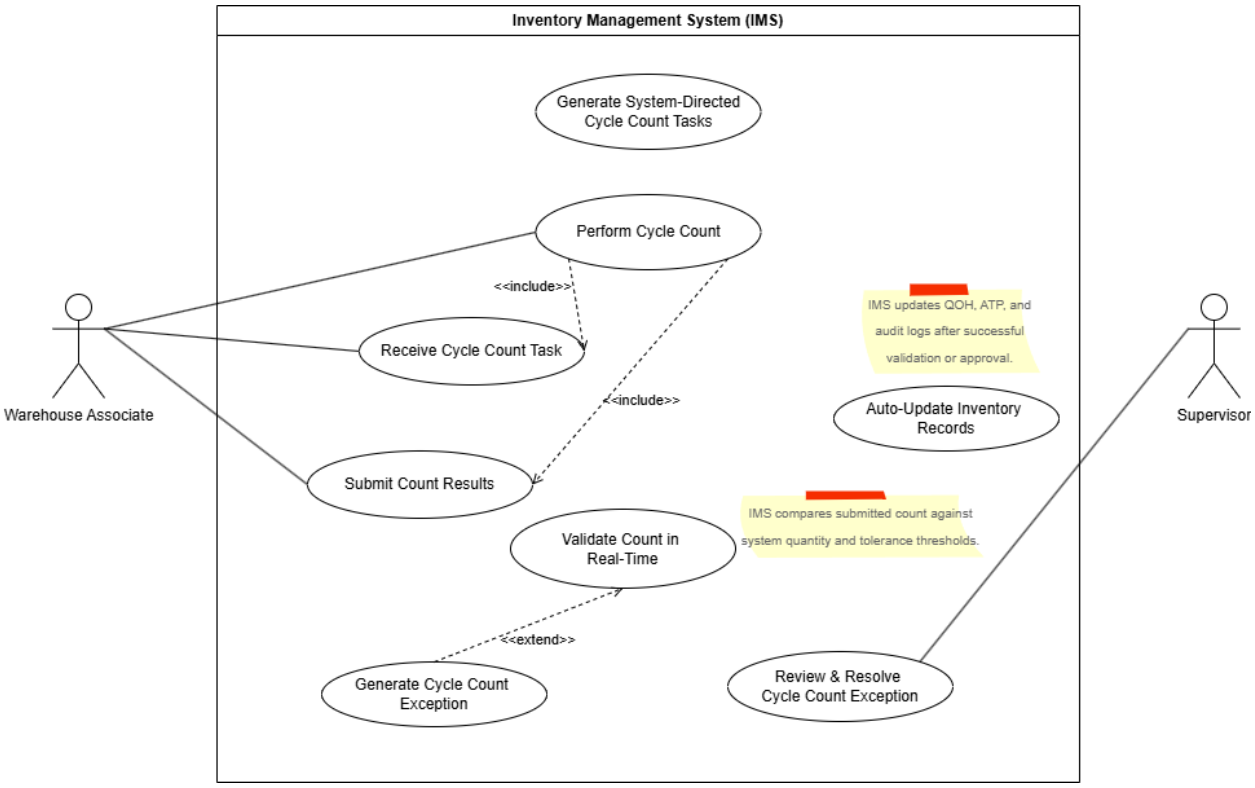
Use Case Diagram



Use Case Specifications & Wireframes

UC-CC-01: Generate System-Directed Cycle Count Tasks

Primary Actor

IMS

Supporting Actors

None

Brief Description

The system automatically generates cycle count tasks based on predefined risk rules to ensure inventory accuracy without disrupting operations.

Trigger

- Scheduled cycle count window
- Risk-based trigger (ABC/XYZ, aging stock, historical variance)

Preconditions

- SKUs and locations exist in IMS
- Risk rules and thresholds are configured

Postconditions

- Cycle count tasks are created and ready for assignment.

Main Success Scenario

1. IMS evaluates SKUs based on risk criteria.
2. IMS identifies locations requiring cycle count.
3. IMS generates cycle count tasks with SKU and location details.

Business Rules & Notes

- High-risk SKUs are prioritized.
- Low-risk SKUs may be skipped or deferred.

SYSTEM-DIRECTED CYCLE COUNT

Task ID:
[CC-10291]

Priority:
High (A/Y SKU)

Expected SKU:
Frozen Peas 500g (SKU-075)

Expected Qty:
68 units

Location to Count:

Aisle B | Rack 04 | Bin 09

Scan Location | Scan SKU

Enter Counted Quantity:

Submit Count

System Message:

✓ Count submitted for validation

UC-CC-02: Receive Cycle Count Task

Primary Actor

Warehouse Associate

Supporting Actors

IMS

Brief Description

The associate receives a system-assigned cycle count task on their handheld device.

Trigger

IMS assigns a cycle count task.

