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| RAZDA Co. | | |
| **Filename: [user\_activity\_tracker.py]** | | |
| **Summary***:*  Tracks user activities such as page visits, product interactions, checkout steps, and search queries to gather data that enhances user experience and provides analytical insights. Also manages session control and user behavior summaries. | | |
| ***Processes*** | | |
| * **Session Management:** | **Initiates or refreshes user sessions, assigns unique session IDs, and tracks session timeout to ensure session control. start\_session initiates tracking and end\_session clears session data.** | |
| * **Page and Product Tracking:** | **Logs each page visit (track\_page\_visit) and product click (track\_product\_click), capturing user interactions across pages and products. This data is stored for activity tracking and sent to analytics.** | |
| * **Checkout Process Tracking:** | **Tracks checkout process actions (e.g., starting, abandoning, completing). track\_checkout\_action records each step with cart details. Alerts are sent for cart abandonment to identify and address drop-off points.** | |
| * **Search Query Tracking:** | **Captures and logs each user-entered search query via track\_search\_query, aiding in search optimization and tracking user interests.** | |
| * **Logging and Analytics Processing:** | **For each user activity, data is logged (log\_activity) and sent to analytics (process\_activity), providing comprehensive tracking of user behaviors in real-time.** | |
| * **Session Timeout and User Summaries:** | **Checks for session timeout and ends sessions if inactive (check\_session\_timeout). User summaries (summarize\_user\_behavior) generate behavior insights to inform analytics.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **data\_logging.py**: Sends event data for logging to support historical activity records and event tracking. | | * **site\_analytics.py**: Sends tracked activities for real-time analytics processing, aggregating data to inform user behavior trends and site usage insights. |
| * **site\_analytics.py**: Uses analytics functions to summarize user behaviors based on collected data | | * **Alerts/alert\_automation**: Sends alerts to notify about significant events like high cart abandonment or logging errors, ensuring proactive issue response. |
| * **Alerts/alert\_automation**: Sends alerts on critical events (e.g., cart abandonment or logging failures). | |  |
| **Expected input into file:** | | **Expected output from file:** |
| - User Activity Data: Page URLs, product IDs, checkout steps, and search queries to capture user interactions across the Razda platform.  - Session Identifiers: Unique session and user IDs to track activity within individual user sessions.  - Environmental Configurations: Timeout settings and alert configurations from .env. | | - Logged Activity Data: Logs each interaction and sends structured activity data to both analytics and logging modules for processing.  - Alerts on Key Events: Sends alerts for issues like cart abandonment or logging errors, ensuring fast admin response.  - User Behavior Summaries: Provides behavior summaries per user to inform analytics and enhance experience through data insights. |
| **Things that need to be taking place:** | | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | | **- Reliable Session Management: Proper session control ensures user activity is accurately tracked per session and supports session timeout handling.** |  |  | | --- | | **- Detailed Event Tracking and Logging: Accurate tracking of each page visit, product click, checkout step, and search query, logged to allow detailed analysis of user behaviors.** |  |  | | --- | | **- Proactive Alerts: Alert functionality for key events, particularly around checkout abandonment, to identify potential issues and trigger corrective actions.** |  |  | | --- | | **- Real-time Analytics Processing: Immediate processing of each activity in site\_analytics.py allows near-real-time analysis of user engagement.** | | | | |
| Edit log (update each time you make changes to doc or file). | | |
| | **Possible Enhancements:** | | --- |  |  | | --- | | - **Customizable Session Timeout**: Allow per-user or role-based session timeouts, giving flexibility in session tracking based on user type or interaction level. |  |  | | --- | | - **User-Specific Analytics Dashboard**: Provide admins with insights into individual user journeys, highlighting touchpoints and common drop-off areas for improvement. |  |  | | --- | | - **Predictive Abandonment Alerts**: Use machine learning to predict checkout abandonment likelihood based on past behaviors, allowing for preemptive action. |  |  | | --- | | - **Behavioral Pattern Identification**: Track long-term behavior patterns to segment users by engagement level, preferred products, and common actions, enhancing targeting efforts. | | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |