Functional Requirements Document (FRD)

Project: Game Recommendation System

Date: April 10, 2025

Version: 1.0

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1.Purpose

To develop a data-driven dashboard using Power BI that tracks game genres, user ratings, platform compatibility, and user engagement metrics from a gaming dataset. The system aims to improve game discovery, enhance user satisfaction, and lay the foundation for future recommendation logic.

2. Functional Requirements

- FR1: Load and process datasets including game metadata, user behavior, and platform data from CSV and Excel formats
- FR2: Display total food inventory, deliveries, and consumption by category (perishable/non-perishable)
- FR3: Show stock vs consumption vs delivery analysis by item and restaurant
- FR4: Visualize waste patterns by comparing stock consumed vs stock ordered
- FR5: Segment and filter data by restaurant, date, food type, and supplier
- FR6: Highlight underused or overstocked items using color-coded KPIs
- FR7: Generate trend charts for consumption and delivery over time
- FR8: Provide recommendations for reordering based on historical usage and current stock
- FR9: Allow export of summarized reports to Excel/PDF
- FR10: Display user-level access if needed for admin vs viewer

3. Data Requirements

- games.csv: Opening stock, category, restaurant, and item-wise inventory data
- ratings.csv: Daily or weekly consumption records by restaurant and item
- platform_support.csv: Incoming deliveries from suppliers with date, item, quantity
- user_feedback.csv: Orders placed to suppliers with status (fulfilled, pending)
- platforms.csv: Metadata of hotel restaurants and locations
- users.csv: User info (roles, location, access level)

- consolidated_game_data.csv: Consolidated data used for cross-verification or advanced analysis

4.User Interface Requirements

- Homepage Dashboard: Customer Behaviour & Trends
- Filter Panel: Platform, Date Range, Genre, Publisher
- Tables: Detailed inventory and consumption records
- Interactive Graphs: Time series and delivery vs usage charts
- Download Button: Export filtered data or charts to Excel/PDF

5.Reporting Requirements

- Dashboard accessible via Power BI Service
- Exportable reports (inventory summary, waste analysis, top suppliers)
- Monthly trend report

6.Integration Requirements

Data is integrated manually via CSV/Excel upload (Power BI Desktop). Future integration with ERP systems via APIs is optional.

7.Assumptions

- All datasets are updated regularly and formatted correctly
- Platform managers will enter data consistently
- No missing critical values in datasets like quantity, dates, or IDs

8.Constraints

- Manual refresh unless Power BI Pro or Gateway is used
- Performance may degrade with high data volume without aggregation

9.Acceptance Criteria

- All charts load correctly with applied filters
- Users can download filtered data
- Low consumption triggers reorder suggestion
- Stock vs consumption mismatches are shown

10.Glossary

- KPI: Key Performance Indicator
- ETL: Extract, Transform, Load
- SKU: Stock Keeping Unit (item code)
- Power BI: Microsoft Business intelligence tool