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| RAZDA Co. | | |
| **Filename: [inventory\_status.py]** | | |
| **Summary***:*  Handles the management and tracking of inventory for products, including retrieving, updating, reducing, and checking for low inventory levels. Interfaces with the database to maintain up-to-date inventory counts | | |
| ***Processes*** | | |
| * **Get Inventory:** | **Retrieves the current inventory count for a specific product (get\_inventory).** | |
| * **Update Inventory:** | **Updates the inventory count for a specific product to a specified quantity (update\_inventory).** | |
| * **Reduce Inventory:** | **Decreases the inventory count of a product by a specified quantity, with checks for sufficient inventory (reduce\_inventory).** | |
| * **Check Low Inventory:** | **Checks for products with inventory below a specified threshold, returning details for those items (check\_low\_inventory).** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **Database**: Queries, updates, and retrieves inventory data from the products table, maintaining product inventory counts and statuses. | * **Logs (inventory\_status.log)**: Logs all inventory actions, including successful and failed inventory updates, low stock warnings, and connection statuses. | |
| * **.env**: Accesses database credentials from environment variables, ensuring secure connection handling. |  | |
| **Expected input into file:** | | **Expected output from file:** |
| * **Product ID**: For retrieving, updating, or reducing inventory, a product ID is required to locate the correct item in the database. * **New Quantity**: Required for updating the inventory to a specified level or reducing it by a particular amount. | | * **Inventory Count**: Retrieves or updates the current inventory count for specific products. * **Low Inventory Alert**: Lists products with inventory below a specified threshold, aiding in restocking and alerting. |
| **Things that need to be taking place:** | | |
| |  | | --- | | **- Accurate Database Queries: Correctly fetches and modifies inventory counts to ensure real-time inventory accuracy.** |  |  | | --- | | **- Error Handling: Gracefully manages errors related to database connectivity, retrieval, and modification, with rollback on update failure.** |  |  | | --- | | **- Low Stock Alerts: Ensures that products with inventory below the threshold are flagged, supporting restocking processes.** |  |  | | --- | | **- Secure Environment: Uses environment variables to access database credentials, promoting secure configuration management.** |  |  | | --- | |  | | | |
| Edit log (update each time you make changes to doc or file). | | |
| | **Possible Enhancements:** | | --- |  |  | | --- | | - **Automated Restock Notifications**: Integrates with a notification system to alert admin when inventory falls below the threshold. |  |  | | --- | | - **Inventory History Tracking**: Logs changes to inventory counts over time, creating a history of product stock levels for analysis. |  |  | | --- | | - **Batch Processing for Efficiency**: Adds batch processing capabilities for large inventory updates to optimize database interactions. |  |  | | --- | | - **Inventory Forecasting**: Adds functionality to predict future inventory needs based on historical data, aiding in proactive stock management. | | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |