M3: FashionTrendForecasting Package Development Documentation

Overview

This document outlines the design requirements for the final endpoints of the FashionTrendForecasting package and communicates the development tasks based on our Entity-Relationship Diagram (ERD) and discussions/meetings with the Data Scientist (DS), Database Developer (DB) and API Developer.

1. Endpoint Specification Requirement

Endpoint Objective:

Develop a comprehensive endpoint that provides the item's trend score, which is a synthesis of multiple factors: category, material, style, color, season and sales volume.

Task API.1: Develop Trend Score Endpoint

- Develop the '/api/trendscore' endpoint to output item trend scores.
- Endpoint parameters: category, material, style, color, season.
- Integrate endpoint with sales volume data for trend score calculations.
- Ensure robust testing of the endpoint for various scenarios.
- **Deliverable: Functional API endpoint, documentation.**

Task DS.1: Trend Score Model Development

- Construct a trend scoring model considering the specified item attributes and sales data.
- Integrate item category, material, style, color, season, and sales volume to determine trend scores.
- Analyze historical data to understand the impact of each factor on trendiness.
- Work closely with the DB to validate the data inputs.
- **Deliverable: Trend scoring algorithm, validation report.**

2. Communication and Output Integration

Task DB.2: Develop Query Functions

- Create SQL functions to retrieve data based on the inputs of the trend scoring model: category, material, style, color, season, and sales volume.
- Ensure that the functions are capable of serving the data needs for both the model development and the API endpoints.
- **Deliverable: A suite of SQL functions.**

Task API.2: Develop and Test API Endpoints

- Based on the framework designed in Stage 1, fully develop the '/api/trendscore' endpoint.
- Work closely with DS to ensure that the endpoint accurately serves the trend score model's outputs.
- Perform comprehensive testing of the endpoint with the get_something() function.
- **Deliverable: Fully functional and tested API endpoints.**

Task DS.2: Finalize Trend Scoring Model and Configure Outputs

- Refine the trend scoring model integrating feedback from Stage 1 and data from the new SQL functions.
- Define and configure the outputs necessary for the trend analysis study.
- **Deliverable: Finalized trend scoring model and defined analytical outputs.**