MAKERERE UNIVERSITY

COLLEGE OF COMPUTING AND INFORMATION SCIENCES
SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY

TOPIC: DIET AND NUTRITION MANAGEMENT SYSTEM

PRESENTED BY

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A Proposal submitted to the College of Computing and Information Sciences in Partial fulfillment of the Requirements for the Award of a Degree of Bachelor of Information Systems and Technology of Makerere University.

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Contents

List of Tables

List of Figures

1 Introduction

Information systems are concerned with data capture, storage, analysis, and retrieval. These are vital to assist decision-making in a short time frame, potentially allowing decisions to be made and practices to be action-ed in real time. In the context of diet and nutrition management, nutritional health systems allow for accurate and efficient analysis of food ingredients as well as patient nutrient intake which assists in ensuring that selected food combinations offer the desired nutrients for a particular meal or diet(Dietary Food Management, n.d).

1.1 Background

Dietary deficiency is more accountable for the overall death toll on the global scale than other factors such as tobacco, high blood pressure, or any other health risk, as indicated in the new scientific study. "Poor diet is an equal opportunity killer," (IHME, 2019). Low levels of healthy food consumption, such as whole grains, in contrast to too many unhealthy foods, including sweetened beverages, account for one in every five deaths globally, "We are what we eat and risks affect people across a range of demographics, including age, gender, and economic status," (IHME, 2019).

Poor diets were behind the 10.9 million deaths, or 22% of all deaths among adults in 2017, with cardiovascular disease (CVD) as the foremost cause, trailed by cancers and diabetes. They also resulted in 255 million disability-adjusted life years (DALYs), equaling the sum of years lost and years lived with disability. Poor diet statistically represents 16% of all DALYs among adults globally. The findings of the study indicate that while the impact of individual dietary factors varies across countries, three dietary factors – low intake of whole grains, as well as fruits, and high consumption of sodium – accounted for more than 50% of diet-related deaths and 66% of DALYs. The other 50% of death and 34% of DALYs were tied to high consumption of red meat, processed meats, sugar-sweetened beverages, and trans fatty acids among other foods. There is an urgent and compelling need for changes in the various sectors of the food production cycle, such as growing, processing, packaging, and marketing (IHME, 2019).

Uganda has shown limited progress towards achieving the diet-related non-communicable disease (NCD) targets. Furthermore, it has shown no progress towards achieving the target for obesity, with an estimated 10.4% of adult (aged 18 years and over) women and 2.3% of adult men living with obesity. Uganda's obesity prevalence is lower than the regional average of 20.7% for women and 9.2% for men. At the same time, diabetes is estimated to affect 5.6% of adult women and 5.6% of adult men (Global Nutrition Report, n.d.). The motivation for feeding should not only be to stop hunger, but also to increase the general awareness of the nutritional value of the food ingested.

1.2 Problem statement

Improper diet and nutrition are caused by inconsistent intake of healthy foods. Other causes include improper meal timings, under or overeating, not having enough healthy foods, and nutritional ignorance. Experts have revealed that only 10% of children below the age of five years are eating recommended healthy foods and this includes frequenting eating nutritious meals and eating on time. This has left the majority 90% eating non-nutritious foods which has resulted in increasing numbers of childhood malnutrition and obesity (Tumwine, 2022). "People are eating a lot of unhealthy foods that do not contribute to the manufacturing of blood in the body which has made them sicker."(Tumwine, 2022). We therefore intend to contain this problem by developing a diet and nutrition management system which will guide the targeted populace categories majorly students to maintain a healthy selection of well-balanced meals daily.

1.3 Objectives

1.3.1 General Objectives

To develop a diet and nutrition management system that will provide students with timely suggestions on the food they should consume to remain healthy.

1.3.2 Specific Objectives

- To identify the requirements for a Diet and Nutrition Management System in order to understand what the would-be users of the system would want.
- To design a model and implement the system that will be used to assist in maintaining healthy diet meal patterns.
- To test and validate the system.

1.4 Justification.

Improper diet and nutrition is a constant challenge to many students which adversely exposes them to risks like obesity, digestive problems, and chronic illnesses. From the listed effects, our system intends to;

- Increase awareness on the dire consequences of improper diet and nutrition
- Provide a practical means to improve feeding patterns daily.
- Customize a system to the needs of Students Population.

1.5 Scope

Our research will be focused on locally grown foods in Uganda that consist of a balanced diet and specific chronic illnesses like Diabetes, obesity, pressure and cancer. We will major at Makerere University. We intend to sample several students from colleges such as CEDAT, COCIS, and CHUSS to know the foods they regularly eat.

1.6 Significance

The system that we aim to build will help University students select the best food combinations within the appropriate time through timely reminders and food suggestions, while additionally providing Nutrition Literature.

2 Literature Review

According to Wikipedia (2019), dietary management simply means providing nutritional options for individuals and groups with diet concerns through the supervision of food services. Information systems have made it easier for accurate and efficient nutritional analysis of feeding habits and patterns.

This section focuses on the exploration of different solutions developed by researchers to alleviate the problem of poor eating habits among University students. We reviewed similar systems regarding the problems faced by students when they skip meals or even fail to eat at the right time. The solution we aim to provide for this problem is to develop a diet and nutrition management system that will provide students with timely reminders, food suggestions, and nutrition literature.

We realized that so much research has been done by researchers from the field of nutrition science where a person is trained to provide information regarding the types and quantities of food the people eat. This field draws information from other areas such as biology, chemistry, and social sciences (Sriram, 2020).

The review is comprised of works that have been done to find the solution to the problem and we were able to sample various systems. We singled out systems that were closely related to our research problem and we noted the strengths and weaknesses of the solutions. By studying these systems, we were able to find the deficiency in the solutions regarding our problem and stated ways in which the solutions can be tailored to satisfy our target group. The features of the reviewed systems are compared with those of the proposed system in Table 1.

2.1 Existing Systems

2.1.1 MantraCare

MantraCare, (*MantraCare*, n.d), is a Ugandan web-based application that offers a range of tools and resources for individuals looking to improve their health and manage their diet. Its services include consultation services with dieticians on belly fat reduction and weight loss dieting plans, exercises, and foods and may more.

Strength of the System:

- Customized meal planning: MantraCare offers personalized meal planning based on individual needs and preferences, including dietary restrictions and goals.
- Comprehensive nutrition tracking: With MantraCare, users can track their daily intake of nutrients, including calories, carbohydrates, protein, and fats, as well as monitor their progress towards their health goals.
- Wide range of resources: MantraCare provides access to a variety of resources, including recipe ideas, nutrition articles, and exercise guides, to help users make informed decisions about their diet and lifestyle.
- Supportive community: MantraCare has a community of users and professionals who can provide support and guidance on nutrition and diet management.

Weaknesses of the System:

- Cost: MantraCare requires a subscription fee, which may be a barrier for some users.
- It does not offer food suggestions.
- Limited customization: While MantraCare offers personalized meal planning, the options may be limited for those with specific dietary needs or preferences.
- Lack of in-person support: As an online platform, MantraCare does not offer in-person support or consultation with nutrition professionals.

2.1.2 LifeSum

Lifesum (*LifeSum*, n.d) is a digital health and wellness platform that aims to help users improve their overall health through personalized nutrition and exercise recommendations that always pointing toward the goal you want. It offers a range of features, including a food diary, macro tracking, and fitness tracking, as well as personalized meal plans and recipe suggestions.

It has several features which include:

- Simple tracking of meals (including barcode scanning), exercises, habits, weight, and body measurements.
- A wide range of diets to choose from, including Ketogenic Diet.
- Favorites - save your favorite food, exercises, meals, and recipes.
- Meal plans - 1 to 3 weeks of scheduled, easy-to-cook meals.
- Support for macros and net carbs.
- Detailed nutritional information.
- Food, meal, and day ratings.
- Weekly life score - what's gone well and how you can improve.
- Hundreds of healthy and tasty recipes.
- Integrates with Apple Health, Google Fit, Samsung Health, Apple Watch, RunKeeper, Fitbit, Withings, Samsung wearable devices, Wear OS and Google Assistant.

