Project Plan

Project Name: Nutritional Food Comparison

Group Number: 015

Team members

Student No.	Full Name	GitHub Username	Contribution (sum to 100%)
s5387195	Ethan Davis	EJDARE	33.3% or Equal
s5347877	Tristan Martins	SFAtomic	33.3% or Equal
s5294045	Ethan Baker	ethanbaker250703	33.3% or Equal

Brief Description of Contribution

- s5387195, Ethan Davis
  - Accomplishments: Developed the project plan, created the software plan, and handled spelling and grammar checking of all documents.
- s5347877, Tristan Martins
  - Accomplishments: Responsible for the software design document, use case diagrams, hierarchy diagram, flowchart diagram, website wireframe, and performed additional grammar and spelling corrections.
- s5294045, Ethan Baker
  - Accomplishments: Created the Gantt chart, structured the work breakdown, and handled overall task distribution and timeline management.

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1. Project Overview

1.1 Project Objectives

The objective of this project is to develop a nutritional food comparison tool that enables users to analyze and visualize nutritional data through a graphical user interface (GUI). This system is designed to provide a user-friendly interface for comparing nutritional values of food items, helping users make informed dietary decisions.

Goals include:

1. Data Analysis and Visualization: Enable users to analyze nutritional data through comparisons, filters, and graphical outputs.
2. Feature Development: Develop a desktop application with core features like food comparison, nutritional breakdown, and data filtering.
3. Comprehensive Documentation: Deliver user-friendly documentation, outlining how to install, use, and troubleshoot the application.

1.2 Project Stakeholders

The success of this project depends on several stakeholders, each playing an essential role:

1. Project manager - Responsible for overseeing the project, ensuring that timelines are met, resources are properly allocated, and quality standards are upheld. Key responsibilities include risk management, budget control, and coordination between the project team and stakeholders.
2. Project team - The team comprises developers and analysts responsible for designing, developing, testing, and delivering the project. They are expected to collaborate closely to ensure the features meet the project's objectives.
3. Customers/clients - These are the end-users of the application, typically fitness enthusiasts, nutritionists, and individuals seeking to compare nutritional values for dietary planning.
4. Suppliers/Vendors - Responsible for providing the Nutritional Food Dataset that will serve as the core data for the system. They ensure the dataset is accurate, complete, and up-to-date.

1.3 Project Scope

This project aims to develop a simple, user-friendly nutritional food comparison tool enabling users to analyse and visualise nutritional data through a graphical user interface (GUI). The project will focus on the following key areas:

In Scope:

1. Data Analysis and Visualization: The core focus is to develop a tool that allows users to analyze and compare the nutritional content of food items using graphical representations such as pie charts, bar graphs, and tables.
2. Desktop Application Development: A desktop application will be created, providing an interactive and user-friendly GUI for accessing, filtering, and comparing data.
3. Feature Implementation: Features such as food comparison, nutrition filtering, and data visualization will be fully developed and integrated.
4. Documentation: Comprehensive documentation will be prepared for end-users and stakeholders, detailing the application’s functionality, installation instructions, and troubleshooting guides.

