Project Requirements Document

Project Title: Sales & Customer Insights Dashboard for Public Retail

Project Overview

We are looking to simulate a real-world retail analytics scenario using historical sales data. You will assume that the data reflects actual transactions from Public, and deliver a business-ready dashboard focused on deriving actionable insights that support product performance monitoring and customer segmentation.

The goal is to demonstrate your capability in data analysis, Python scripting, and business dashboard development using Power BI.

Objectives

- Understand and clean the sales data
- Identify key trends in product performance and customer behavior
- Segment the customer base using RFM analysis
- Design a compelling Power BI dashboard to communicate business insights

Key Requirements

- 1. Dataset
- Use the publicly available Online Retail II dataset from Kaggle.
- Treat this dataset as if it originated from Public's own e-commerce operations.
- 2. Data Cleaning & Preparation
- Use Python to perform all cleaning and preprocessing tasks.
- 3. Exploratory Data Analysis (EDA)
- Using Python (Pandas + basic visualization if needed):
 - Identify:
 - Top 10 most returned products
 - Total sales per Weekday
 - Monthly sales trends
- 4. Customer Segmentation
- Perform RFM Analysis using Python
- Export customer segments for Power BI use

5. Dashboard Design (Power BI)

• Build a fully interactive dashboard using Power BI Desktop

Tools & Technologies

Tool Purpose

Python Data cleaning, manipulation, RFM

PyCharm Python development environment

Power BI Dashboard & visualization

GitHub Final project hosting