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HealCore: Self Diagnosis and Medicine Guidance

[1]Prof. Rashmi Deshpande, [2]Bhakti V. Mule, [3]Mansi P. Patil, [4]Anjali A. Bharti, [5]Gayatri A. Bajaj

[1]Assistant Professor, [2,3,4,5]Student, Sandip Polytechnic, Nashik
[1,2,3,4,5]Department of Computer Engineering, Sandip Polytechnic, Nashik

ABSTRACT:

In the realm of modern healthcare, the 'Web Application for Self-diagnosis and Drug Recommendation Based on User' PHP project emerges as a pioneering digital health solution. This web application, meticulously crafted using PHP, empowers users with a comprehensive tool set for self-assessment,health awareness,and informed medication decisions. At its core, this project offers an intuitive and user-friendly interface that guides individuals through a structured self-diagnostic process. Users input symptoms,medical history, and contextual information, triggering a robust algorithmic analysis. This personalized analysis generates potential health condition outcomes,providing users with a foundation for deeper health insights.A defining feature of this project is its integration of evidence-based drug recommendation capabilities.Leveraging an expansive repository of medications and their attributes, the application tailors drug suggestions to align with identified health conditions.By doing so, users gain insights into potential treatment options while being better equipped to engage with healthcare professionals. The 'Web Application for Self-diagnosis and Drug Recommendation Based on User' project prioritizes both data privacy and accuracy. User inputs are treated with the highest level of confidentiality, adhering to robust data security measures.Moreover, the generated outcomes serve as a valuable starting point for healthcare conversations and decisions, reinforcing the importance of professional medical guidance.

Keywords: Online Bookstore, Amazon, credit card transaction

Introduction:

Throughout the evolution of the Internet and social networks, forums and online platforms have a vital role in sharing information, along with the creation and engagement of virtual communities. Such websites represent great resources, and they are the first step in the adoption of e-health services. Most of the medicine recommendation websites were developed after Covid-19 so the scope of the website is great as health has became the priority of every individual and thus such websites are in demand.

When the persons are ill, many of them use search engines for self-diagnosis and gather possible treatment ideas before asking for a doctor's opinion. This takes a lot of time because the information is scattered across various forums and websites. In this paper is presented an application that aims to provide an online self-diagnosis and drug recommendation tool based on natural language processing of the symptoms described by the user.

Self-diagnosis and medication recommendation based on user symptoms–this gives the user the freedom to describe his/her symptoms in natural language and receive a list of possible medical conditions and treatment suggestions.

Search for a medicine–it is essential to be well-informed and this gives the users the option to find and read about a particular medicine.Doctor consultation-As we are providing doctors' and pharmasists' contact information so that the user can get proper consultation from them. Find medical assistance–this feature allows the users to see a map containing hospitals and medicals around them along with contact, address and timing information, so that they can get professional healthcare assistance.

Also the information of nurse or helpers will be provided for services so that they can receive home treatment.

Councillor for Health Care Schemes: Lists available government healthcare schemes and provides profiles of local councillors for the assistance of citizens in understanding and applying for these benefits.

NGO - Physiotherapy and Acupressure: Profiles of NGOs specializing in physiotherapy and acupressure services, providing details on services offered, locations, and contact information. Donation - Organ and Blood: Lists registered organ and blood donation organizations, including profiles with donation procedures, contact details, and how to get involved.

Health Camp Notifications: Provides a listing of upcoming health camps and medical check-up drives, with profiles of organizers, locations, dates, and services available. Account registration–registered users have additional benefits like the option to add medicines to favorite or even vote for a medicine. They can also submit the survey.

Medicines public API–this feature is written so that developers can use the medicines from our database in order to build other medical applications. This will save them a lot of time and resources from having to make their own database.

Admin Panel: An admin panel provides administrators with the ability to manage user accounts, Add, update, delete the symptoms , Medicine Name , Medicine Content database. Admins can ensure data accuracy and adherence to regulations

Literature Survey:

During recent years, the healthcare domain went through a great number of transformations thanks to advances in technology. Today, people are more interested in their health condition, so they spend more time online, searching for health-related subjects and information. This kind of active interest from patients led to the enhancement of the doctor-patient relationship and improved service engagement. The influence of technology is obvious in this case, and it helps in co-creating value in the medical domain at the micro level

Medical records contain large sets of data such as patient information, medical history, drug prescriptions, treatment protocols and outcomes

The amount of unstructured electronic health data is hard to manage and analyze using traditional ways. Today, big data is an emerging trend in technology that is used to describe a large volume of structured and unstructured data sets in order to extract valuable information. The information mined can be then used in various machine learning applications or analytics projects. The healthcare industry is behind other fields when it comes to the use of big data. This is not a surprise given the nature of the domain and the challenges faced by the healthcare providers. There is no simple way to share data among the different providers without causing security and privacy concerns. Big data is still in its early days and there is potential to develop applications that can bring value to the medical industry.

Methodology:

Detailed Design

The scope of a project for a web application for self-diagnosis and drug recommendation in PHP is defined by the features, functionalities, and objectives that the project aims to achieve. It's essential to outline the project's scope clearly to ensure that all have a shared understanding of what will be delivered. Here's a comprehensive scope for such a project: Provide an overview of the web application, highlighting its purpose, and its role in the healthcare sector. Emphasize that the application is for informational purposes only and does not replace professional medical advice.User Management, Symptom checker ,Symptom Matching and Diagnosis Engine by using data mining and keyword matching Drug Recommendation, Search and Browse Functionality, Admin Panel to add the all information to the database and user management .