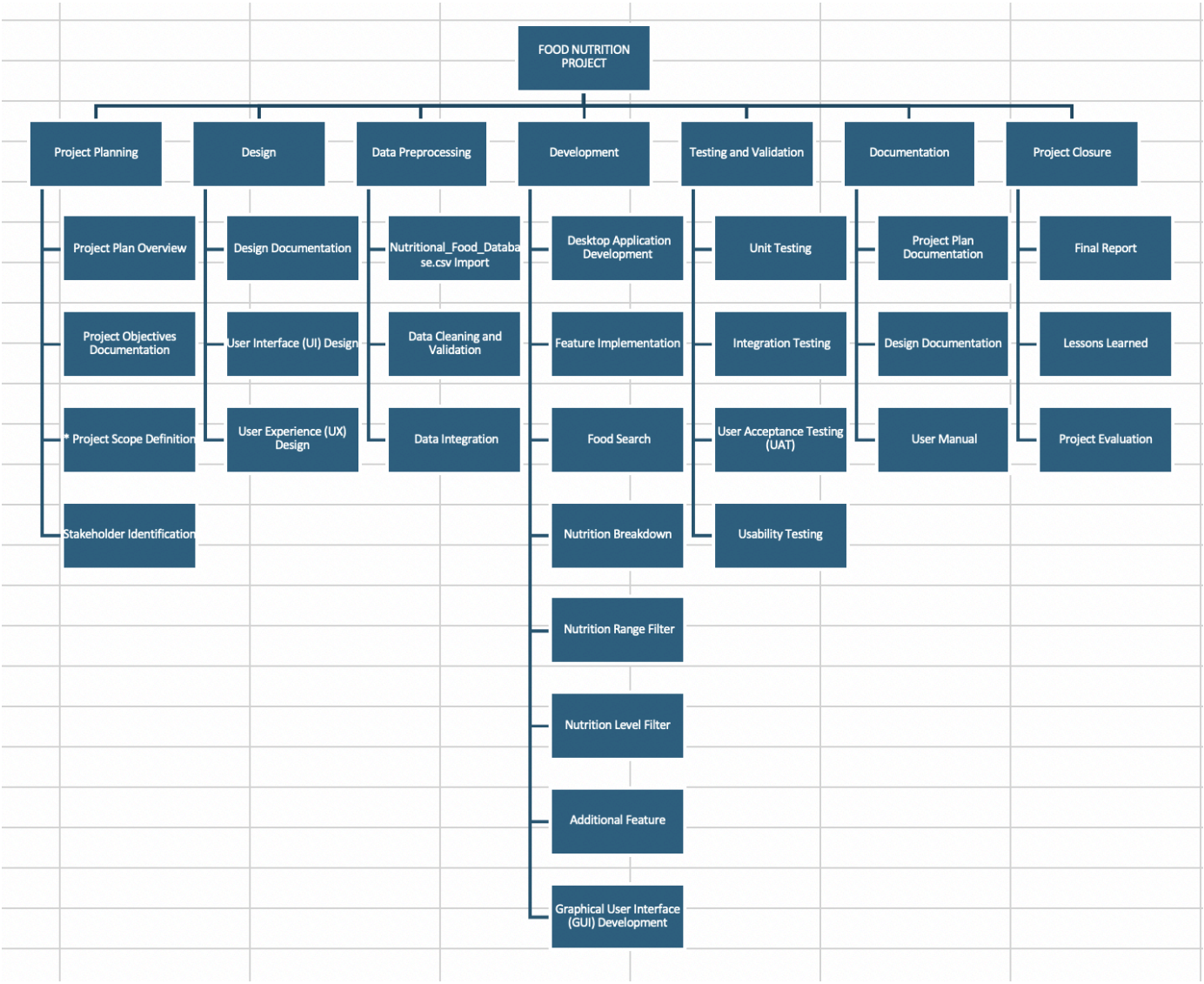
Out of Scope:

1. Mobile or Web Versions: The project will focus solely on desktop application development, and no mobile or web-based versions will be created.
2. Advanced Analytics: Complex data analytics or machine learning models will not be part of this project.
3. Database Expansion: The project will rely on an existing nutritional database and will not include the addition of new data or extensive database expansion.

2. Work Breakdown Structure

The Work Breakdown Structure (WBS) outlines all major tasks and subtasks required to complete the project:

1. Project Planning
    - Develop a project plan and scope.
    - Define key objectives and success criteria.
2. Design Phase
    - Create design documentation, including UI/UX guidelines.
    - Develop use case diagrams, flowcharts, and system architecture.
3. Data Integration
    - Import the nutritional dataset into the system.
    - Clean and validate the dataset to ensure accuracy.
4. Development Phase
    - Build the desktop application with a user-friendly interface.
    - Implement core features such as food search, comparison, and data filtering.
5. Testing Phase
    - Conduct unit testing for individual components.
    - Perform integration testing to ensure all system components work together seamlessly.
6. Documentation and Final Delivery
    - Develop a comprehensive user manual.
    - Finalize the project report for stakeholders.
    - Deliver the finished product to clients.