Preconditions

- UC-CC-01 completed
- Associate is logged into the system

Postconditions

- Associate is ready to perform the cycle count.

Main Success Scenario

1. IMS assigns task to associate's device.
2. Associate views SKU and location details.

Business Rules & Notes

- Cycle count tasks can only be assigned to logged-in, active associates
- Associates may receive only one active cycle count task at a time
- Tasks are assigned based on warehouse, role, and availability

UC-CC-03: Perform Cycle Count

Primary Actor

Warehouse Associate

Supporting Actors

IMS

Brief Description

The associate physically counts inventory at the specified location and prepares results for submission.

Trigger

Associate starts assigned task

Preconditions

- UC-CC-02 completed

Postconditions

- Count data is ready for system validation.

Main Success Scenario

1. Associate scans location barcode.
2. Associate scans SKU barcode.
3. Associate counts physical quantity.
4. Associate proceeds to submit results.

Business Rules & Notes

- Location and SKU must match the assigned task
- Counts must be completed within the same shift
- Zero count must be explicitly confirmed (not left blank)

UC-CC-04: Submit Count Results

Primary Actor

Warehouse Associate

Supporting Actors

IMS

Brief Description

The associate submits the counted quantity to the system for validation.

Trigger

Completion of physical count

Preconditions

- UC-CC-03 completed

Postconditions

- Count results are captured for validation.

Main Success Scenario

1. Associate enters counted quantity.
2. IMS receives count submission.

Business Rules & Notes

- Count submission is mandatory for task completion
- Partial submissions are not allowed
- Submitted quantities must be numeric and non-negative.

UC-CC-05: Validate Count in Real Time

Primary Actor

IMS

Supporting Actors

Warehouse Associate

Brief Description

The system validates submitted count results against expected inventory and tolerance thresholds.

Trigger

Count submission received

Preconditions

- UC-CC-04 completed

Postconditions

- Count is either accepted or flagged as an exception.

Main Success Scenario

1. IMS compares submitted count with system quantity.
2. IMS evaluates variance against tolerance.

Business Rules & Notes

- Variance tolerance is SKU-category dependent
- Counts within tolerance are auto-approved
- Counts outside tolerance trigger exception creation
- Validation occurs immediately upon submission

UC-CC-06: Generate Cycle Count Exception

Primary Actor

IMS

Supporting Actors

Warehouse Supervisor

Brief Description

The system generates an exception for material variances requiring supervisor review.

Trigger

Variance exceeds tolerance during validation

Preconditions

- UC-CC-05 detected high variance

Postconditions

- Exception awaits supervisor action.

Main Success Scenario

1. IMS creates an exception record.
2. IMS notifies the supervisor.

Business Rules & Notes

- Exceptions are generated only when variance exceeds tolerance
- Each exception must reference SKU, location, and count delta
- Duplicate exceptions for the same task are not allowed

UC-CC-07: Review & Resolve Cycle Count Exception

Primary Actor

Warehouse Supervisor

Supporting Actors

IMS

Brief Description

The supervisor reviews cycle count exceptions and decides whether to approve adjustments or request recounts.

Trigger

Exception notification received

Preconditions

- UC-CC-06 completed

Postconditions

- Decision recorded in IMS.

Main Success Scenario

1. Supervisor reviews variance details.
2. Supervisor approves adjustment OR requests recount.

Business Rules & Notes

- Only supervisors can approve or reject adjustments
- Recount requests must be reassigned to a different associate if available
- All supervisor actions must be audit logged.

CYCLE COUNT EXCEPTION REVIEW

Exception ID:
[CC-EX-2291]

Expected SKU:
Frozen Peas 500g (SKU-075)

SKU ID	EXPECTED QTY	RECEIVED QTY	VARIANCE
SKU-075	68	52	-16

Reason (Auto-Detected):

⚠ Quantity mismatch beyond threshold

Suggested Actions:

- ☐ Approve Adjustment
- ☐ Request Recount
- ☐ Escalate to Inventory Control

Supervisor Notes:

Confirm Action

UC-CC-08: Auto-Update Inventory Records

Primary Actor

IMS

Supporting Actors

None

Brief Description

The system updates inventory quantities and downstream availability once counts are validated or approved.

Trigger

- Successful validation (UC-CC-05)
- Supervisor approval (UC-CC-07)

Preconditions

- Valid count or approved adjustment exists

Postconditions

- Inventory records reflect accurate, approved quantities.

Main Success Scenario

1. IMS updates Quantity on Hand (QOH).
2. IMS recalculates Available-to-Promise (ATP).
3. IMS logs audit trail.
4. IMS triggers downstream processes if required.

Business Rules & Notes

- Inventory updates occur only after validation or approval
- QOH and ATP must be updated atomically
- All updates must be timestamped and traceable
- Historical count data must be retained for reporting