

CHAPTER 1. INTRODUCTION

1.1 Project Background

Currently the development of information technology is running very fast, so that to get a person's information, it is enough to access it via a supported device from anywhere and anytime. Computers have the ability to receive data (input), manage data (process) and produce information (output). Information technology has entered almost all aspects of life, for example in information processing which used to be done face-to-face, now this can change with the help of software specifically designed to make it easier for someone to obtain information and support success in increasing user satisfaction achieved.

Nutrition has very important benefits for our body, namely as a producer of body energy, as a form of tissue cells, and also as a regulator of the function of biochemical reactions in the body. Nutrition has a very important role in determining one's health. The activity pattern of the adult age group can be disrupted by the consumption behavior of balanced nutritious food. For example, tight working hours, short time at home, mothers working outside the home, increased risk of exposure to pollution and unsafe food. The availability of a variety of ready-to-eat and ready-to-eat foods, and ignorance about nutrition, causes this age group to tend to have light activities, one of the consequences of which is unbalanced and unhygienic food consumption. Therefore, attention to balanced nutritional behavior needs to be increased to achieve a healthy, active and productive lifestyle. One of the ways to get a healthy body is to pay attention to and monitor the health of our body starting from the ideal body weight, ideal height and the number of calories needed each day. As with the state of nutritional status in adults, whether the nutrition in the body is less, more or normal.

In the current era, many people especially adults, experience a body that is not ideal because their weight does not match, between excess body weight (fat) compared to their height or between less (thin) body weight compared to their height. And the lack of public knowledge about nutrition also affects the health of

their bodies. Many people often do not want to check their health nutritional status for reasons of cost, distance, time or difficult to meet with experts. Based on the problems above, an application is needed that makes it easier for people to find out their nutritional information starting from nutritional status, ideal weight, ideal height, total calorie needs, and activities carried out.

Right now, it's over 100 million or so 50% of the entire Indonesian population suffer from various forms of nutritional problems which include IDD (Iodine Deficiency Disorder) stunted, underweight, wasted, VAD (Vitamin A Deficiency), overweight, CVD (Cardiovascular Disease) and IDA (Iron Deficiency Anemia) (Soekirman et al., 2003). According to Atmarita and Falah (2004), based on survey results conducted in 2003, as many as 2 - > 4 out of 10 toddlers suffer from malnutrition in 72% of Indonesian districts. Besides that, Soekirman et al. (2003) stated that prevalence of PEM in toddlers and pre-children schools despite a decrease of approx. 10% from 37.5% in 1989 to 27.5% in 2003 but the amount decreased earlier is not real because it is known that the prevalence of malnutrition ($< -3SD$, weight/age) increased from 6.3% on year 1989 to 10.5% in 1998. It shows that the PEM problem is a macro nutrition problem, especially happening to toddlers is a serious problem must be dealt with immediately.

A website-based information system designed to make it easier for users to obtain information. The developed system must have good functionality, reliability and ease of use. One way to measure whether an application can be used properly is by conducting tests such as black box testing.

One way to identify a person's nutritional needs is with qualitative and quantitative data which makes it easier to view and provide information related to support in caloric needs with the aim that people can easily and quickly find out their nutritional information starting from nutritional status, ideal body weight, ideal height, total calorie needs, activities carried out, planning a food menu based on the number of calorie needs.

Based on the problems above, the author has an idea to design or create a website to monitor nutritional consumption based on daily activities.

1.2 Problems Statements

Indonesia is a country with various nutritional problems. There are several nutritional problems that have been resolved, but there are also several nutritional problems that have not been resolved so far. Nutritional problems that have been resolved are Vitamin A Deficiency (KVA), IDD and anemia. The nutritional problems that have not been resolved so far are stunting and double nutrition.

Stunting is caused by inadequate nutritional intake and a long time. While double nutrition is a problem of malnutrition and excess nutrition (obesity). Nutritional cases are usually marked by an unbalanced body weight. It could be overweight or even underweight, the chronology is again until someone looks very thin.

This system was implemented as an effort to replace nutrition experts, to get nutrition information they had to come to a clinic or hospital first, this resulted in people not getting their nutrition information. The lack of fruit and vegetable consumption and the activities carried out by the community can affect their nutritional condition. The existence of this website can help and facilitate the public in obtaining information about nutritional status, food to be consumed and activities or activities that must be carried out. So, some formulation of the problem with this system, namely:

1. Difficulty determining good nutritional status according to nutritional content, body weight and height
2. Difficulty keeping records of food consumed and tracking daily nutrition
3. Difficulty determining foods that can support or improve nutritional status

1.3 Project Aim

The Aim of this project is to design and develop nutrition consumption guiding system for users based on their daily activities.

1.4 Project Objective

1. To develop a system that provides information about nutritional health, symptoms of malnutrition, things to do to treat malnutrition as well as ideal weight and height
2. To develop a system that records daily nutrition of food and alert the user if they took less nutrition
3. To develop a system that provides food recommendations to be consumed to balance nutritional status.

1.5 Project Scope

There are 2 scopes of this project, as follows:

1.5.1 System

- a. The system displays the registration page
- b. The system displays a login page to enter an already registered account
- c. The system stores user data to track nutrition
- d. The system provides information on the nutritional content of food
- e. The system displays food recommendations to meet nutritional needs
- f. The system can track daily nutrition
- g. The system can send warnings when nutritional conditions are poor or nutrients consumed are less or more

1.5.2 User

- a. Users can register first
- b. Users can log in to accounts that have been registered
- c. Users can add and edit personal data
- d. Users can view information about health nutrition
- e. Users can find out what food recommendations will be consumed
- f. Users can track the nutrients that have been consumed
- g. The user gets a warning if the nutritional condition is not good or the nutrition of the food consumed is less or more.

1.6 Significance

In this project, the significance of this study includes:

- a. A website that is able to detect nutritional status in humans according to food consumed and daily activities.
- b. Website that is capable of recording the nutrition consumed daily.
- c. Websites that are able to provide advice on what foods to eat to balance nutrition.

1.7 Assumption and Limitation

1.7.1 Assumption

With this built-in system, it is hoped that it will make it easier for the public to detect nutritional status and can be used as a means to process various kinds of expert information, especially on nutritional status in general based on food consumed and daily activities.

1.7.2 Limitation

The focus of this project is limited to web-based expert systems. This system is intended to detect nutritional status from the content of food consumed and contains food recommendations to balance nutrition and provide alerts when nutritional conditions are unbalanced.