

HACCP Food Preparation & Expiry Labeling Solution for AGen Food Packaging Solutions

Executive Summary

AGen Food Packaging Solutions requires a food labeling system that enables kitchen staff to print food preparation labels, expiry/use-by labels, and HACCP-compliant food safety labels while operating efficiently in a kitchen environment.

The proposed solution consists of:

- Food Safety Label Printing Software
- Industrial Kitchen Label Printer
- Food Grade Removable Labels
- QR Code Traceability Module
- Bluetooth and Network Connectivity
- Optional Cloud-Based Reporting and Audit Trail

This solution improves food safety compliance, reduces manual errors, enhances traceability, and supports HACCP documentation requirements.



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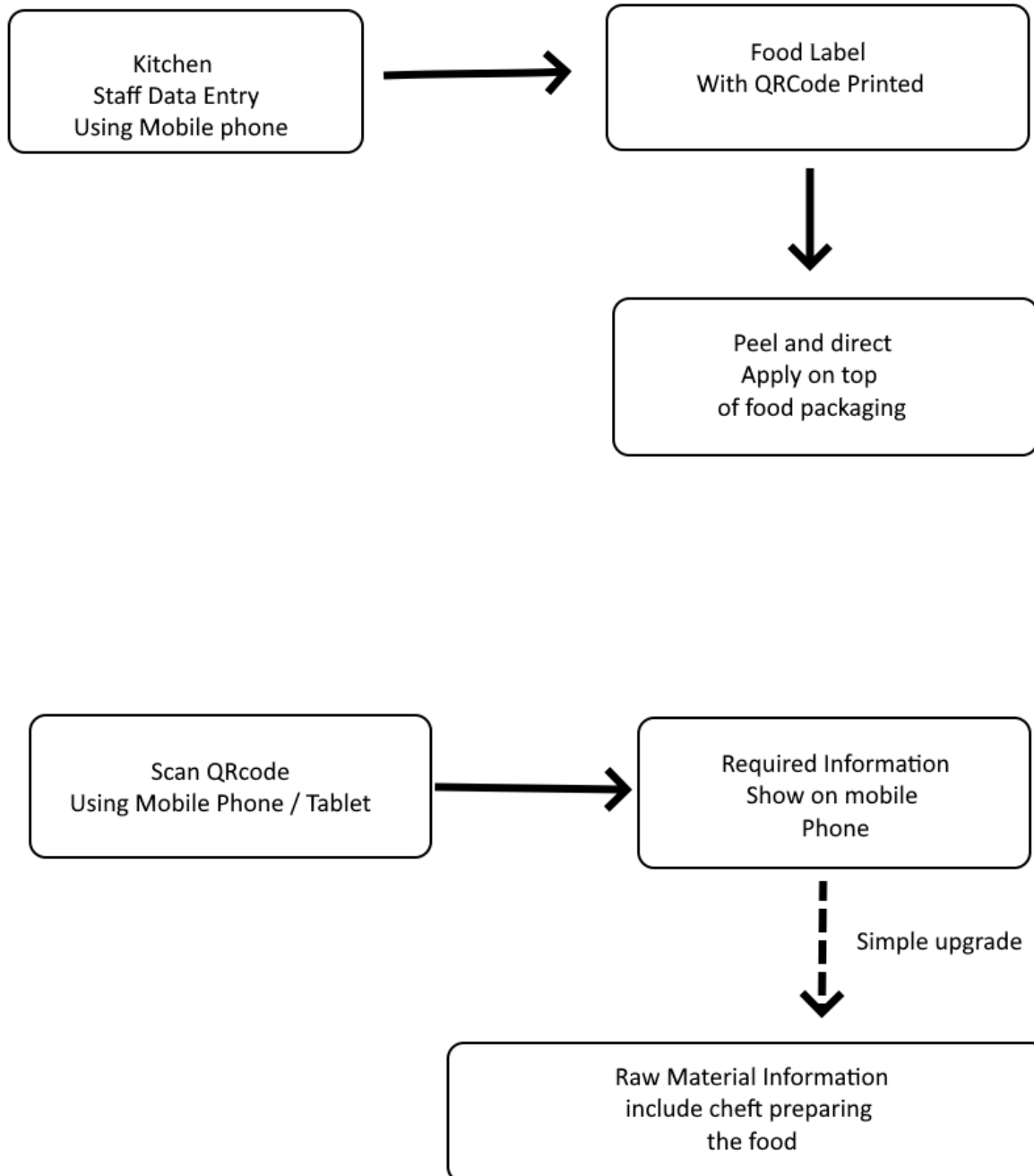
Business Requirements

Requirement	Proposed Solution
Print food preparation labels	Semi-Automated label generation
Print expiry/use-by labels	Configurable shelf-life rules
HACCP compliance	HACCP food safety templates
Kitchen environment operation	Durable thermal printer
Include hardware and software	Complete turnkey package
Bluetooth/Network support	WiFi, Ethernet, Bluetooth options
QR Code on label	Dynamic QR code linking to food records



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Proposed System Architecture



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Proposed Label Format

Based on the sample provided:

AGen Food Information	
ITEM	CS00256
BATCH NO.	20260565
DEFROSTED ON	26/07/2026
DATE MADE/FROZEN	24/07/2025
MADE BY	Jeffery Teong
USE BEFORE MIDNIGHT ON	31/08/2027
CRITICAL CARE POINTS FOLLOWED	☒ YES ☐ NO



ITEM: CS00256 — Unique product code for inventory tracking.

BATCH NO.: 20260565 — Identifies the specific production lot for quality control and recall management.

MADE BY: Jeffery Teong — Identifies the handler/person responsible for preparation.

Timeline & Shelf-Life Management

DATE MADE/FROZEN: 24/07/2025 — Original manufacturing or initial freezing date.

DEFROSTED ON: 26/07/2026 — Date the item was taken out of cold storage for use.

USE BEFORE MIDNIGHT ON: 31/08/2027 — Clear expiration deadline to guarantee freshness and safety.

Compliance & Verification

CRITICAL CARE POINTS FOLLOWED: YES (circled) — Confirms strict adherence to food safety protocols (HACCP/CCP).

QR Code: Enables quick digital scanning to verify batch records or log data into an inventory system.

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QR Code Functionality

Each label will contain a unique QR Code. When scanned using a smartphone or tablet:

Information Displayed

- Product Name
- SKU
- Batch Number
- Preparation Date
- Production Time
- Expiry Date
- Prepared By
- HACCP Checklist Status
- Temperature Records
- Allergen Information
- Ingredients
- Storage Instructions
- Product Photo (Optional)

Additional Features

- Digital Audit Trail
- Traceability Records
- Recall Management Support
- Quality Inspection Records
- Internal Document Access

Hardware Recommendation

Option: xPrinter XP-T451B

Features:

- Industrial food labeling printer
- Direct thermal printing
- WiFi with IoT
- Fast label printing
- Compact footprint

Suitable for:

- Commercial kitchens
- Central kitchens
- Food production areas



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Label Specification

HACCP Removable Food Labels

Recommended Size:

76 mm x 51 mm

or

100 mm x 75 mm

Features:

- Removable adhesive
- Refrigerator safe
- Freezer safe
- Moisture resistant
- Food preparation compliant
- Thermal printable



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Software Features

AGen Food Label Designer

Users can:

- Create custom HACCP labels
- Add company logo
- Configure expiry rules
- Configure shelf-life calculation
- Add QR codes
- Print instantly
- Online Portal for QRCode information
- Printing directly from mobile phone without computer connection



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User Roles

Administrator

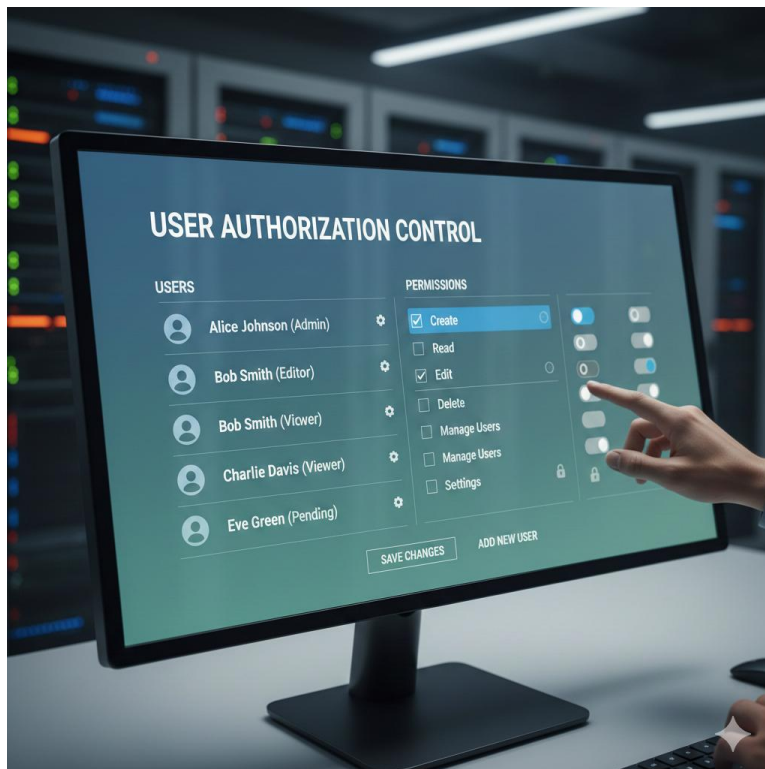
- System configuration
- Shelf-life management
- Template management

Kitchen Supervisor

- Batch approval
- HACCP verification

Kitchen Operator

- Print labels
- Update food records



HACCP Compliance Support

The system supports:

CCP Monitoring

Critical Control Points can be captured:

- Cooking temperature
- Storage temperature
- Defrosting information
- Sanitization verification
- Product handling checklist

Audit Trail

Records:

- User who printed label
- Date and time
- Product information
- Any modifications



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Connectivity

The solution supports:

Connectivity	Supported
WiFi	Yes
Ethernet	Yes
USB	Yes
Mobile Device Printing	Yes
Tablet Printing	Yes



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Benefits to AGen Food Packaging Solutions

Food Safety Compliance

- Supports HACCP processes
- Improves inspection readiness

Reduced Human Error

- Automatic date calculations
- Standardized labeling

Enhanced Traceability

- QR-code based product tracking
- Instant access to preparation history

Improved Operational Efficiency

- Faster label generation
- Reduced manual paperwork

Better Audit Readiness

- Electronic records
- Historical tracking
- Batch traceability



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Proposed Deliverables

Item	Quantity
Thermal Label Printer	1 Unit
AGen HACCP Labeling Software Saas	1 License
QR Code Traceability Module Saas	Included
Label Design Template	Included
User Training	Included
System Configuration	Included
HACCP Removable Labels (Initial Roll)	Included
Installation & Commissioning	Included



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Conclusion

The proposed AGen HACCP Food Preparation & Expiry Labeling Solution provides Food Packaging Solutions with a complete end-to-end food safety labeling platform. The solution enables kitchen staff to generate compliant food labels, automatically calculate use-by dates, print labels via Wi-Fi thermal printers, and provide full product traceability through QR codes. This helps strengthen HACCP compliance, improve operational efficiency, and enhance food safety governance across kitchen operations.

