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Human Disease Recognition System

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Abstract: Over the past few years, the diseases are spreading widely and there is no control on these diseases nowadays. The diseases are just spreading like any other virus in a computer. This harms humans. One has to give up his life because of new upcoming unknown diseases. To bring this in control everyone has to take proper preventive measures to stop or at least reduce this. Main purpose of developing this system is to provide quick, proper, correct and easy analysis of disease based on the symptoms of the patient. In this the user will put symptoms about him to the system and the system will do analysis on it and check whether he is facing with any kind of disease. The main aim is to protect people from life threatening diseases and increase awareness about diseases which are not even known to common people. One should not ignore the symptoms he gets. It should be analyzed as early as possible.

Keywords: Symptom, analysis, disease, patient

I. INTRODUCTION

In this modern world where everyone is having a weird lifestyle chance of getting various kinds of disorders is at a very high rate. New diseases which are not even easy to detect or handle occur and the patient is not even aware of it. So analyzing any kind of disease at earlier stages can cure the disease as early as possible. For this we have analysed various kinds of diseases and their symptoms. After performing analysis we came to a conclusion of providing symptoms to user and user will input his symptoms to the system and system will analyse the inputs given by the user and accordingly result will be produced.

II. EXISTING SOLUTION

A small study over digitized analysis has been done before. WHO (World Health Organization) provides a small list of such software which helps to understand the disease. Software like DISMOD II and MODMATCH are developed of similar kind .MODMATCH was developed in order to address systematic deviations in mortality patterns observed as levels of child and adult mortality deviate from the standard. But no software has yet been created to parallel the analysis of doctors (which can analyze the severity of the disease same as the doctors do). Hence, small modifications can be made in our software .Also an app named as ADA is already in existence which predicts the type of disease based on the user input and provides result/output accordingly.

III.PROPOSED SOLUTION

This project will help the patient to identify the disease by using this software. This project will use logic programming to study the symptoms of the disease, and will analyze and provide results.

This analysis provided by the software can be compared to the one given by the doctor. If the results don't match, further study can be conducted In-depth to help the patient get proper medication.

The algorithm used for the project is ID3 which stands for Iterative Dichomiser 3.It is an algorithm which is used to build decision tree. This algorithm was invented by Ross Quilan which was basically invented to generate a decision tree form the dataset.ID3 is a precursor to the C4.5 algorithm and was typically used in natural language processing domain.

This algorithm was implemented in the system to generate a decision tree using machine learning that is the system will take the user input that are the symptoms and will try to generate decision trees o that the disease that the user is facing can be displayed by the system.

ID3 does not guarantee an optimal solution. It uses a greedy strategy by selecting the local best attribute to split the data set for the each iteration taking place.

This algorithm can be improved by using backtracking.ID3 even can overfit the training data. Hence to avoid over fitting smaller decision trees should the used over large ones. Hence for this system also smaller decision trees are used rather large ones.ID3 is also used to train the data set to produce a decision tree which is stored in memory. At runtime, this decision tree is used to classify new test cases by traversing the decision tree.

