Project Architecture Document for NutriCost Analyzer

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Abstract

"NutriCost Analyzer" is a web-based application designed to assist users in creating daily nutritional menus while comparing prices across various supermarkets. The application provides a platform for users to efficiently manage their diet and budget by utilizing real-time data updates.

1. Introduction

Nutritional management and budgeting are key concerns for many individuals. "NutriCost Analyzer" addresses these issues by integrating dietary planning with economic considerations, providing a user-friendly web interface for managing personal nutrition.

2. Problem Statement

Current solutions often do not integrate detailed nutritional information with up-to-date supermarket pricing, hindering effective budgeting and dietary management.

3. Objectives

1. Develop a web application for real-time nutritional and cost analysis.
2. Provide users with the ability to customize dietary plans based on personal nutritional targets and budget constraints.
3. Offer comparative price analysis across multiple supermarkets.

4. System Architecture

- **Data Layer:** Manages ingestion and storage of supermarket product data and nutritional information.
- **Business Logic Layer:** Processes user inputs, computes nutritional needs, and generates suitable menus.
- **Service Layer:** Facilitates communication via APIs between the front-end and the data sources.
- **Presentation Layer:** The web-based user interface where users interact with the system.

5. Component Diagram

Include a simple diagram here that shows the basic components of the system with arrows indicating the flow of information.

6. Technology Stack

- **Front-end:** Technologies suitable for creating dynamic and responsive user interfaces.
- **Back-end:** Appropriate back-end technologies for processing and API management.
- **Database:** Suitable database systems for storing user and product data.
- **APIs:** Use of various APIs for backend and frontend communication.
- **Cloud Services:** Utilization of cloud services for hosting and data storage as needed.

7. Milestones and Timeline

- **Phase 1:** Requirements gathering and system design (Date)
- **Phase 2:** Implementation of the data layer and business logic (Date)
- **Phase 3:** Development of the front-end and integration with back-end services (Date)
- **Phase 4:** Testing and deployment (Date)

8. Conclusion

The "NutriCost Analyzer" web application aims to revolutionize personal nutrition and budget management, making it easier for users to achieve their dietary goals without compromising on cost.