

Project Plan for Bangkit 2023 Product-based Capstone

Team ID : C23-PR489

Team Member :

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Final Selected Themes:

Human Healthcare and Living Wellbeings ▾

Title of the Project:

NutriGie: Your Daily Nutrition's Guide

Executive Summary/Abstract:

Health is the most important thing in our life. In terms of healthcare, food is one of the most important factors. According to Prof. Muhammad Sulchan (a nutritionist from UNDIP), around 90% of illnesses are caused by diet and types of food. However, there are still many people who pay less attention to a healthy diet. As a result, people fail to fulfill their daily nutritional needs or Recommended Dietary Allowances (RDA). In fact, fulfilling the daily RDA is critical for ensuring that our bodies receive appropriate nutrients on a regular basis. Lack of time, knowledge, and resources are some of the reasons why many people have less attention about it. To tackle this problem, our team aims to develop an app for recommending healthy foods based on the individual's daily RDA and preference. The app is also expected to provide users to be able to track their daily nutritional intake. Our research question is how to help users ensure that their daily RDA is met with an easy-to-use application. We believe that our project can solve that problem and have a positive impact on people's health and well-being, and we are excited to continue developing this project.

How did your team come up with this project?

During our brainstorming session, we discovered a common problem. We realized that, as university students who live alone and have hectic schedules, we frequently struggle with deciding what to eat and keep track of how much food and nutrients we consume. We end up consuming unhealthy food and lacking proper nutrition. Based on this concern, our team came up with a solution to help us and others who face the similar problem to make

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better and healthier food choices by developing a mobile app that provides healthy food recommendations based on our preference and nutritional needs, as well as tracking nutritional intake.

Project Scope & Deliverables:

Outline Project	Description	Duration
Requirement Gathering	<ul style="list-style-type: none"> Identify the user requirements and nutritional needs of the target audience Define a list of features in the app Collect user and nutrition data 	3 Days
Design	<ul style="list-style-type: none"> Design ML model architecture Design backend architecture Design User Interface of Android App 	7 Days
Development	<ul style="list-style-type: none"> Building ML model Building API Build mobile application Deploying the ML model to mobile app using Tensorflow Lite Integrating the ML model to mobile app 	16 Days
Testing	<ul style="list-style-type: none"> Find out whether the application works according to the requirements, and ensure the features of the application run well 	1 Day
Final Report	<ul style="list-style-type: none"> Preparing a final report that summarize the project 	1 Day

Project Schedule:

[illegible]

- **IDE** : Android Studio, Visual Studio Code
- **Library** : Tensorflow, NumPy, HAPI Framework
- **Tools** : Google Cloud Platform, Jupyter Notebook, Firebase, Figma, Trello, Github
- **Resources**: Dataset containing user data and nutritional information of various food items, relevant research papers and article

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Based on your knowledge and explorations, what will your team need support for?

- Mentoring for Machine Learning
- Mentoring for Mobile Development
- Mentoring for Cloud Computing
- User Data and Nutrition Data

Based on your knowledge and explorations, tell us the Machine Learning Part of your Capstone!

We plan to build a machine learning using Tensorflow and some other libraries to analyze user and nutrition data. The model will provide personalized food recommendations that are both healthy and appealing to the user according to their daily RDA. We plan to deploy the model to a mobile app using Tensorflow Lite.

Based on your knowledge and explorations, tell us the Mobile Development Part of your capstone?

The mobile development part of our capstone project involves creating an Android application that provides healthy food recommendations based on a user's daily RDA. To accomplish this, I am using Android Studio, which is a popular IDE for developing Android applications. For API Integration, We will use retrofit. For the design, I make it in figma first and export it into an xml file (<https://s.id/NutrigieDesign>).

Based on your knowledge and explorations, tell us the Cloud/Web/Frontend/Backend Part of your capstone?

Designing backend architectures such as databases and APIs. And also setting up and configuring GCP resources such as Cloud Storage buckets to store images, and Cloud SQL instances to store and manage data. Then deploy the application using Compute Engine.

Based on your team's planning, is there any identifiable potential Risk or Issue related to your project?

There are several potential factors that could derail our project, such as data quality issues, unexpected challenges and delays in development.

Any other notes/remarks we should consider on your team's application

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