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A. System Architecture

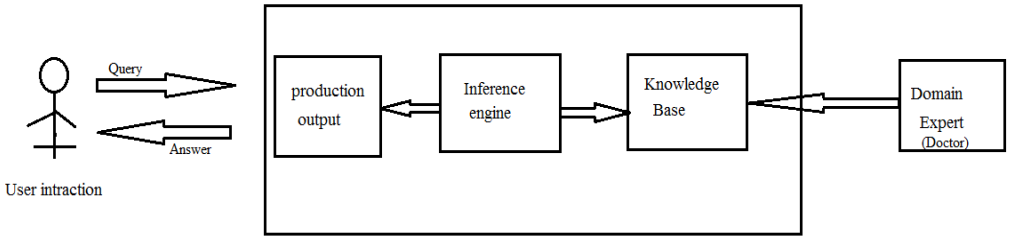


Fig. 1 System Architecture

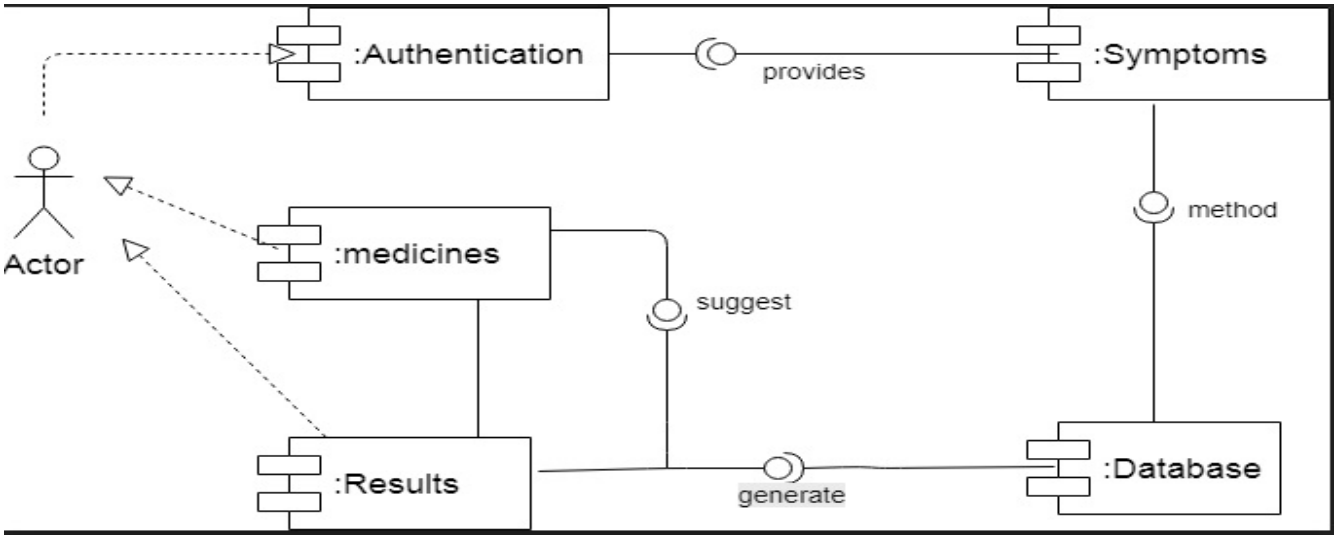
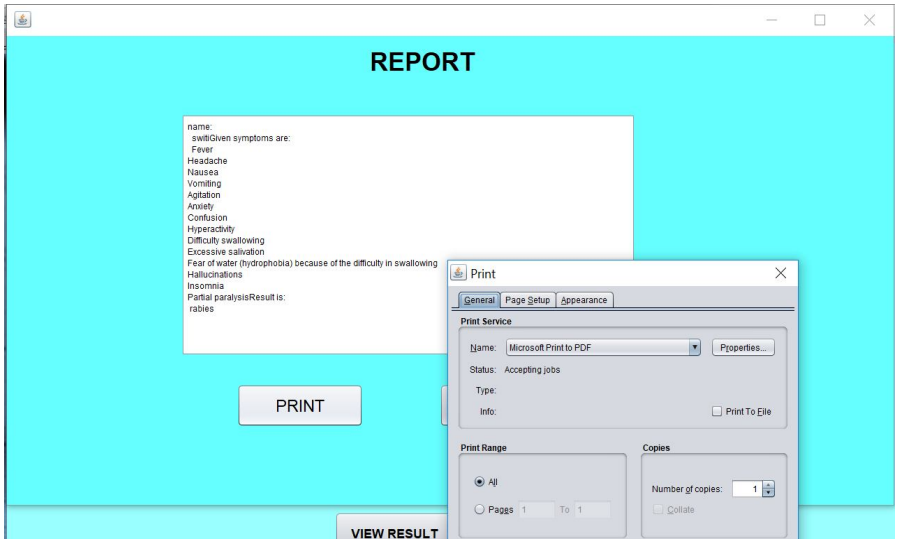


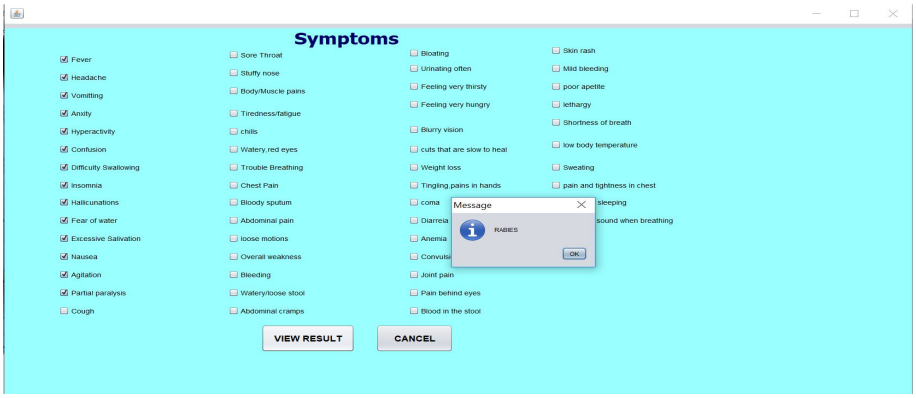
Fig. 2 Component Diagram

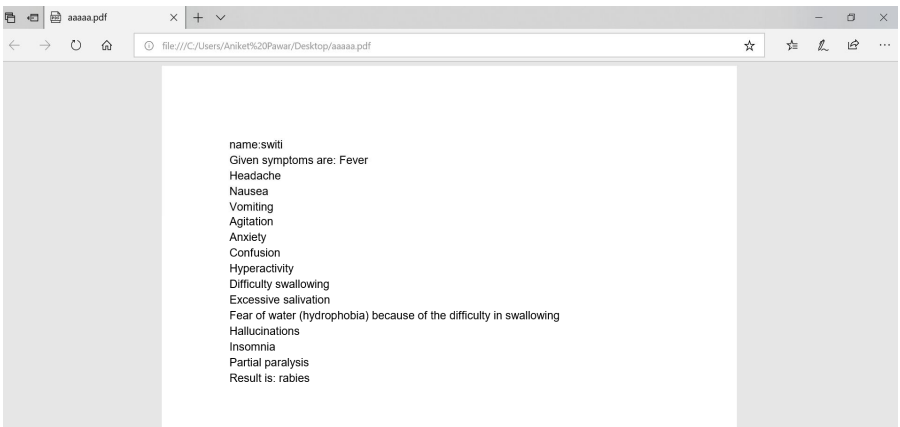
IV. RESULTS



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Above results are generated after doing registration and login user inputs his/her symptoms to the system and accordingly the result is produced. In above case rabies is detected for the user after providing symptoms to the system.