Strengths of the System:

- The ability to integrate with different technologies for example Google Fit, and Apple Watch among others.
- Wide range of features for comprehensive health and wellness tracking.
- Personalized meal plans and recipe suggestions.
- Integration with popular fitness tracking devices and apps.
- Available in multiple languages.

Weaknesses of the System:

- Some users have reported difficulties with the food diary and tracking accuracy.
- Premium subscription required for access to certain features.
- Limited availability of certain features (e.g. personalized meal plans) in certain countries.

2.1.3 My Plate Calorie Counter

My Plate Calorie Counter (*My Plate Calorie Counter*, n.d) is a popular nutrition and diet management solution developed by the U.S. Department of Agriculture (USDA). It offers a range of features designed to help users make healthier food choices and track their daily nutrient intake. They use the world's largest food database to provide you with calorie counts, nutritional information, and serving sizes for lots of foods. You can also access an 8-week meal plan and recipe suggestions.

Strengths of the system:

- Provides a comprehensive database of over 8,000 foods, including common brand names and restaurant meals.

- Offers personalized daily calorie and nutrient recommendations based on the user's age, gender, weight, height, and physical activity level.
- Allows users to track their daily intake of macro-nutrients (protein, carbohydrates, and fat) and micro-nutrients (vitamins and minerals).
- Integrates with popular fitness apps, such as MyFitnessPal and Fitbit, to provide a more comprehensive view of the user's overall health and wellness.
- Offers educational resources and tips on healthy eating and weight loss.

Weaknesses of the system:

- Most of the suggested foods such as Southwestern Pancakes, chocolate Almond protein cocoa, and many others are alien to our target group.
- If you want to get the most of the app such as your highest caloric foods, daily goals, and personal progress you are required to subscribe to the app which 1 month costs $9.99 (approximately Ugx 38,000/=)
- This option would not work for our target group because the suggested foods are hard to find in Uganda and if they are available, they would be so expensive for the students.
- Some users have reported issues with the app's tracking feature, including difficulty inputting custom foods and incorrect calorie counts.
- Some users have reported issues with the accuracy of the nutrient information provided in the database.
- The app is only available for iOS and Android devices, which may exclude users who do not have access to these types of devices.

2.1.4 The Diet Planner Application

The Diet Planner Application (*DietPlannerApp*, n.d), is a dietary management system that is equipped with features such as 10,000 ready meals, 270 allergens, patients' medical report capability, meal plans, personalized patient menus, nutritional interviews, kitchen and home measures, and a search engine for dishes and products, etc. To save patients' time, specialists create balanced meals that can be enjoyed without restrictions. It will allow for the preparation of nutrition plans for patients faster than ever. It enables the instant generation of fully personalized menus by a wide range of calorie goals, preferences, and dietary restrictions.

Strengths of the System:

- It can generate a health report for the user.
- It has a search engine for dishes and products.

Weaknesses of the System:

- It does not have timely reminders.
- It does not have a BMI (Body Mass Index) calculator.

2.1.5 Nutrition and Diet Management Solutions by Nutritics

Nutrition and Diet Management Solutions(*Nutritics*, n.d) is a software platform that provides a range of tools and resources for professionals in the field of nutrition and dietetics. The platform includes features such as a nutritional assessment tool, a meal planning module, and a recipe database, as well as educational resources such as articles and webinars. It allows multiple profile details designated as clients to be entered. Each profile is then analyzed and then, a tailored meal plan is suggested according to the profile that has been entered.

Strengths of the system.

