |
| --- | --- | --- | --- |
| as they are reported, so users can continue their work smoothly. | users | As needed |  |
| System Performance Check  -Checks are done quarterly to check the health of the system and optimize if needed. | Monitor speed, storage, and overall performance | Quarterly | IT Team |
| Software updates  -Are done every six months to improve features and keep the system up to date with technology. | Upgrade features and improve usability | Every 6 months | Development Team |

**ISSUE TRACKING & BUG REPORTS**

|  |  |  |
| --- | --- | --- |
| **Issue ID** | **Description** | **Severity** |
| BUG001 | Login page does not load | High |
| BUG002 | Error when submitting forms | Critical |
| BUG003 | Dashboard loads slowly | Medium |
| BUG004 | Some text not displaying well | Low |

**BACKUP STRATEGY**

**Cloud Storage** – Copies of the database and important files will be stored securely in the cloud to make sure backups are safe even if the local server fails.

**Local Storage** – Backups will also be saved in a secure local drive or server for quick access when needed.

**Backup Testing** – Backups will be tested regularly to ensure they are working and can be used for recovery.

# Recovery Steps

**Identify the Issue** – Confirm the cause of the failure.

**Notify the Team** – Inform the system administrator and IT team right away.

**Stop System Activity** – Pause all system operations to avoid further damage or data corruption.

**Restore the Latest Backup** – Use the most recent backup (cloud or local) to recover lost data and restore the system.

**Verify Recovery** – Check if the system is working properly and confirm that all files and data are complete.

**Resume Operations** – Once verified, the system can continue normal operations.

**Review and Improve** – After recovery, the team will review the issue and improve the backup strategy if needed. To protect the system and its data, backups will be done on a regular schedule. This ensures that important files are always safe and can be restored if something goes wrong.

# Frequency of Backups

**Daily Backups** – Small incremental backups will be done every day to save the latest changes.

**Weekly Backups** – A full system backup will be done once a week to keep a complete copy of the system and database.

**Monthly Backups** – A monthly backup will also be archived for long-term safety and future reference.

# Storage Locations

**Local Server** – Backups will be stored in a secure local server for quick access when needed.

**Cloud Storage** – Backups will also be uploaded to a cloud storage service to make sure copies are safe even if the local system fails.

**External Drive** – An additional backup copy will be saved on an external hard drive for extra protection.

# 5.2 Recovery Steps

If the system fails or data is lost, the following recovery steps will be followed:

**Identify the Problem** – Check what caused the failure (server crash, corrupted files, or accidental deletion).

**Notify Technical Support** – Report the issue immediately to the system administrator or IT support team.

**Stop System Use** – Pause all activities in the system to prevent further data damage or loss.

**Restore Backup** – Recover the most recent backup from the local server, cloud, or external drive.

**Check the System** – Verify that the system is working correctly and that all data has been restored.

**Resume Operations** – Once confirmed, allow users to continue using the system.

**Follow-Up** – Document the incident and improve backup procedures if nee

# PERFORMANCE MONITORING

To make sure the system runs smoothly, performance will be monitored using clear measurements called Key Performance Indicators (KPIs). These indicators help check if the system is healthy, fast, and reliable.

|  |  |  |  |
| --- | --- | --- | --- |
| **Metric** | **Description** | **Threshold** | **Monitoring Hold** |
| **Server Uptime** | Percentage of time the system is online and available | 99.9% | AWS CloudWatch |
| **Response time** | Time taken to load system pages | Less than sec | Google Lighthouse |
| **Error rate** | Percentage of failed or error requests | Less than 1% | Log Analyzer |

# SECURITY MEASURES

**Access Control Rules** – Only authorized users can access the system. Permissions are based on roles

**Authentication Mechanisms** – Users must log in using secure usernames and passwords. Multi-factor authentication may also be used for extra protection.

**Encryption Methods** – Sensitive data is encrypted both during storage and while being transferred to make sure it cannot be read by unauthorized people.

**Regular Security Checks** – The system is checked regularly for vulnerabilities, and patches are applied when needed.

**User Awareness** – Users are encouraged to follow good security practices, such as keeping their passwords safe.

# DOCUMENTATION UPDATES

* Adding new features or functions.
* Modifying existing processes or rules.
* Updating security measures or backup strategies.
* Recording new tools used for monitoring or maintenance.
* This ensures the documentation always reflects the latest version of the system and can be trusted as a guide for both users and the technical team.

# CONCLUSION AND RECOMMENDATIONS

The maintenance documentation has outlined the main tasks needed to keep the system reliable, secure, and efficient. Regular backups, scheduled maintenance, issue tracking, performance monitoring, and security measures all work together to make sure the system can serve its users well.

# Summary of maintenance tasks completed:

* Regular database backups and recovery plan prepared.
* Maintenance schedule defined (weekly, monthly, quarterly tasks).
* Issue tracking system created to monitor bugs and errors.
* Key Performance Indicators (KPIs) identified to measure system health.
* Security measures established for safe system use.

# Recommendations for future improvements:

* Explore advanced monitoring tools with real-time alerts.
* Implement stronger multi-factor authentication for better security.
* Schedule user training sessions to ensure proper system use.
* Review and improve the backup and recovery plan every 6 months.
* Continue to update documentation as the system grows and evolves.
* Users moved to the archive will not have details about their deletion date.