V. CONCLUSIONS

There is an immense need of establishing a system which will help people in doing easy analysis of their symptoms. Before going to doctor one can input his symptoms to the system to get idea of his uncertain symptoms. Research is done to find multiple symptoms of various kinds of diseases. Diseases can be short term or long term depending on when it is detected. Our system proves to be efficient to satisfy these needs of the user. One of the disadvantage of the system is in exceptional cases the result may not match with the symptoms. This disadvantage can be improved in future searches.

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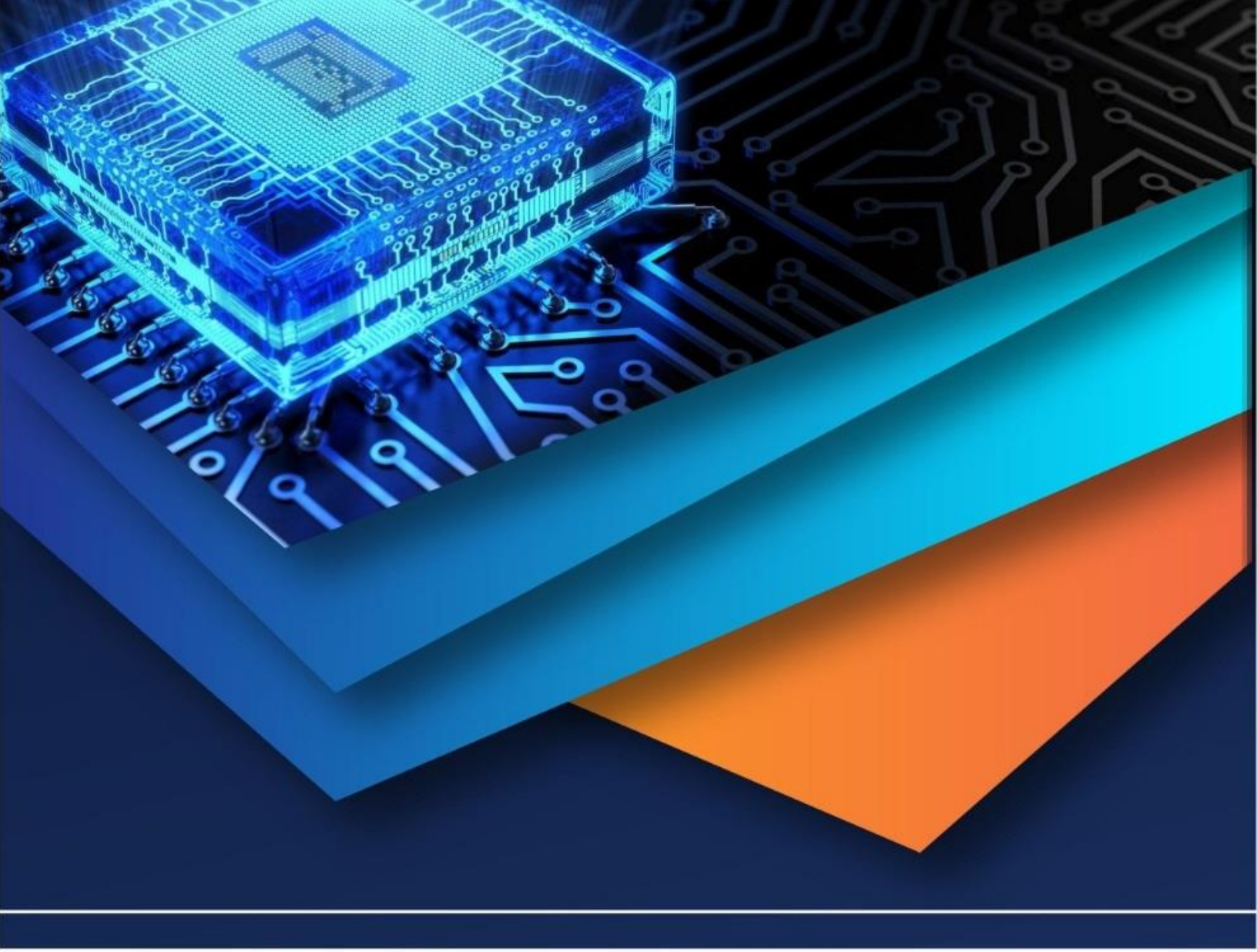
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