Design and Implementation of Web Based Disease Diagnoses System

Dr. May Paing Paing Zaw
Lecturer
Technological University
(Thanlyin)
Yangon, Myanmar

Abstract: This paper is intended to implement the design and implementation of web-based diagnosis system. The major purposed is to diagnose or protect the health before going the feel the disease. In this system, people can detect the diabetes types for kids. And then people can detect which types of disease may cause when they are thirsty. This system is implemented by using HTML, CSS, JavaScript, Bootstrap. XAMPP software package is applied to test the results.

1. INTRODUCTION

Globally, health care sector is the pivot and integral part of human lives. Thus, any error committed in the clinical services might leads to defect or termination of life. Recently, information and Communication has been used extensively to improve the various operations and services in the field of the health care service. Health care facility should be accessible by all at all times. But some of the people that should access these facilities are far removed from these facilities. Computer-based methods are increasingly used to improve the quality of medical services. Artificial Intelligence (AI) is the area of computer science focusing on creating expert machines that can engage on behaviors that humans consider intelligent [1]. An expert system is a system that employs human knowledge captured in a computer to solve problems that ordinarily require human expertise. Expert system seeks and utilizes relevant information from their human users and from available knowledge bases in order to make recommendations [2], [3], [4].

2. ARTIFICIAL INTELLIGENCE

2.1 Introduction to Artificial Intelligence

Artificial intelligence (AI) is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans. Some of the activities computers with artificial intelligence are designed for include: Speech recognition, Learning, Planning, Problem solving [5].

2.2 Types of AI

Artificial intelligence is a branch of computer science that aims to create intelligent machines. It has become an essential part of the technology industry.Research associated with artificial intelligence is highly technical and specialized. The core problems of artificial intelligence include programming computers for certain traits such as: Knowledge, Reasoning, humans only if they have abundant information relating to the world. Artificial intelligence must have access to objects, categories, properties and relations between all of them to Classification determines the category an object belongs to and regression deals with obtaining a set of numerical input or output examples, thereby discovering functions enabling the generation of suitable outputs from respective inputs. Mathematical analysis of machine learning algorithms and their performance is a well-defined branch of theoretical computer science often referred to as computational learning theory. Machine perception deals with the capability to use sensory inputs to deduce the different aspects of the world, while computer vision is the power to analyze visual inputs with a few sub-problems such as facial, object and gesture recognition. Robotics is also a major field related to AI. Robots require intelligence to handle tasks such as object manipulation and navigation, along with sub-problems of localization, motion planning and mapping. Robots require intelligence to handle tasks such as object manipulation and navigation, along with sub-problems of localization, motion planning and mapping.

3. SYSTEM IMPLEMENTATION

3.1 System Overview

Web-based Disease Diagnose System is implemented to provide the customer for their good health by checking or detecting the symptoms by clicking the checkbox. In this system, users can detect the disease information, diabetes symptoms, dehydration symptoms, dry mouth symptoms. Symptoms are collected from the internet and write the code or algorithms to check the results. User can view about and can check the types of diabetes by choosing the symptoms. In addition, user can view or diagnose the disease such as dehydration or diabetes or dry mouth by choosing the symptoms checkbox. implement knowledge engineering. Initiating common sense, reasoning and problem-solving power in machines is a difficult and tedious task. Machine learning is also a core part of AI. Learning without any kind of supervision requires an ability to identify patterns in streams of inputs, whereas learning with adequate supervision involves classification and numerical regressions. Problem solving, Perception, Learning, Planning, Ability to manipulate and move objects, Knowledge engineering is a core part of AI research. Machines can often act and react like

3.2 Hardware and Software Requirements

This system is web-based disease diagnoses system and it can be used any devices such as personal computers, laptop, notebook, tablet, mobile which can access internet. Therefore, it is very convenient for user and no need to install any software. The following table is the description of hardware and software requirements to develop the web application program.

Table 1. Hardware Requirement

Hardware	Specification
Computers	At least one PCs
Memory	2 GB or more
Hard disk space	500 GB or more

Table 2. Software Requirement

Server	Client	Others	Server
XAMPP	HTML	Sublime Text	XAMPP
Apache Web Server	CSS	Photoshop	Apache Server
MySQL (Database)	JavaScript, AJAX	Browsers	MySQL
PHP	Bootstrap		PHP

4. TEST AND RESULTS

The web-based disease diagnose system starts from the home page of the system. In home page screen, there are three main menus. They are home, diabetes, thirsty, contact. Figure. 1 shows Home Page of the System.
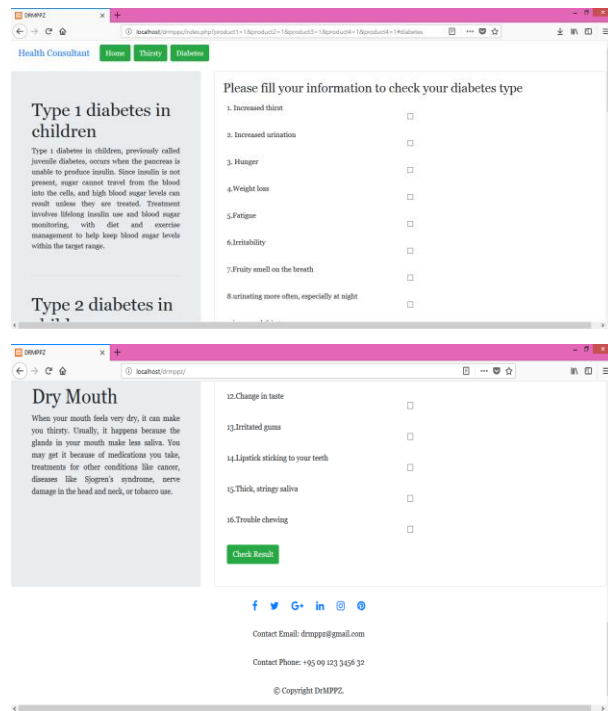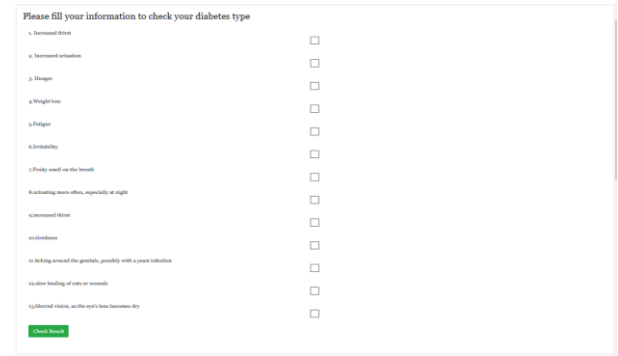

Figure 1. Home Page of the System

Figure. 2 Check Diabetes types form System

Figure 2 shows diagnose diabetes typed form. There are two types of diabetes: type 1 diabetes and type 2 diabetes. If the user chooses some symptoms and then click check result, the system will show the diabetes types results as shown in Figure 2, 3 and 4.
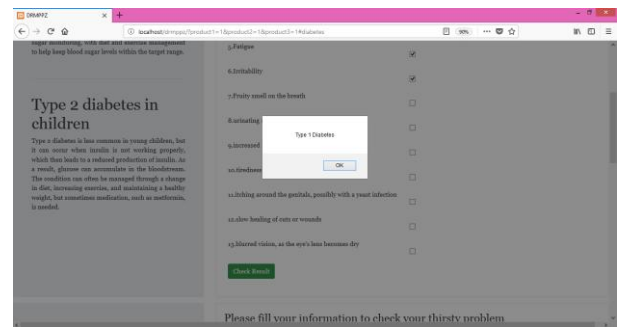
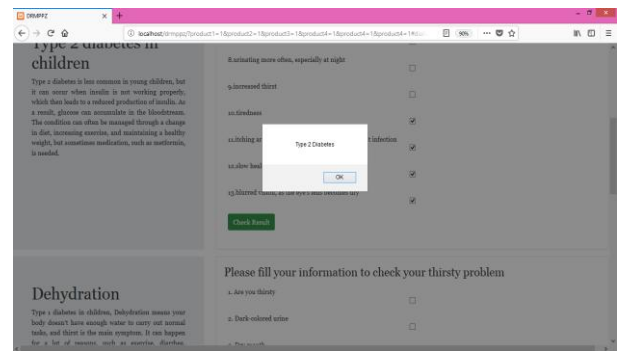

Figure. 3 Results for Diabetes types 1
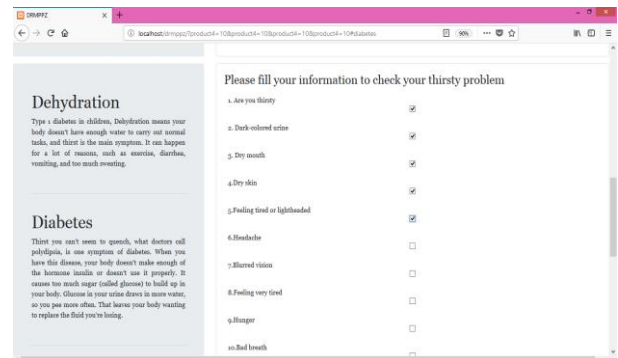

Figure. 4 Results for Diabetes types 2

Figure. 5 Check Thirsty types form System

Figure 5 shows diagnose for thirsty form. There are three types of thirsty: dehydration, or diabetes, or dry mouth. If the user chooses some symptoms and then click check result, the system will show the diabetes types results as shown in Figure 6,7 and 8.
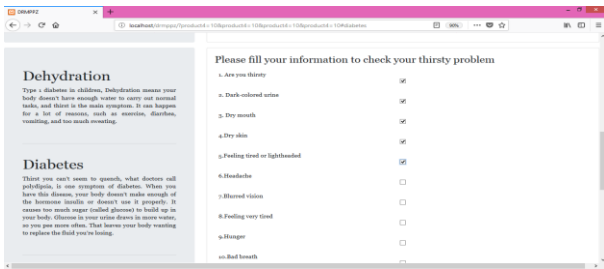

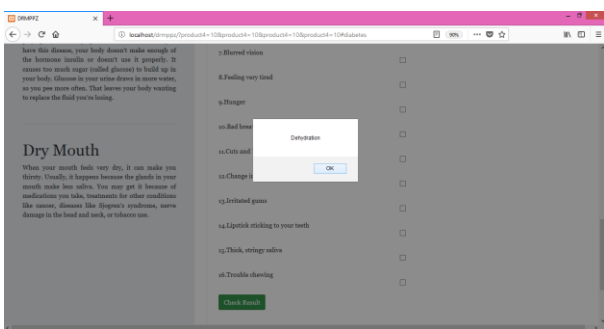Figure. 6 Check Thirsty Form System
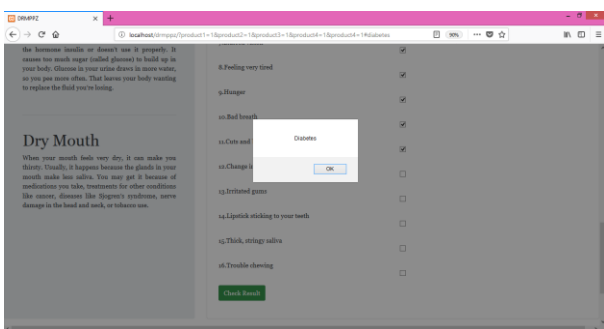

Figure. 7 Results for Dehydration
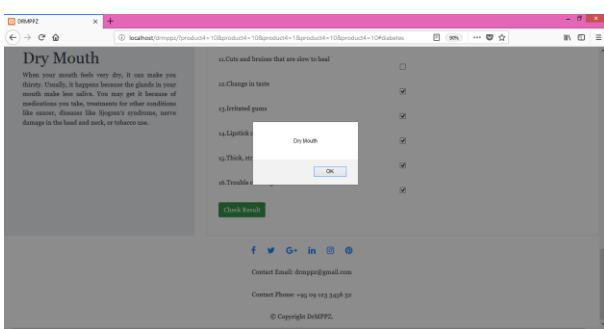

Figure. 8 Results for Diabetes

Figure. 9 Results for Dry Mouth

The following Figure 10 and 11 shows the information pages for web based diagnosis system and it shows the types of diabetes information and other thirsty symptoms.

Type 1 diabetes in children

Type 1 diabetes in children, previously called juvenile diabetes, occurs when the pancreas is unable to produce insulin. Since insulin is not present, sugar cannot travel from the blood into the cells, and high blood sugar levels can result unless they are treated. Treatment involves lifelong insulin use and blood sugar monitoring, with diet and exercise management to help keep blood sugar levels within the target range.

Type 2 diabetes in children

Type 2 diabetes is less common in young children, but it can occur when insulin is not working properly, which then leads to a reduced production of insulin. As a result, glucose can accumulate in the bloodstream. The condition can often be managed through a change in diet, increasing exercise, and maintaining a healthy weight, but sometimes medication, such as metformin, is needed.

Figure. 10 Information Page for Diabetes

Dehydration

Type 1 diabetes in children, Dehydration means your body doesn't have enough water to carry out normal tasks, and thirst is the main symptom. It can happen for a lot of reasons, such as exercise, diarrhea, vomiting, and too much sweating.

Diabetes

Thirst you can't seem to quench, what doctors call polydipsia, is one symptom of diabetes. When you have this disease, your body doesn't make enough of the hormone insulin or doesn't use it properly. It causes too much sugar (called glucose) to build up in your body. Glucose in your urine draws in more water, so you pee more often. That leaves your body wanting to replace the fluid you're losing.
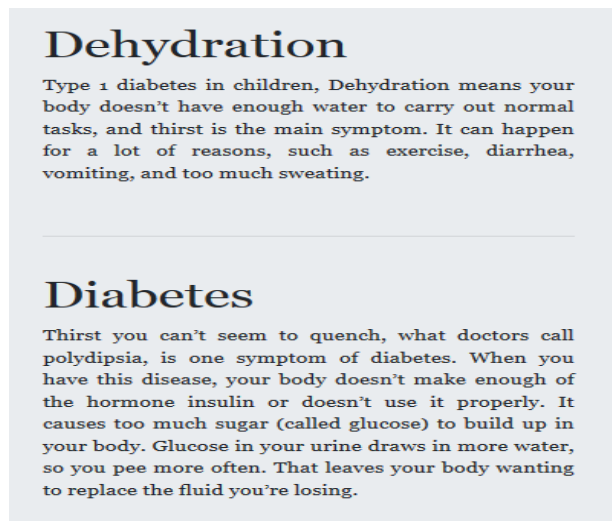
Figure. 11 Information Page for Thirsty

5. CONCLUSION

This system is intended to provide the people's health. The symptoms and disease are not very much. So, the more symptoms for headage or heart attack diagnoses function will be added in the future by discussing with the expert or doctors.

6. ACKNOWLEDGMENTS

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