- The Nutrition and Diet Management Solutions system offered by Nutritics includes a variety of support options for its users, including the use of webinars as a means of providing information and assistance. In addition to webinars, the system may also offer other forms of support such as email or phone support, online resources or tutorials, and in-person support through local events or workshops. This comprehensive support network helps users to make the most of the system and achieve their nutrition and diet goals.
- It provides the user with a variety of options for meals, allowing them to choose different alternatives to fit their dietary needs and preferences.
- It has multiple categories of users that it focuses on, including individuals looking to improve their personal nutrition and healthcare professionals looking to manage their patients' dietary needs.
- It allows the user to add new food items and their corresponding nutritional information to the system, which helps in keeping track of the nutritional intake of individuals and making informed dietary decisions.
- Wide range of features: Nutritics offers a range of features including meal planning, recipe analysis, and nutritional assessment tools, making it a comprehensive resource for nutrition professionals and individuals.
- User-friendly interface: The platform has a user-friendly interface that is easy to navigate, making it accessible to users of all levels of experience.
- Customization options: Nutritics allows users to customize their experience by setting specific goals, dietary preferences, and other parameters.
- Accurate and reliable: Nutritics uses reliable sources and evidence-based guidelines to provide accurate and up-to-date information on nutrition and diet management.

Weaknesses of the System.

- Cost: The platform may not be accessible to all users due to the cost of subscription.
- The application is customized for desktops only.
- The application is customized for organizations or hospitals to manage multiple clients/patients.
- The system is based on expensive meals that may not be affordable.
- Lack of personalization: While Nutritics does offer customization options, it may not be able to provide the same level of personalization as a one-on-one consultation with a nutrition professional.

2.1.6 Noom

Noom(*Noon*, n.d) is a nutrition and diet management solution that utilizes a combination of artificial intelligence and human coaching to help users make healthier lifestyle choices. One strength of Noom is its personalized approach, as the program tailors its recommendations and goals to the individual user. Noom also offers a wide range of resources and support tools, including educational articles, tracking tools, and the option for one-on-one coaching sessions

Strengths of the system.

- Noom provides a comprehensive weight loss program that includes personalized meal plans, exercise tracking, and goal setting.
- The program also offers one-on-one coaching from certified health coaches, providing support and accountability for users.
- Noom's focus on creating sustainable lifestyle changes rather than quick fixes is a key strength, as it helps users maintain their weight loss over the long term.

- The program is backed by scientific research and has been shown to be effective in multiple clinical studies.
- Noom offers a range of resources and tools for users, including a food diary, articles and tips on healthy living, and a supportive online community.
- It is available both on mobile and desktops.

Weaknesses of the system.

- It has so many questions that take almost an hour to be answered.
- Some users may find the cost of Noom's program to be a barrier, as it is more expensive than some other weight loss programs.
- The program requires a significant time commitment, as users are expected to track their meals, exercise, and progress regularly.
- Some users may find the emphasis on tracking and goal setting to be too structured, and may prefer a more flexible approach.
- Noom's program may not be suitable for those with certain medical conditions or food allergies, as it does not offer specialized meal plans for these groups.
- The program may not be as effective for those who are severely overweight or obese, as it is primarily focused on helping people lose smaller amounts of weight.
- It is not accessible in terms of affordability to people like students.

2.2 Proposed System

As a group, we shall develop a web-based application that will require university students to register possibly with their name and email addresses that will be used to send notifications to eat food cost-effectively. After this, they will be able to receive timely reminders on the minimum amount and type of food they should consume to successfully fulfill their daily tasks. This will include a mix of foods such as Matooke, Rice, and Sweet potatoes and drinks such as water and a cup of tea. It will also include general knowledge on how they can maintain a healthy and functioning body such as drinking lots of water, exercising regularly, and avoiding harmful consumption of alcohol, and drugs among others. This will provide a more customized and cost-effective feeding way for university students to allow them to focus on their studies as they also take care of their health.

Table 1: Comparison Of the Systems

System Features	**MantraCare**	**Nutrition and Diet Management Solutions By Nutritics**	**Noom**	**Diet Planner**	**My Plate Calories**	**Life Sum**	**Proposed System**
BMI Calculator		**YES**	**YES**		**YES**	**YES**	**YES**
Timely Reminder	**YES**	**YES**			**YES**		**YES**
Food Suggestions	**YES**	**YES**	**YES**	**YES**			**YES**
Nutritional Literature	**YES**		**YES**	**YES**	**YES**	**YES**	**YES**
Accessibility/Affordable(Free)							**YES**

With the comparison above, Our system will meet all the features that are absent[1] in all the other systems.

[1]The cells that are empty (i.e cells without '**YES**'), indicate the absence of the specific feature in the corresponding System

3 Research Methodology

3.1 Introduction

In this section, we shall share all the methods and tools that we shall use to carry out our research and fulfill all the stated specific objectives that the system to be developed should have. It presents the description of the research design, study area, sample.

3.2 System Development Life Cycle

The SDLC design that we shall deploy to develop the system is the waterfall model. The waterfall model is a classical model used in the system development life cycle to create a system with a linear and sequential approach. This is so because our requirements for the system are clearly defined and well-known.

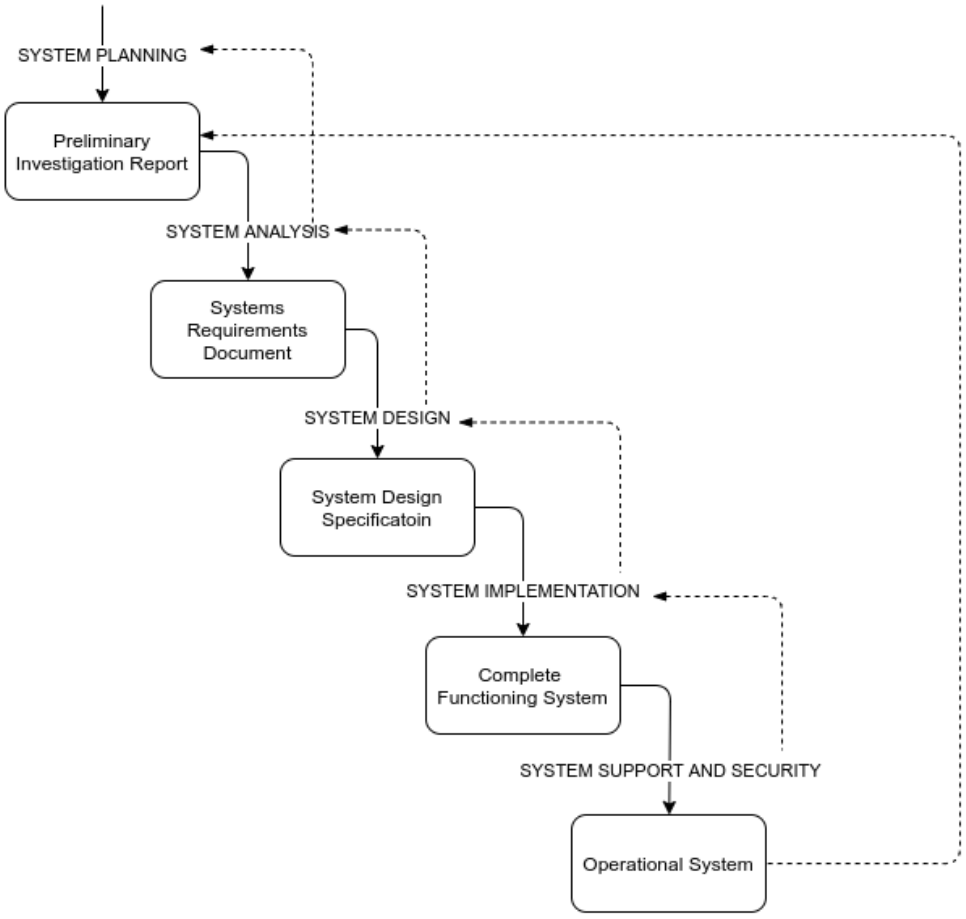

Figure 1: Waterfall Methodology Illustration showing the phases and deliverables for each phase

3.2.1 System Planning

Project planning is at the heart of the project life cycle, and tells everyone involved where you are going and how you are going to get there. This is where we shall document the project plan, define the project requirements and deliverables, and create the project schedule. It will involve creating a set of plans to help guide our team through the implementation and closure phases of the project. The plans created during this phase will help us manage time, cost, quality, changes, risk, and related issues.

3.2.2 Requirements Definition

In this phase, all requirements of the project are defined and documented in a specification document and a feasibility analysis is done to check if these requirements are valid. At this stage, we shall gather data from the desired sample of the population about the different aspects of their diet and nutrition. The collection of this data will involve different steps that include; Identify issues and opportunities for collecting data, setting goals and objectives, planning approaches and methods, and collecting data. The collected data will enable us to answer stated research questions, test hypotheses, and evaluate outcomes.

In our research process, we shall use a hybrid method comprises of both qualitative and quantitative methods to carry out the data collection process. We shall use Makerere University as our case study specifically the students and because we are part of the community, collecting the information will be much easier.

Among the tools we shall use will include an online questionnaire which will be sent to students from colleges which will be grouped into two and the first group will be comprised of undergraduate students from colleges such as CHS, CEDAT and COCIS among others. This will be aimed at gathering information from continuing students, so that we can get a chain of events and know how their feeding has changed all over the years and benefits or set backs they have faced with meals while at the university.

We shall use the interviews and observation techniques to understand the patterns students use to select their daily meals at the different break intervals during the course of the day.

3.2.3 System Analysis

Also, at this stage, we will analyze how the system will meet user needs. The requirements gathered will be both functional and non-functional requirements. For example, Functional include "The system should authenticate a user's new account in order to gain access." Non-functional "The system should be able to handle 50 users without performance deterioration." and others. After thorough analysis, a Requirements Understanding Document (RUD) is created.

The main purpose of conducting system analysis is to study the various processes and to find out its requirements. This includes methods of processing data and producing information. The determination of requirements entails studying the existing details about it to find out what these requirements are. The data will be analyzed with Google Form tools so that we can get matching patterns and also filter out what is necessary for us to be able to determine the users needs.

We will come up with a System requirements document that helps formalize the functional and non-functional requirements

3.2.4 System Design

At the design stage, we will describe the needs and behaviors that the system can perform in the form of UML. UML diagrams that we will make include; use Case diagram, class Diagram and activity diagram. We will also come up with wire-frames, mock-up designs for the user interface.

Use Case Diagram for Web-based Application

We shall visualize what actors can do with the system with each actor having different role(s), either student or and administrator.

Some of the actions that students will be able to perform are:

- Create a user account for access.

- Enter their bio data while creating a user account.
- Choose and select varieties of meal plans.
- Give feedback and reviews on the quality of nutritional literature.
- And Others.

Some of the actions that an administrator will be able to perform are:

- Create or delete certain user accounts.
- Update the number or meal plans available.
- Increase or reduce the number of food groups available for the meal plans.
- And Others.

Activity Diagram

To start using this system, the user must first enter the system address. Users will be categorized into two, namely student and administrator. Students will have to register themselves in order to choose a meal plan via the web-based application. For an already registered student, they will have to login. If the username or password entered is incorrect,they will be denied access to the system and in case they forget it, the user can recover the password. After logging in the student can see monthly diet on the system dashboard for the respective user category.

UML Class Diagram

Each class has different responsibilities and functions commonly referred to as attributes and operations. Classes will include the following; User class which will be used in system authentications, with categories of administrator and student. Administrator and student classes will be used to in-cooperate the user's bio-data. These are just a few of the classes that we will have.

3.2.5 System Implementation

The system will be implemented using programming languages and system implementation tools. While developing the database, we shall use MySQL which is an open-source language developed by Oracle.

In the process of developing the front-end part of the system, we use a variety of tools which include HTML and CSS. Hypertext Markup Language (HTML) will be used to display content on the web browser whereas Cascading Style Sheets (CSS) will be used to make the web pages look attractive.

In the process of back-end development, we shall use PHP and this side majorly focuses on system architecture and everything related to interactions between the database information and the browser.

3.2.6 System Testing and Validation

System Testing

The aim of testing a system is to ensure that a system meets its specification and any non-functional requirements (such as stability and throughput) that have been agreed upon with its users.

Each feature of the diet and nutrition management system, for example the BMI calculator, Timely Reminder, and Food Suggestions will be tested independently after being developed to see whether they function as intended.

System testing will be done while referring to the requirement specifications of the system to see if the developed system satisfies the predefined functionalities. The testing can be done through unit testing, integration testing, and user acceptance testing.

