Project Plan

Project Name: Nutritional Food - Assignment.

Group Number: 59

Team members

Student No.	Full Name	GitHub Username	Contribution (sum to 100%)
s5280075	Juan Martinez	juanjosemm2703	33.3% or Equal
s5384766	Joshua Wagner	Josh-Wagner1	33.3% or Equal
s5277614	Gemma Manns	gemmamanns	33.3% or Equal

Brief Description of Contribution

Please Describe what you have accomplished in this group project.

- s5384766, Joshua Wagner
  - Accomplishments: Completed the Activity Estimation Definition Estimation table (3) for the Project Plan and completed section 2 and 3.2 from the Software Design Document.
- s5280075, Juan Martinez
  - Accomplishments: Completed the Work Breakdown Structure (2) for the Project Plan and completed section 3.1 Software Design - Flow Chart and 4.2 Visual Design from the Software Design Document.
- s5277614, Gemma Manns
  - Accomplishments: Completed the Project Plan (1) and Gantt Chart in the Project Plan Document and completed section 1 (System Vision) and 4.1 Structural Design from the Software Design Document

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1. Project Overview

1.1 Project Objectives

Project Objective:

The objective of this project is to develop a data analysis and visualization tool for the Comprehensive Nutritional Food Database. The tool will enable users to efficiently search for foods and view detailed nutritional information, visualize nutrient breakdowns, filter foods based on nutritional content ranges and levels and calculate nutritional information based on weight. The goal is to provide a tool with an easily interactable graphical interface for analyzing and understanding nutritional data and display the data through both text and graphics.

Notes:

Establish objectives or goals that the project aims to achieve.

- Food search, Nutrition breakdown, Nutrition Range filter and ???
  - selecting multiple foods and displaying the combined nutritional information
  - having a calculator where you go input the weight of the food in grams and display the nutritional information.
  - Retrieve specific nutritional stats from a food and determine the amount required for a meal/ daily intake The dataset includes specific features that your user interface must enable a user
  - Easily interactable interface
  - Reduce the number of steps to obtain the required information
  - Data is clearly conveyed through both text and graphs.

The data usable and applicable to the average user's dietry requirements.

1.2 Project Stakeholders

The development of the data analysis and visualisation tool for the Comprehensive Nutritional Food Database involves a range of stakeholders. These stakeholders include internal teams responsible for the design, development, and deployment of the tool, as well as external parties who will influence or use the final product. Each stakeholder group has a specific role in shaping the tool's functionality and ensuring it meets the necessary standards. Below is a list of the key stakeholders, categorised by their roles in the project.

Internal Stakeholders

- Management/Client: Responsible for overseeing and approving the project and ensuring alignment with organisational goals.
- Project Managers: Oversee the project's progress, ensuring timelines and budgets are met.
- Programmers: Develop the back-end functionality and ensure the tool works as intended.
- User Interface Designers: Design the graphical user interface to ensure ease of use and accessibility.
- Quality Assurance: Test the tool to ensure it meets all requirements and is free of bugs.
- Cybersecurity Specialists: Ensure the tool is secure and compliant with data protection standards.
- Data Analysts: Analyze the nutritional data to ensure accurate representation and functionality within the tool.
- Database Administrators: Manage and optimise the nutritional database, ensuring its integration with the tool.

- Business Analysts: Gather requirements, perform market analysis, and ensure the tool aligns with user needs and business objectives.

External Stakeholders:

- Government Bodies: May provide guidelines or regulations regarding nutritional data representation and user privacy.
- End Users

Notes: Identify all key stakeholders involved in the project, including internal teams and potential end-users.

Executive internal stakeholders:

- Management/Client: Responsible for overseeing the project and ensuring alignment with organizational goals.

Internal operational stakeholders:

- Project Managers: Oversee the project's progress, ensuring timelines and budgets are met.
- Programmers: Develop the back-end functionality and ensure the tool works as intended.
- User Interface Designers: Design the graphical user interface to ensure ease of use and accessibility.
- Quality Assurance: Test the tool to ensure it meets all requirements and is free of bugs.
- Cybersecurity Specialists: Ensure the tool is secure and compliant with data protection standards.
- Data Analysts: Analyze the nutritional data to ensure accurate representation and functionality within the tool.
- Database Administrators: Manage and optimize the nutritional database, ensuring its integration with the tool.
- Business Analysts: Gather requirements, perform market analysis, and ensure the tool aligns with user needs and business objectives.

External executive stakeholders:

- Government Bodies: May provide guidelines or regulations regarding nutritional data representation and user privacy.

External operational stakeholders:

- Sports Professionals
- People with dietary requirements or restrictions.
- Doctors
- Nutritionists

1.3 Project Scope

Included:

1. **Software Requirements:**
   - Development of a data analysis and visualisation tool for the Comprehensive Nutritional Food Database.
   - Desktop Application
   - Development of a graphical user interface that is accessible and usable.
   - Software Code and all project resources hosted on private Github repository
   - Implementation of the following features:

- **Food Search**: Allows users to search for foods by name and display all related nutritional information from the database.
- **Nutrition Breakdown**: Provides visual representations, such as pie charts and bar graphs, of the nutrient composition (e.g., caloric value, fats, carbohydrates, proteins, vitamins, and minerals) for selected foods.
- **Nutrition Range Filter**: Enables users to filter foods based on selected nutrient ranges (e.g., fat content, protein, sugar, vitamins).
- **Nutrition Level Filter**: Allows users to filter foods by nutritional content levels—low, mid, and high—based on various nutrients like fat, protein, carbohydrates, and nutritional density.
- **Food Calculator** : Allows users to input a serving size of a food in grams and the Calculator displays the total nutrient composition of that serving.

2. **Data Analysis:** Accurate integration and processing of data from the Comprehensive Nutritional Food Database, covering a wide range of nutritional metrics, including:
   - Caloric Value
   - Fat(in g)
   - Saturated Fats(in g)
   - Monounsaturated Fats(in g)
   - Polyunsaturated Fats(in g)
   - Carbohydrates(in g)
   - Sugars(in g)
   - Protein(in g)
   - Dietary Fiber(in g)
   - Cholesterol(in mg)
   - Sodium(in g)
   - Water(in g)
   - Vitamin A(in mg)
   - Vitamin B1 (Thiamine)(in mg)
   - Vitamin B11 (Folic Acid)(in mg)
   - Vitamin B12(in mg)
   - Vitamin B2 (Riboflavin)(in mg)
   - Vitamin B3 (Niacin)(in mg)
   - Vitamin B5 (Pantothenic Acid)(in mg)
   - Vitamin B6(in mg)
   - Vitamin C(in mg)
   - Vitamin D(in mg)
   - Vitamin E(in mg)
   - Vitamin K(in mg)
   - Calcium(in mg)
   - Copper(in mg)
   - Iron(in mg)
   - Magnesium(in mg)
   - Manganese(in mg)
   - Phosphorus(in mg)
   - Potassium(in mg)
   - Selenium(in mg)
   - Zinc(in mg)
   - Nutrition Density

Excluded:

- The project will not include data or analysis for nutritional information outside the scope of the Comprehensive Nutritional Food Database.
- The tool will be developed exclusively for PC use, with no mobile application version planned.
- There will be no cost/benefit analysis conducted. The project assumes an unlimited budget and/or free access for users.
- Security and data protection measures to ensure compliance with relevant standards.

Notes: Define and manage what is included or excluded in the project and product. Included:

- All software requirements (list)
- Data analysis
- Usable GUI by all stakeholders

Excluded:

- Nutritional information beyond the nutritional food database
- Mobile app development (exclusive to pc)
- Cost/Benefit analysis - Assume unlimited budget and/or free access to users

2. Work Breakdown Structure
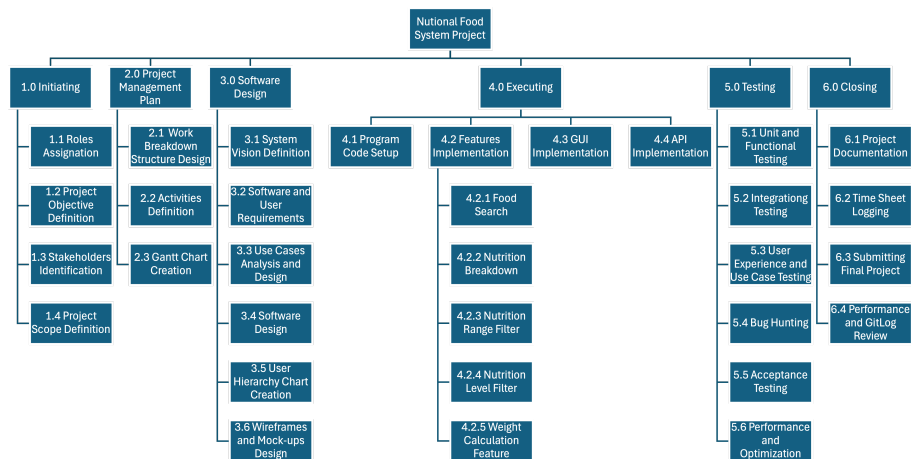
3. Activity Definition Estimation

Define the activities required for your project based on the WBS, and assign responsibilities to team members. Each activity should be numbered and correspond with your Gantt chart. Provide estimated durations for each activity to facilitate Gantt chart preparation.

