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| RAZDA Co. | | |
| **Filename: [order\_verification.py]** | | |
| **Summary***:*  Handles verification of order integrity, checks for potential fraud, validates customer data, and ensures inventory availability. Alerts admins for flagged orders. | | |
| ***Processes*** | | |
| * **Database Connection Management** | **connect\_to\_db establishes a connection with the MySQL database, used for order verification tasks. close\_db\_connection safely closes the connection after processing completes.** | |
| * **Order Verification:** | **verify\_order is the main verification function, encompassing fraud detection, inventory checks, field validation, and data formatting checks.** | |
| * **Fraud Detection:** | **detect\_fraud checks orders exceeding the FRAUD\_THRESHOLD for potential issues and logs/admin-notifies any suspicious cases** | |
| * **Inventory Availability Check:** | **check\_inventory confirms adequate stock availability for each order's SKU and quantity by querying the database.** | |
| * **Data Format Validation:** | **validate\_data\_format ensures valid email and phone formats using regex patterns, reducing customer contact errors.** | |
| * **Admin Notification:** | **notify\_admin alerts admins for flagged issues, such as missing fields, insufficient inventory, or detected fraud, ensuring prompt action.** | |
| * **Verification Status Update:** | **update\_verification\_status updates each order’s verification status in the database after successful or failed verification, maintaining a record for future reference.** | |
| * **Retry Mechanism for Verification Failures:** | **retry\_failed\_verifications retries verification of orders with an exponential backoff mechanism up to a set retry limit. This allows resilience in cases of transient issues.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| - **MySQL Database**: Queries inventory availability and updates verification status for each order | - **Alerts Module**: Sends alerts to admins for flagged orders, such as potential fraud or inventory shortages. | |
| **Expected input into file:** | | **Expected output from file:** |
| * **Order Data**: Receives individual orders with unique IDs, SKUs, quantity, price, and customer contact info for verification. * **Fraud Detection Settings**: Configured threshold for flagging high-value orders, allowing flexible fraud detection. * **Retry Limits**: Limit for verification retries, with an exponential backoff mechanism to optimize retry logic. | | * **Updated Verification Status**: Orders are marked as “Verified” or “Failed” based on successful validation a * **Order Verification Logs**: Records the success or failure of each verification attempt.nd checks. * **Admin Notifications**: Alerts admins of failed verifications due to potential fraud or inventory shortages. |
| **Things that need to be taking place:** | | |
| |  | | --- | | **- Comprehensive Order Verification: verify\_order integrates various checks (required fields, fraud, inventory, format) to ensure order validity before processing.** |  |  | | --- | | **- Fraud Prevention: detect\_fraud flags orders exceeding set thresholds, enabling admins to quickly identify high-risk orders.** |  |  | | --- | | **- Inventory Sufficiency Check: check\_inventory verifies stock levels for each order, preventing orders from being processed without sufficient stock.** |  |  | | --- | | **- Admin Notification System: notify\_admin alerts admins in cases of failed verification, helping them address issues promptly.** |  |  | | --- | | **- Retry Mechanism: retry\_failed\_verifications retries verification of failed orders with exponential backoff, improving reliability against intermittent issues.** |  |  | | --- | |  | | | |
| Edit log (update each time you make changes to doc or file).  Updates:: | | |
| |  | | --- | | - **Enhanced Fraud Detection Algorithms**: Implement machine learning models or rules-based logic for advanced fraud detection based on customer and order patterns. |  |  | | --- | | - **Automatic Stock Reorder Alerts**: Notify inventory managers of low stock items if an order fails due to insufficient stock. |  |  | | --- | | - **Batch Verification System**: Introduce batch processing to handle high volumes of orders simultaneously, optimizing processing time. |  |  | | --- | | - **Detailed Verification Reports**: Provide summary reports of verification results, including fraud flags and inventory shortages, for improved oversight. | | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |