

CHAPTER 1. INTRODUCTION

1.1 Project Background

Human diseases in general can be diagnosed with the help of technology that is in line with the development of the revolution era which is growing rapidly, especially the use of technology in the health sector is used to improve access to good health services to the community in detecting a disease through symptoms and lifestyles experienced. Disease is considered a medical condition that causes abnormal conditions in biological systems that interfere with body functions with certain signs and symptoms. Specifically for the human species, disease is an abnormal condition such as pain, injury, infection, etc. Various types of diseases and disorders exist in the human body such as infectious diseases, syndromes, and disorders (Fattore & Arrigo, 2005).

Given the current situation after the covid-19 pandemic, it would be better to reduce in-person hospital meetings and avoid crowds, considering also that a doctor or an expert has limited time, so that patients cannot consult when needed, and by taking advantage of the role of technology as access. health services to the community in addition to saving time, with the role of this technology will reduce costs to users or patients. It also aims to facilitate performance in the process of detecting the disease suffered by the patient. Therefore, an expert system is needed to assist in detecting a disease through symptoms and lifestyle.

According to Budiharto & Suhartono (2016) "Expert systems are one of several problem domains or areas of Artificial Intelligence (AI) and are a "smart computer program" that utilizes "knowledge" and "inference procedures" to solve problems difficult enough to require special human expertise".

An expert system is a technology-based program that can do something close to the thought process of an expert to solve a problem effectively. Basically the expert system aims to support problem solving activities, including decision making and diagnosis or detection. One of the implemented implementations system experts in the field of medicine, namely the expert system determines the type of disease experienced by the patient based on the symptoms experienced by the patient suffered (Munirah et al., 2013). Everyone, if they are wrong in doing prevention, it will have a more serious impact, therefore it is necessary to build a

system expert who can help experts and patients to determine the type of disease through the symptoms suffered and also provide advice on appropriate drugs and preventive.

In its design, this program is based on an Android mobile application, where in today's developments everything can be accessed via a smartphone, users simply install the application on the smartphone they are using. This aims to make it easier for users to diagnose the disease they are suffering from from the symptoms experienced.

1.2 Problem Identification

First, how to implement this system as an effort to replace the expertise of a doctor, to get information about the disease must be done by coming to the doctor or the hospital first, this is one of the obstacles for the community to get the details information. It is difficult to recognize the type of disease from the symptoms experienced. Because many of the symptoms are almost the same but with different types of diseases too lack of understanding of prevention methods because it is difficult to recognize them the type of disease. With this application can help and facilitate the community get information about how to treat and how to prevent the disease.

So, some of the problem statement that related in this system are:

1. Difficulty recognizing the type of disease from the symptoms suffered.
Because many of the symptoms are almost the same but with different types of disease.
2. Lack of understanding about the prevention and treatment of the symptoms suffered.
3. Lack of knowledge about asthma, coronary heart disease, hypertension, typhoid fever and stroke.

1.3 Objectives

This project has the following objectives:

1. To develop preliminary apps to make it easier for users to recognize the type of disease suffered.
2. To provide users with information on how to treat and how to prevent.
3. to provide information about 5 diseases in humans namely asthma, typhoid fever, hypertension, coronary artery, and stroke.

1.4 Scope

1.4.1 System Scope

1. There is an assessment feature that functions as an initial analysis of the disease by inputting the user's symptoms, and the user is asked to answer a number of questions.
2. There is a disease list feature which contains several diseases such as asthma, fever, coronary heart disease, etc., to provide information to users about symptoms and how to prevent or treat them
3. There is a user guide feature to make it easier for users to understand what features there are and how the application works.

1.4.2 User Scope

1. The user will be asked a number of questions and asked to answer them, when finished the results of these questions will appear in the form of several diseases taken based on the answers from the user complete with how to prevent and how to deal with each disease.
2. Users can find information about diseases in the disease list feature.
3. There is a user guide feature for users to read so they can understand how it works and there are features in the application.

1.5 Significance

In this project, the significance of this study includes:

1. An Android-based application that is able to detect common types of diseases in humans from the symptoms they present suffered
2. An android-based application that is able to provide information about the disease from the symptoms suffered.
3. Android-based application that is able to provide information prevention and action to users.

1.6 Assumption and Limitation

1.6.1 Assumption

With this system built, it is hoped that it will make it easier for the public to detect diseases and be used as a means to manage various kinds of expert information, especially for the diagnosis of various types of diseases generalin humans through the symptoms they suffer.

1.6.2 Limitation

The focus of this project is limited to:

1. This system is made in the form of an expert system and based on Android.
2. This application contains several questions about symptoms that may be experienced.
3. This system is intended to be able to diagnose early diseases arise from the symptoms suffered.