Activity #No	Activity Name	Brief Description	Duration	Responsible Team Members
1.1	Assign roles in project	Everyone decides on their role in the project.	1	All

Activity #No	Activity Name	Brief Description	Duration	Responsible Team Members
1.2	Set objective	Define project objective.	1	Gemma
1.3	Identify stakeholders	Determine the stakeholders for the system.	1	Gemma
1.4	Define project scope	Determine what is inside and outside the project's scope.	1	Gemma
2.1	WBS	Develop the work breakdown structure we are following for the project.	2	Juan
2.2	Activity definitions	Defining the activities we need to complete as a part of the project.	1	Josh
2.3	Gantt Chart	Creating a visual plan of the work that is going to be done in visual form.	1	All
3.1	Define the system vision	Defining the backstory and purpose to creating the system.	1	Gemma
3.2	Set software and user requirements	Outline how users interact with the system.	1	Gemma,Josh
3.3	Use case diagram and use cases	Visually depict all the potential user's interaction with the system.	2	Josh
3.4	Software design	Define the key functions and data structures along with providing a flow chart on how they interact.	2	Josh, Juan
3.5	User hierarchy chart	Create a virtual chart that depicts how the software is going to be design and how users navigate through it.	1	Juan
3.6	Design wireframes and mock-ups	Conceptualise how the system is going to look.	3	All
4.1	Setup program code	Organise all the relevant applications and code bases.	1	All
4.2	Features implementation	Develop the features required for the system	10	All
4.2.1	Implement Food search	Develop and integrate the food search feature.	5	Gemma
4.2.2	Nutrition breakdown	Develop and integrate the nutrition breakdown feature.	5	Josh

Activity #No	Activity Name	Brief Description	Duration	Responsible Team Members
4.2.3	Nutrition range filter	Develop and integrate the Nutrition range filter feature.	5	Juan
4.2.4	Nutrition level filter	Develop and integrate the nutrition filter feature.	5	Gemma
4.2.5	Weight calculation feature	Develop and integrate the weight calculation feature.	5	Josh
4.3	User interface implementation	Integrate the planned UI to the functional components of the system.	5	Juan
4.4	API implementation	Setup API and make the final system be able to communicated to.	3	All
5.1	Unit and Functional testing	Ensure all features of the application are in full working order with no system breaking issues.	3	All
5.2	Integration testing	Ensure R and the GUI interact correctly to display the expected result and no graphical errors.	2	Gemma
5.3	User experience and Use-case testing.	Ensure the user experience and interaction with the application is easy to understand.	2	Josh
5.4	Bug hunting	Detect and fix bugs.	2	Juan
5.5	Acceptance testing	Testing if the program meets the potential user's/stakeholder's standards.	2	Gemma/Josh
5.6	Performance and optimisation	Cutting back on suboptimal/ resource intensive code.	2	Juan
6.1	Finalising documentation	Consolidating the appropriate documentation for the assignment for submission.	1	Gemma
6.2	Logging hours/time sheets	Recording the time each member has contributed to the assignment.	1	Josh
6.3	Final handover to client	Polishing and submitting application for assessment.	1	Juan
6.4	Performance review and gitlog	Analyse our performance in the project and finalise the gitlog.	1	Juan

4. Gantt Chart

Project Title

Activity No. and Name	Plan Start	Plan Duration	Actual Start	Actual Duration	Percent Complete
1.1 Assign roles in project	1	1	1	1	100%
1.2 Set objective	1	1	1	1	100%
1.3 Identify stakeholders	1	1	1	1	100%
1.4 Define project scope	1	1	1	1	100%
2.1 WBS	2	2	2	2	100%
2.2 Activity Definitions	2	1	2	1	100%
2.3 Gantt Chart	4	1	4	1	100%
3.1 Define the system vision	5	1	5	1	100%
3.2 Set software and user requirements	6	1	6	1	100%
3.3 Use case diagrams and use cases	7	2	7	2	100%
3.4 Software Design	8	2	8	2	100%
3.5 User hierarchy chart	10	1	10	1	100%
3.6 Design wireframes and mock-ups	11	3	11	3	100%
4.1 Setup program code	14	1			0%
4.2 Features implementation	15	10			0%
4.2.1 Implement Food search	25	5			0%
4.2.2 Nutrition breakdown	25	5			0%
4.2.3 Nutrition range filter	25	5			0%
4.2.4 Nutrition level filter	30	5			0%
4.2.5 Weight calculation feature	30	5			0%
4.3 User interface implementation	30	5			0%
4.4 API implementation	35	3			0%
5.1 Unit and Functional testing	38	3			0%
5.2 Integration testing	41	2			0%
5.3 User experience and use-case testing	41	2			0%
5.4 Bug hunting	41	2			0%
5.5 Acceptance testing	43	2			0%
5.6 performance and optimisation	43	2			0%
6.1 Finalising documentation	45	1			0%
6.2 Logging hours/time sheets	45	1			0%
6.3 Final handover to client	45	1			0%
6.4 Performance review and gitlog	46	1			0%