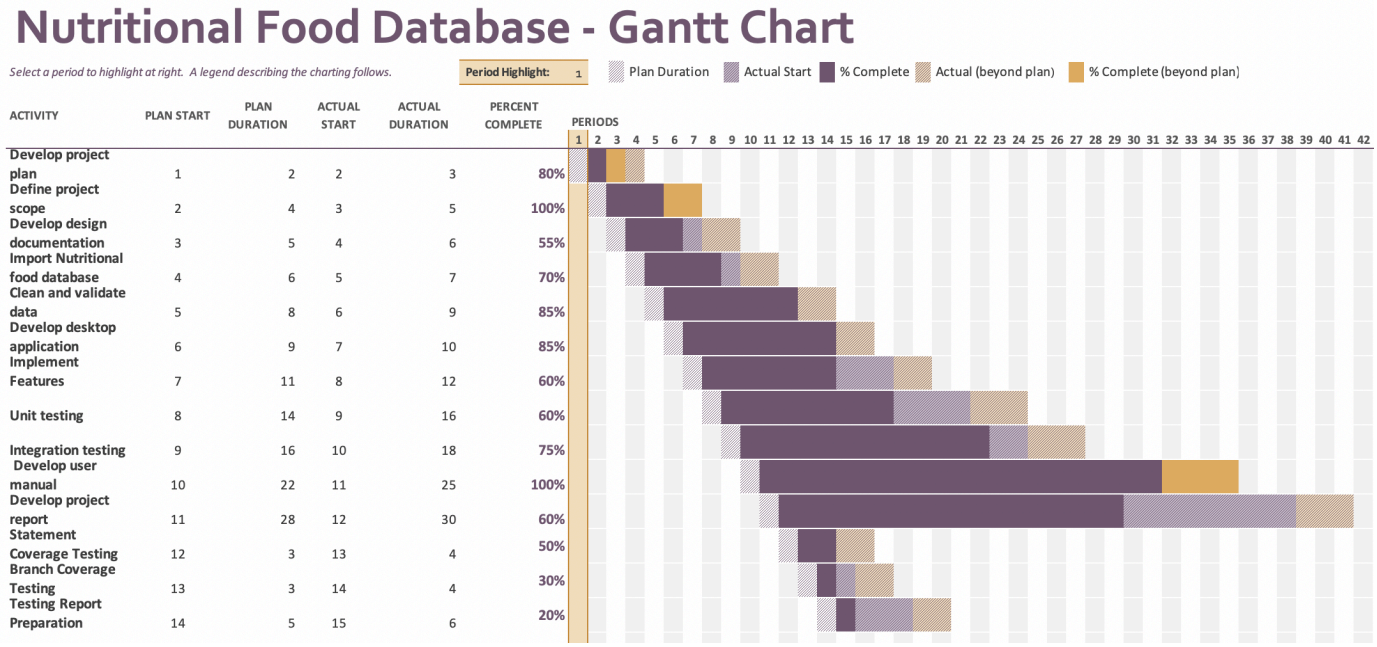
3. Activity Definition Estimation

Activity #No	Activity Name	Brief Description	Duration (Days)	Responsible Team Members
1	Develop project plan	Outline the project plan and ensure alignment with objectives	2	Project Manager, Project Team
2	Define project scope	Establish the boundaries and scope of the project	4	Project Manager, Project Team
3	Develop design documentation	Create design documentation based on UI/UX specifications	5	Project Team
4	Import Nutritional Food Database	Import nutritional food data into the system	6	Suppliers/Vendors, Project Team

Activity #No	Activity Name	Brief Description	Duration (Days)	Responsible Team Members
5	Clean and validate data	Clean and validate the imported data for accuracy and integrity	8	Project Team
6	Develop desktop application	Build the desktop application interface	9	Project Team
7	Implement features	Develop and integrate core features into the application	11	Project Team
8	Unit testing	Perform unit tests on individual features and components	14	Project Team
9	Integration testing	Conduct integration testing to ensure component compatibility	16	Project Team
10	Develop user manual	Create user documentation for the application	22	Project Team, Customers/Clients
11	Develop project report	Prepare and finalize the project report for stakeholders	28	Project Manager, Project Team, Customers/Clients
12	Statement Coverage Testing	Design test cases that cover every possible execution path in the code	3	Project Manager, Project Team
13	Branch Coverage Testing	Test all possible paths within the decision points of the code, such as if-else conditions	3	Project Manager, Project Team
14	Testing Report Preparation	Document the testing process and results for both statement and branch coverage tests	5	Project Manager, Project Team

4. Gantt Chart

The Gantt Chart provides a visual timeline of the project, illustrating the start and end dates for each activity and highlighting dependencies between tasks. This helps ensure that tasks are completed in the correct order and on time.



5. Food Nutrition Dataset

The Food_Nutrition_Dataset.csv serves as the central data source for this project. This dataset contains comprehensive nutritional information, including details about:

- Calories, fats, proteins, and carbohydrates.
- Vitamins, minerals, and micronutrients.
- Water content and other nutritional parameters.

This dataset will be cleaned, validated, and integrated into the desktop application to enable accurate data visualization and analysis.

Food_Nutrition_Dataset.csv

6. Risk Management

Given the project's scope and timeline, the following risks have been identified, along with mitigation strategies:

Risk	Impact	Likelihood	Mitigation Strategy
Data Accuracy	High	Moderate	Perform data validation and cleaning before use.
Feature Creep	Medium	High	Stick to the defined scope and reject out-of-scope requests.
Delays in Data Integration	High	Low	Ensure timely communication with suppliers/vendors.
Technical Challenges	High	Moderate	Allow buffer time for unexpected technical issues.

Risk	Impact	Likelihood	Mitigation Strategy
Team Coordination Issues	Medium	Low	Regular team meetings to ensure everyone is aligned.

7. Success Criteria

The success of this project will be measured against the following criteria:

- Functionality: The application must include all required features such as food comparison, filtering, and data visualization.
- User Experience: The GUI must be intuitive and easy to navigate, ensuring a positive user experience.
- Data Accuracy: All nutritional data must be accurate and validated before release.
- On-time Delivery: The project must be completed within the defined timeline.
- Stakeholder Satisfaction: The final product must meet the expectations of all stakeholders.