## 1. List of Actors

Primary Actor:  
• Owner – Main user responsible for managing inventory.  
  
Secondary Actor:  
• Firebase Authentication Service – Assists in user authentication.  
  
External System Actor:  
• Firebase Database – Stores and synchronizes inventory data.

## 1.1 Use Case Specifications

### Login

|  |  |
| --- | --- |
| Use Case Name | Login |
| Use Case ID | UC01 |
| Primary Actor | Owner |
| Secondary Actors | Firebase Auth |
| Preconditions | Owner is registered. |
| Postconditions | Owner logged in. |
| Main Flow | Enter credentials → Validate → Access granted. |
| Alternate Flows / Extensions | Invalid credentials → Error. |
| Special Requirements | Secure authentication. |

### Add Inventory Item

|  |  |
| --- | --- |
| Use Case Name | Add Inventory Item |
| Use Case ID | UC02 |
| Primary Actor | Owner |
| Secondary Actors | Firebase DB |
| Preconditions | Owner logged in. |
| Postconditions | Item added. |
| Main Flow | Enter details → Save item. |
| Alternate Flows / Extensions | Invalid data → Reject. |
| Special Requirements | Real-time sync. |

### Update Inventory Item

|  |  |
| --- | --- |
| Use Case Name | Update Inventory Item |
| Use Case ID | UC03 |
| Primary Actor | Owner |
| Secondary Actors | Firebase DB |
| Preconditions | Item exists. |
| Postconditions | Item updated. |
| Main Flow | Edit item → Update. |
| Alternate Flows / Extensions | Item not found. |
| Special Requirements | Consistency required. |

### Delete Inventory Item

|  |  |
| --- | --- |
| Use Case Name | Delete Inventory Item |
| Use Case ID | UC04 |
| Primary Actor | Owner |
| Secondary Actors | Firebase DB |
| Preconditions | Item exists. |
| Postconditions | Item deleted. |
| Main Flow | Delete → Confirm. |
| Alternate Flows / Extensions | Cancel deletion. |
| Special Requirements | Confirmation required. |

### View Inventory

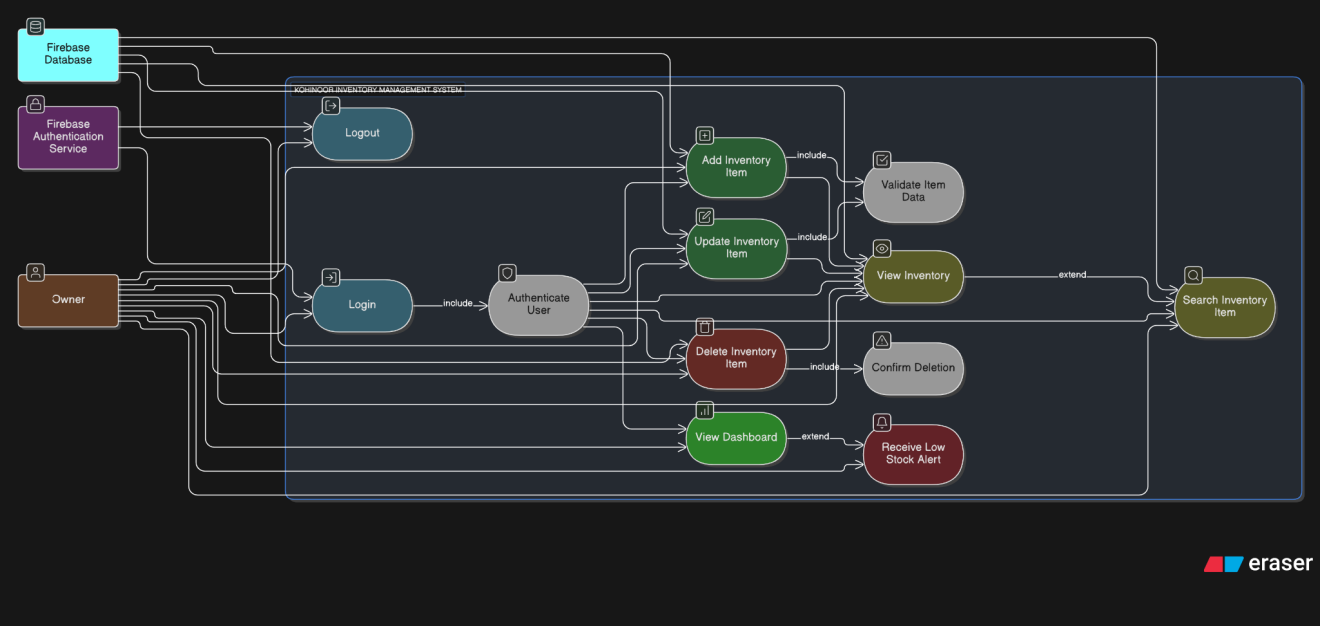
|  |  |
| --- | --- |
| Use Case Name | View Inventory |
| Use Case ID | UC05 |
| Primary Actor | Owner |
| Secondary Actors | Firebase DB |
| Preconditions | Owner logged in. |
| Postconditions | Inventory shown. |
| Main Flow | Fetch data → Display. |
| Alternate Flows / Extensions | No items. |
| Special Requirements | Fast response. |

### Search Inventory Item

|  |  |
| --- | --- |
| Use Case Name | Search Inventory Item |
| Use Case ID | UC06 |
| Primary Actor | Owner |
| Secondary Actors | Firebase DB |
| Preconditions | Inventory exists. |
| Postconditions | Results shown. |
| Main Flow | Search keyword → Filter. |
| Alternate Flows / Extensions | No match. |
| Special Requirements | Efficient search. |

## 2. Complete Use Case Diagram

Visual UML representation of system interactions:

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