Functional Requirement Document

Asset Registration for Electronic Devices Tracking System

1. Introduction

1.1 Purpose

The purpose of this document is to define the detailed functional requirements for the asset registration module of the web application designed to track manufactured or assembled electronic devices (such as laptops and mobiles).

1.2 Scope

This module focuses on capturing and managing key information about the electronic devices during the registration process, enabling accurate tracking, inventory management, and quality control.

2. User Requirements

2.1 User Roles

The following user roles are identified for the asset registration module:

- Admin: Responsible for system administration, user management, and configuration settings.

- Production Manager: Registers new devices into the system and manages device information.

- Quality Control Officer: Verifies and approves devices based on predefined quality criteria.

3. Functional Requirements

3.1 User Authentication and Access Control

- The system shall support user authentication to ensure secure access to the asset registration module.

- User roles and permissions shall be defined, granting appropriate access levels to different user groups.

3.2 Device Registration

- The system shall enable Production Managers to register new devices by capturing the following information:

- Device model and serial number

- Manufacturing date and location

- Component details (e.g., processor, memory, storage)

- Supplier information and purchase details

- Production batch or assembly number

3.3 Quality Control Verification

- Quality Control Officers shall have access to registered devices for quality verification.

- The system shall allow Quality Control Officers to review device details and perform quality checks.

- Devices that pass the quality control assessment shall be marked as "Quality Approved."

3.4 Device Tracking and Inventory Management

- The system shall maintain an inventory of all registered devices, including their current location and status.

- Updates on device movements, such as transfers between warehouses or distribution centers, shall be recorded.

- Device status changes, such as repairs or refurbishments, shall be logged in the system.

3.5 Reporting and Analytics

- The system shall provide reporting capabilities to generate various reports, including device inventory, production statistics, and quality control summaries.

- Analytics functionality shall enable users to analyze device data, identify trends, and gain insights for decision-making.

4. Non-functional Requirements

4.1 Usability

- The user interface should be intuitive, with clear instructions and consistent design patterns.

- Input forms should be user-friendly, ensuring easy data entry and validation.

4.2 Security

- The system shall enforce secure user authentication and access control mechanisms.

- Data encryption and appropriate security measures shall be implemented to protect sensitive device information.

4.3 Performance

- The system should handle a large number of simultaneous device registrations and queries without significant performance degradation.

- Response times for search queries and report generation should meet acceptable performance benchmarks.

4.4 Scalability

- The system architecture should be scalable to accommodate increasing volumes of registered devices and user traffic.

- Database scalability and efficient resource utilization should be considered.

4.5 Integration

- The asset registration module shall integrate with other relevant modules, such as inventory management and quality control systems, to ensure data consistency and smooth workflow.

5. Assumptions and Constraints

- The web application will be built using modern technologies and frameworks.

- Integration with existing backend systems will be facilitated through APIs.

- The application will be deployed on the company's private network infrastructure.

6. Use Cases

The following use cases describe how the asset registration system will be used:

- Create a new asset: A user can create a new asset by entering the asset ID, asset type, asset name, asset serial number, asset location, asset owner, asset status, warranty information, and maintenance history.

- Update an existing asset: A user can update an existing asset by changing any of the information that was entered when the asset was created.
- Delete an asset: A user can delete an asset by entering the asset ID.
- Search for an asset: A user can search for an asset by entering the asset ID, asset type, asset name, or asset serial number.
- View a list of all assets: A user can view a list of all assets by selecting the "View All Assets" option.
- Export a list of assets to a spreadsheet: A user can export a list of assets to a spreadsheet by selecting the "Export to Spreadsheet" option.
- Generate reports on asset inventory: A user can generate reports on asset inventory by selecting the "Generate Asset Inventory Report" option.
- Generate reports on asset depreciation: A user can generate reports on asset depreciation by selecting the "Generate Asset Depreciation Report" option.
- Generate reports on asset maintenance: A user can generate reports on asset maintenance by selecting the "Generate Asset Maintenance Report" option.

7. Implementation Plan

The asset registration system will be implemented in the following phases:

- Phase 1: The system requirements will be gathered and documented.
- Phase 2: The system will be designed.
- Phase 3: The system will be developed.
- Phase 4: The system will be tested.
- Phase 5: The system will be deployed.

8. Approvals

This functional requirement document has been approved by the following stakeholders:

- Name: Ranjan
- Title: Project Manager
- Date: 2023-07-14

9. Next Steps

The next steps are to:

- Develop a detailed system design.
- Develop the system.
- Test the system.
- Deploy the system.

10. Contact Information

If you have any questions about this functional requirement document, please contact Ranjan at ranjan@zg.com.