User Manual

Expiry Date Monitor

Group 1

Smart Inventory

User Manual

Preface

Thank you for choosing the smart inventory expiration date monitor system. These operating directives have all the information you will need in order to successfully operate the system.

Disclaimer

The document is designed to assist users in interacting efficiently with our system. While every effort has been made to ensure the accuracy and completeness of the information provided, please note that the content may be subject to change without prior notice. We appreciate your understanding and cooperation.

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Product Introduction

Overview

The Smart Inventory Expiration Date Monitor System is an innovative solution designed to modernize inventory management processes and enhance operational efficiency in grocery stores. By leveraging Internet of Things and barcode scanning our system automates the monitoring of product expiry dates, improves accuracy in inventory tracking, reduces manual labour and minimizes waste due to expired products.

This user manual provides comprehensive guidance on how to use the Smart Inventory Expiration Date Monitor System. It is intended to empower users with the knowledge and tools needed to maximize the benefits of our system, optimize inventory management practices, and deliver better customer experiences.

Typical Application

The Smart Inventory Expiration Date Monitor System is ideally suited for use in various retail environments, with a primary focus on grocery stores and supermarkets. Some typical applications of our system include:

- Inventory management
- Expiry date monitoring
- Quality Control
- Operational efficiency improvement
- Compliance and food traceability

Features

- Barcode scanning
- Database Logging

Hardware Requirements

- **Arduino Board**: A microcontroller platform that serves as the core of the system. We recommend using an Arduino board for its versatility, reliability, and ease of use.
- **Arduino-Compatible Barcode Reader Module**: A barcode scanner module that integrates seamlessly with the Arduino board to enable barcode scanning functionality.
- **Windows Computer**: A Windows-based computer with USB ports for connecting the Arduino board and barcode reader module. The computer will be used for programming the Arduino board and running the monitoring software.

Software Requirements

1. Install the Arduino IDE: Download and install the Arduino Integrated Development Environment (IDE) from the official Arduino website (https://www.arduino.cc/en/software). Follow the on-screen instructions to complete the installation process.
2. Connect the Arduino Board: Connect the Arduino board to your computer using a USB cable. Ensure that the board is properly recognized by your computer and appears as a connected device.
3. Upload Arduino Sketch: Open the Arduino IDE and load the provided Arduino sketch file (.ino) for the Smart Inventory Expiration Date Monitor System. Compile and upload the sketch to the Arduino board by selecting the appropriate board and port settings.
4. Install Windows Application: Download and install the Windows application provided for the Smart Inventory Expiration Date Monitor System on your computer. Follow the installation instructions provided with the application to complete the setup process.

Getting Started

1. **Power on the Arduino Board**: Ensure that the Arduino board is powered on by connecting it to a power source or USB port on your computer.
2. **Launch the Windows Application**: Open the Windows application installed on your computer. You can find the application icon on your desktop or in the Start **menu.**
3. **Connect the Arduino**: Ensure that the Arduino board is properly connected to your computer via USB cable. Check that the board is recognized by your computer and appears as a connected device.
4. **Establish Communication**: Follow the on-screen instructions provided by the Windows application to establish communication between the Arduino board and the application. This may involve selecting the appropriate serial port and baud rate settings.
5. **Verify Connection**: Once communication is established, verify that the Arduino board is communicating successfully with the Windows application. You may receive a confirmation message or status indicator indicating a successful connection.

Begin Monitoring: With the Arduino board and Windows application connected and communicating, you are ready to begin monitoring inventory expiry dates. Follow the user manual for instructions on how to scan products and view expiry date information.

Barcode scanning

Follow these steps to scan a barcode using the Smart Inventory Expiration Date Monitor System:

- **Position Barcode**: Place the barcode of the product in front of the barcode reader module. Ensure that the barcode is within the scanning range and facing the correct direction for optimal scanning.
- **Automatic Scanning**: The barcode reader module will automatically scan the barcode once it is positioned correctly. Wait for the scanning process to complete.
- **View Scanned Barcode**: The scanned barcode will be displayed on the Windows application interface in real time. Verify that the scanned barcode matches the product being scanned.

Expiry date monitoring

- Barcode Scanning: After scanning a barcode using the Windows application, the system retrieves the corresponding expiry date information from the database.
- Timer Initiation: A timer is initiated based on the expiry date of the scanned product. The system calculates the duration until the expiry date and starts a countdown timer accordingly.
- Alert Notification: As the expiry date approaches, the Windows application will display an alert notification to notify the user. The notification may include visual and audible cues to attract attention and prompt action.

Troubleshooting

If you encounter issues with the Smart Inventory Expiration Date Monitor System, follow these troubleshooting steps:

- **Barcode Not Scanned Properly**: Ensure that the barcode is clean and undamaged. Position the barcode within the scanning range of the barcode reader module and try again.

- **Connection Issues**: Check the connections between the Arduino board and the barcode reader module. Ensure that all cables are securely connected and that the components are properly powered.

- **Communication Problems**: Verify that the Windows application is properly configured and communicating with the Arduino board. Check the serial port settings and ensure that the correct port is selected in the application.

Technical Support

For technical assistance or further inquiries, please contact our support team at (**techsupport@smartInventory.com**). Our dedicated team is available to help you resolve any issues and answer any questions you may have.

Appendix

Access additional resources and downloads related to the Smart Inventory Expiration Date Monitor System:

Arduino Sketch: Link to download the Arduino sketch -TBC Upon Completion Of Project

Windows Application: Link to download the Windows application-TBC Upon Completion Of Project