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| RAZDA Co. | | |
| **Filename: [order\_tracking.py]** | | |
| **Summary***:*  Tracks and updates the status of customer orders through each production stage, monitors for delays, and provides alerts. Integrates with factory APIs to retrieve real-time updates. | | |
| ***Processes*** | | |
| * **Database Connection Management** | **connect\_to\_db establishes a connection with the MySQL database, used for order tracking. close\_db\_connection safely closes the connection after tracking completes.** | |
| * **Track Order Status** | **track\_order continuously monitors the order's status via the factory API, retrying as needed until a final status is reached.** | |
| * **Update Status in Database** | **update\_order\_status updates the order's status in the database and logs the changes, supporting accurate status records.** | |
| * **Log Status Update** | **log\_status\_update maintains a historical log for each status update, ensuring a comprehensive record of changes.** | |
| * **Notify Customer** | **notify\_customer triggers notifications to inform customers of important status changes, such as shipping or completion.** | |
| * **Check for Delays and Alert Admin** | **is\_order\_delayed identifies orders exceeding the delay threshold and alert\_admin\_delay alerts admins if orders are excessively delayed.** | |
| * **Handle Tracking Discrepancies** | **handle\_tracking\_discrepancies addresses discrepancies between expected and actual statuses by retrying or notifying admins for manual resolution.** | |
| * **Retry Failed Tracking Attempts** | **retry\_failed\_track\_attempt attempts to track an order up to the configured retry limit in case of initial failure.** | |
| * **Track Multiple Orders** | **track\_multiple\_orders monitors multiple orders concurrently, optimizing tracking efforts across high-order volumes.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **Factory API Integration**: Connects with factory\_api\_integration to fetch order statuses from the factory. | * **Alerts Module**: Sends alerts to admins if delays or discrepancies occur in order tracking. | |
| * **MySQL Database**: Updates order statuses and maintains a historical record for future reference. |  | |
| **Expected input into file:** | | **Expected output from file:** |
| * **Order Data**: Receives orders with unique IDs and associated factory IDs to track their status in real-time. * **Tracking Retry Limits**: Configuration for handling retry limits and intervals between each tracking attempt. * **Admin Alert Threshold**: Threshold for alerting admins if order tracking exceeds a set delay time. | | * **Updated Order Statuses**: Orders are marked with current statuses (e.g., "Shipped," "Completed") based on factory updates. * **Order Tracking Logs**: Tracks and records the history of status updates for all monitored orders. * **Customer Notifications**: Notifies customers upon important status changes like "Shipped" or "Completed." |
| **Things that need to be taking place:** | | |
| |  | | --- | | **- Continuous Order Tracking: track\_order monitors order statuses, providing near-real-time updates from the factory API until a final status is reached.** |  |  | | --- | | **- Delayed Order Alerts: is\_order\_delayed flags orders exceeding the delay threshold, and alert\_admin\_delay notifies admins of prolonged delays.** |  |  | | --- | | **- Retry Mechanism: retry\_failed\_track\_attempt offers a robust retry system, ensuring no orders are left untracked due to transient issues.** |  |  | | --- | | **- Customer Notification: notify\_customer keeps customers informed, automatically notifying them of critical updates in the order lifecycle.** |  |  | | --- | | **- Discrepancy Handling: handle\_tracking\_discrepancies identifies and manages inconsistencies between expected and actual statuses, maintaining order accuracy.** |  |  | | --- | |  | | | |
| Edit log (update each time you make changes to doc or file). | | |
| | **Possible Enhancements:** | | --- |  |  | | --- | | - **Automated Analytics for Delays**: Add real-time delay analysis, providing insights into causes of order delays or bottlenecks in production. |  |  | | --- | | - **Advanced Notification System**: Integrate email and SMS alerts for customers and admins to improve notification speed for high-priority updates or alerts. |  |  | | --- | | - **Detailed Tracking Dashboard**: Implement a graphical interface showing the tracking status of all orders, providing admins with a clear overview. |  |  | | --- | | - **Enhanced Discrepancy Resolution**: Add automation for common discrepancies, enabling resolution without requiring manual intervention unless necessary. | | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |