[Online Retail Purchase Analysis](#) Application

Brief description

The purpose of the "Online Retail Purchase Analysis" application is to provide insights and analysis of online retail purchases made by customers from an UK-based online store. It is designed to help businesses understand their sales performance, customer behavior, and product popularity.

The tool allows users to upload and analyze a dataset containing transaction data, including information such as product details, quantities, prices, customer IDs, and country. It offers a range of features to explore and visualize the data, as well as generate reports and gain valuable insights.

Dataset Description

This dataset contains the online retail purchases made by customers from an UK-based online store from 2010-2011.

Data fields:
- InvoiceNo: Unique identifier for each transaction
- StockCode: Unique identifier for each product
- Description: Product name/description
- Quantity: Number of products purchased
- InvoiceDate: Date and time of the transaction
- UnitPrice: Price of each product
- CustomerID: Unique identifier for each customer
- Country: Country where the customer resides

Data Types:
- InvoiceNo: string
- StockCode: string
- Description: string
- Quantity: int
- InvoiceDate: datetime
- UnitPrice: float
- CustomerID: float
- Country: string

Restrictions:
- InvoiceNo: alphanumeric, max length 10 characters
- StockCode: alphanumeric, max length 20 characters
- Description: alphanumeric, max length 255 characters
- Quantity: non-negative integer
- InvoiceDate: format: dd/mm/yyyy hh:mm
- UnitPrice: non-negative float
- CustomerID: non-negative float
- Country: string, max length 50 characters

Features

<u>Mandatory features:</u>
   - Display a list of all transactions with the ability to sort by date, customer ID, and country
   - Calculate and display the total revenue for a given date range
   - Display a list of all products with the ability to search by name and sort by quantity sold

<u>Additional features:</u>
   - Visualize revenue by country using a choropleth map
   - Provide recommendations for products to purchase based on a customer's purchase history
   - Allow customers to leave reviews for products they have purchased

User Interface

Here you can see a sketch of different windows and states of the application.

1. Main window:
   - Display options for different features such as transaction list, revenue analysis, and product list
2. Transaction list window:
   - Display list of all transactions with columns for date, customer ID, and country
   - Ability to sort the list by date, customer ID, or country
   - Option to search for transactions by customer ID or country
3. Revenue analysis window:
   - Ability to select a date range and display the total revenue for that range
   - Option to display revenue by country using a choropleth map
   - Chart or graph to display revenue trends over time
4. Product list window:
   - Display list of all products with columns for name, description, and quantity sold
   - Ability to sort the list by name or quantity sold
   - Option to search for products by name
   - Button to view details for a specific product
5. Product detail window:
   - Display information about a specific product including name, description, unit price, and quantity sold
   - Option to leave a review for the product
6. Recommendations window:
   - Display a list of recommended products based on a customer's purchase history
   - Option to filter recommendations by category or price range
7. Review window:
   - Ability to leave a review for a product including a rating and text review

MAIN WINDOW

transaction list → list of all transactions

revenue analysis →

product list → list of all products → Product detail window

NOTE: RECOMMENDATION AND REWIEW WINDOW CAN BE ADDED AT THE MAIN WINDOW LAYOUT.