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ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES DEPARTMENT OF COMPUTER SCIENCE

**መሪ ETHIOPIAN FITNESS AND NUTRITION WEB APP**

COMPUTER SCIENCE: FINAL YEAR PROJECT PROPOSAL

BY

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**INTRODUCTION**

In recent years, global awareness surrounding health and wellness has increased dramatically. People are becoming more conscious of their dietary choices and physical activity levels. However, this shift towards healthier living has not been adequately supported by digital tools tailored to specific cultural contexts, particularly in Ethiopia. The absence of comprehensive fitness and nutrition applications that resonate with Ethiopian food culture is a significant gap in the market.

Current fitness apps predominantly focus on Western dietary habits and exercise regimens, which may not align with Ethiopian eating patterns or lifestyle practices. For instance, traditional meals are often high in carbohydrates and low in processed foods, which can be beneficial when balanced with appropriate physical activity. Yet, without guidance on how to adapt these traditional diets to modern nutritional standards, many individuals may struggle to achieve their health goals.

In the contemporary fitness and nutrition landscape, most available apps are designed with a more Western-centric approach. They often overlook the unique dietary habits and fitness needs of non-Western societies, including Ethiopia. This creates a disconnect for Ethiopian users who wish to maintain their health and fitness using tools that resonate with their cultural background. Traditional Ethiopian meals, which are naturally nutritious and balanced, are not reflected in these global fitness apps, leading to an underrepresentation of Ethiopian food culture in the digital health space.

In conclusion, as Ethiopia navigates the complexities of modern health challenges, there is an urgent need for digital solutions that respect and incorporate its rich cultural tapestry. The "መሪ ETHIOPIAN FITNESS AND NUTRITION WEB APP" seeks to fill this void by fostering a holistic approach to fitness and nutrition that resonates with the Ethiopian populace.

**STATEMENT OF THE PROBLEM AND JUSTIFICATION**

The current market for fitness and nutrition apps is saturated with options that are predominantly Western-centric, offering solutions that often do not resonate with the cultural and dietary habits of non-Western users. For Ethiopian users, this presents a significant problem. The absence of a fitness and nutrition app that incorporates Ethiopian food culture results in several challenges that need to be addressed.

**STATEMENT OF PROBLEM**

The landscape of health and wellness in Ethiopia is evolving; however, it faces significant challenges due to the lack of culturally relevant digital resources. The primary problem lies in the absence of dedicated fitness and nutrition applications that cater specifically to Ethiopian dietary habits and lifestyle choices. This gap presents several issues:

* **Lack of Cultural Relevance**: The majority of fitness and nutrition apps fail to consider the unique dietary practices of Ethiopian cuisine. Traditional Ethiopian foods, which are rich in nutrients and culturally significant, are not represented in these apps. This lack of representation forces users to adapt their dietary habits to fit the app’s suggestions, leading to a disconnect between their cultural food practices and their fitness goals.
* **Limited Access to Information**: Without localized resources, individuals seeking to improve their health may struggle to find reliable information about how traditional foods can fit into a balanced diet or how they can engage in physical activities that resonate with their cultural practices.
* **Accessibility and Affordability:** Many existing fitness and nutrition apps are not affordable for individuals with limited income and financial resources. Additionally, these apps may require access to gym equipment or other resources that are not readily available to all users, particularly those in rural areas.
* **Educational Gap:** There is a lack of educational content on how to incorporate traditional Ethiopian meals into a fitness and nutrition plan. Users are often unaware of the nutritional value of their traditional foods and how these can be used to achieve their fitness goals.

**JUSTIFICATION OF THE WORK**

Developing the መሪ Ethiopian Fitness and Nutrition Web App is crucial for several reasons:

* **Cultural Preservation and Promotion:** By integrating traditional Ethiopian foods into the app, we promote cultural heritage and ensure that users can maintain their dietary traditions while pursuing their fitness goals. This cultural relevance will enhance user engagement and satisfaction.
* **Affordability and Accessibility:** The app will be designed to be affordable and accessible to users with varying financial resources. It will include workout plans that do not require expensive gym equipment, making it feasible for users in different settings.
* **Educational Value:** The app will serve as an educational tool, providing users with valuable information on the nutritional content of traditional Ethiopian foods and how to incorporate these into their fitness journeys. This knowledge will empower users to make informed decisions about their health and wellness.
* **Filling a Market Gap:** The development of this app addresses a significant gap in the market. By offering a solution that is tailored to the Ethiopian context, we provide a unique value proposition that sets the app apart from generic fitness and nutrition apps.

In conclusion, the መሪ Ethiopian Fitness and Nutrition Web App is a necessary and valuable project that will not only promote healthier lifestyles but also celebrate and preserve Ethiopian food culture. It will provide users with a comprehensive, culturally relevant tool to achieve their fitness goals, ensuring that their journey towards health and wellness is both effective and meaningful.