Unit Testing

This is where we shall identify individual functions that will be used in the system and this can involve testing a function that returns the number of meals stored in the system. To carry out unit testing, we will use a testing library/feature for the programming language in use. This process is majorly done to ensure that the functions are acting like they were intended.

Integration Testing

After all functions are working fine, we shall move on to integration testing where all the functions are put together and then testing if they all work to get the needed output.

User Acceptance Testing

This is the final type of testing and it is done by the end users to ensure that everything is working out fine and this will involve getting some students and allowing them to fully use the system for a specific number of days and then get feedback about the functionality of the system.

Table 2: Tabular Representation of the Methodologies

Objectives	**Stage**	**Tool(s)**	**Output**
To identify requirements for the Diet Management system	System Planning	Online Google Form	System Requirements Document
To design a model for the system	System Design	Draw.io/Diagram.net	System Design Document
To implement the System	System Implementation	MySQL, HTML, JavaScript, CSS, PHP	System for Testing
To test and validate the System	System Testing/Support and validation	Software testing tools such as programming language testing libraries, visual Basic	Fully Developed System

3.2.7 Conclusion

This section fully states a detailed number of steps that will be followed to collect the data, process it and analyze it in order to get the specific requirements of the system which will then be used to design, develop, test and validate the system.

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Appendix A: Project Timeline

Project part 1 completed		
Activity	**Duration**	**Deliverables**
Concept paper	2 weeks	Problem statement and objectives
Literature review	2 weeks	Overview of previously developed systems relating to the topic
Methodology	2 weeks	Summary of how the project objectives will be achieved
Proposal	1 week	Summary of concept paper, literature review, and methodology
Project part 2		
Activity	**Duration**	**Deliverables**
Data collection and deriving of system requirements	3 weeks	System requirements document
Implementation, testing and validation of the system	8 weeks	Fully developed system
Conclusions and future work	3 weeks	Final report
Developing slides for the developed system	1 week	Presentation

Appendix B: Project Budget

Below is a sample of the possible costs that we predict to incur during the process of collecting data, analyzing, Design,Implementation and Test.

Item	**Price (UGX)**
Printing	50,000
Stationery	20,000
Mobile data	30,000
Binding	20,000
Transport	30,000
Lunch	50,000
APIs subscription	60,000
GRAND TOTAL	**260,000**

Appendix C: A guide to data collection using questionnaires and interviews

We are third-year students at the College of Computing and Information Technology (COCIS) and we are developing a diet and nutrition management system that will help students manage their diets effectively. The system will allow students to register and based on their input, the system will provide timely reminders, food suggestions, and nutrition literature. This is an endeavor to help a student improve their overall mental health, especially regarding memory retention and the intelligence quotient.

Sample questions for the questionnaire guide directed to Makerere University students

1. What is your name?
2. What is your gender?
3. When did you join Makerere University?
4. Which college are you from?
5. Do you cook your meals or do you have them from a restaurant?
6. What is the average price of the food you eat?
7. If you have your meals from out, where do you go?
8. Do you have a clear time frame for your meals?
9. Do you have a consistent meal plan?
10. How many meals do you have in a day?
11. Are these the same number of meals that you have been consuming since you joined the university?
12. If no, why?

Interview Guide for Makerere Students

1. What is your name?
2. When did you join Makerere University?
3. Which college are you from?
4. Do you cook your meals or do you have them from a restaurant?
5. What is the average price of the food you eat?
6. If you have your meals from out, where do you go?
7. Do you have a clear time frame for your meals?
8. Do you have a consistent meal plan?
9. How many meals do you have in a day?
10. Are these the same number of meals that you have been consuming since you joined the university?
11. If no, why?

Interview Guide for Doctors

1. What is your name?
2. What are the general effects of not having a balanced diet?
3. What impact does an improper diet have on a student's mental health and concentration?
4. What is the most suitable time for students to have their meals?
5. What are the best food combinations that will help a student achieve a balanced diet?
6. What calories are contained in certain foods and how much should be consumed?
7. What do you consider as over and under-eating?
8. How could we access your nutritional literature?
9. What advice do you have for students concerning their diet?