**PROJECT OBJECTIVE**

**GENERAL OBJECTIVE OF THE SYSTEM**

The primary goal of the project is to develop a web application that integrates Ethiopian food culture with modern fitness and nutrition principles. This app will serve as a holistic resource for individuals seeking to improve their health, fitness, and nutritional knowledge while celebrating their cultural heritage.

**SPECIFIC OBJECTIVE OF THE SYSTEM**

Specific objectives are objectives that help to achieve the general objectives of the system.

The specific objectives of the proposed system are:

* To create supportive platform that not only caters to Ethiopian food culture but is also accessible and affordable for individuals with limited income and financial resources.
* To include both cardio and weight lifting exercises, catering to various fitness levels and goals.
* To educate users on how to incorporate traditional Ethiopian meals into their fitness journey.
* To ensure that the web app is accessible and easy to use for a wide range of users in Ethiopia.

**SCOPE OF THE PROJECT**

Scope defines the coverage areas of the project, activities and operations done by the system. **The project will focus on:**

* Creating a system for Ethiopian foods, their nutritional values, and meal plans that fit fitness goals.
* Offering a selection of fitness programs that include cardio exercises and weight lifting routines.
* Providing tipsand educational resources on fitness and nutrition in the context of Ethiopian food culture.

**The project will not cover:**

* Detailed diet plans for international food cultures.
* Medical fitness recommendations (the app will be a guide, not a substitute for professional advice).

**SYSTEM DEVELOPMENT METHODOLOGY**

**Data collection tools and techniques**

Data collection is the most important part of the project to find the main requirement of the system and to understand how the system does and also to understand how the overall organization work flow looks like.

Conduct surveys or interviews with potential users to understand preferences regarding diet, fitness goals, and cultural expectations.

Research Ethiopian dietary customs, meal structures, and fitness practices to inform the app’s design.

**SYSTEM ANALYSIS AND DESIGN**

**Objective**: To design an intuitive user interface and define the technical architecture that will best support the app’s functionality.

**Activities:** Develop system architecture, including a database structure to store Ethiopian food data and fitness plans.

Design user flows to ensure seamless navigation and positive user experience (UX).

**SYSTEM DEVELOPMENT**

The project will use an Agile development model to ensure flexibility and adaptability throughout the development process. This allows for iterative testing and feedback incorporation, ensuring the final product meets user needs.

**SYSTEM DEVELOPMENT TOOLS**

To support the development of the web app, the following tools will be utilized

**Hardware Requirements**:

Development Machine: A reliable computer with at least 8GB RAM and a modern processor (e.g., Intel i5) for development tasks.

**Software Requirements:**

**Programming Languages**: HTML, CSS, JavaScript for front-end development; Python, Node.js, or PHP for back-end development.

Frameworks and Libraries: React or Angular for front-end; Django or Express.js for back-end development.

Database: MySQL, PostgreSQL, or MongoDB for data storage.

**SIGNIFICANCE OF PROJECT**

The መሪ Ethiopian Fitness and Nutrition Web App holds significant importance for several reasons:

* **Cultural Relevance**: The app promotes and preserves Ethiopian food culture by integrating traditional dietary practices into modern fitness and nutrition plans.
* **Health and Wellness:** By providing fitness and nutrition plans, the app encourages healthier lifestyles and improves overall well-being for Ethiopian users.
* **Educational Value:** The app serves as an educational tool, raising awareness about the nutritional value of traditional Ethiopian foods and providing guidance on healthy living.
* **Accessibility**: The app is designed to be affordable and accessible to a wide range of users, ensuring that everyone, regardless of financial resources or geographic location, can benefit from its features.
* **Community Building**: The app fosters a sense of community by providing users with a platform to share their experiences, support each other, and celebrate their cultural heritage.

**BENEFICIARIES**

* **General Public**: Ethiopian individuals seeking culturally relevant fitness and nutrition guidance.
* **Health Enthusiasts**: Users interested in maintaining a healthy lifestyle with a focus on Ethiopian food culture.
* **Healthcare Providers**: Doctors and dietitians may recommend the app to patients seeking culturally suitable health tools.
* **Health and Fitness Professionals**: Nutritionists, fitness coaches, and wellness experts who can use the app as a tool to provide tailored advice and support to their clients.

## Time schedule of the project

## Gantt Chart

A Gantt chart is a visual project management tool that illustrates a project schedule. Project manager is also responsible for monitoring and controlling the project development based on the schedule shown below.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMISTER 1** | | | | | | | **SEMISTER 2** | | | | | | | |
| **WEEKS** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8-9 |
| **PHASES (PROJECT I)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Proposal Stage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Requirement Gathering |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Requirement Analysis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **FINAL PROJECT II** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Coding |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Deployment (Install ) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Maintenance |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**This Gantt chart may not be exact so the time is estimated or predicted.**