The proposed system will provide quick and easy navigation for the users.This project is based on web system.This system is developed using Php and mysql.database using Mysql for this system.In this system there are three modules are there.Admin panel , User Search , Customer Panel , Medicine Suggestion , Medicine recommendation .

The self-diagnosis and drug recommendation web application aims to provide a convenient and accessible platform for users to assess their symptoms , Medicine Name , Medicine Content and receive suggestions for over-the-counter medications or other relevant information. This application will help users make informed decisions about their health and provide general advice.

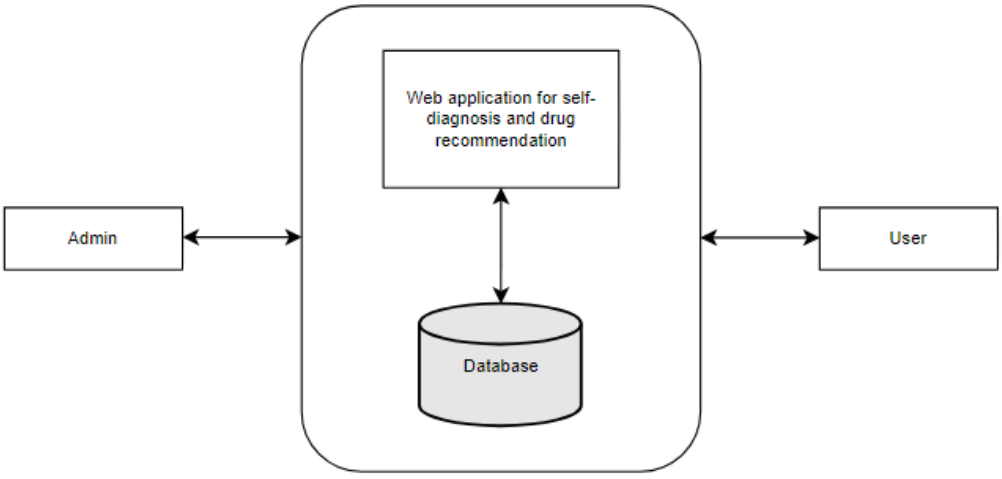

Fig 1: System Architecture of Proposed System

Software Requirements

These requirements are separated based on whether you are developing the app or running the app on a device.

For development

- Operating System Microsoft Windows 7
- Platform Sublime Text Framework
- Tools: Sublime Text 3
- Technologies used PHP
- Language: PHP
- Database MySQL database
- Service web services using PHP
- Software used Sublime Text 3

Communication Interface

In this project we have used the HTTP communication standard.

The Hypertext Transfer Protocol is an application layer protocol that is used to transmit virtually all files and other data on the World Wide Web, whether they're HTML files, image files, query results, or anything else. Usually, HTTP takes place through TCP/IP sockets.

A browser is an HTTP client because it sends requests to an HTTP server (Web server), which then sends responses back to the client. The standard port for HTTP servers to listen on is 80, though they can use any port.

Data Flow Diagrams (DFD)

The data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system. Modeling its process data flow diagram is also called a "bubble chart". This is the graphical technique that represents information and transformers that are applied when data move from input to output. To show the data flow with more details the DFD further extended to level 0,level the 1,level 2,etc.as per requirement.

A Data Flow Diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system without going into great detail, which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design) .

A DFD shows what kind of information will be input to and output from the system, how the data will advance through the system, and where the data will be stored. It does not show information about process timing or whether processes will operate in sequence or in parallel, unlike a traditional structured flowchart which focuses on control flow, or a UML activity workflow diagram, which presents both control and data flows as a unified model.

Notation use for DFD

- The circle represents the process.
- The rectangle represents the external entity system.
- The labeled arrow indicates incoming and outgoing data flow.
- The open rectangle shows the database or file.

1. DFD Level 0

Fig. 2: DFD Level 0

2. DFD Level 1

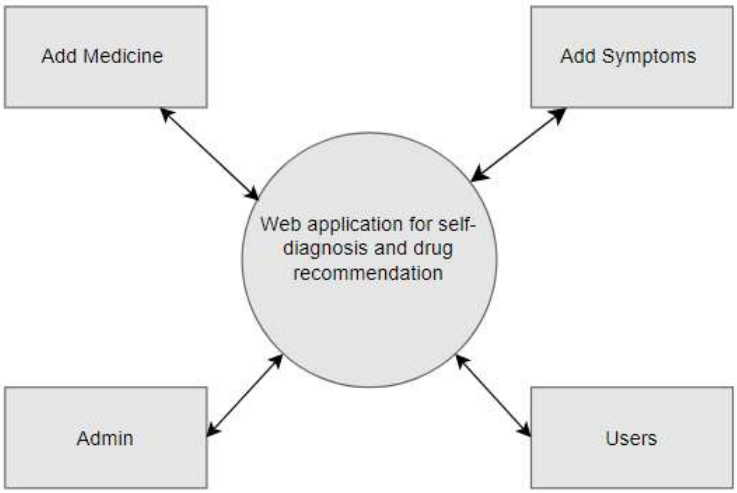

Fig. 3: DFD Level 1

3. DFD Level 2

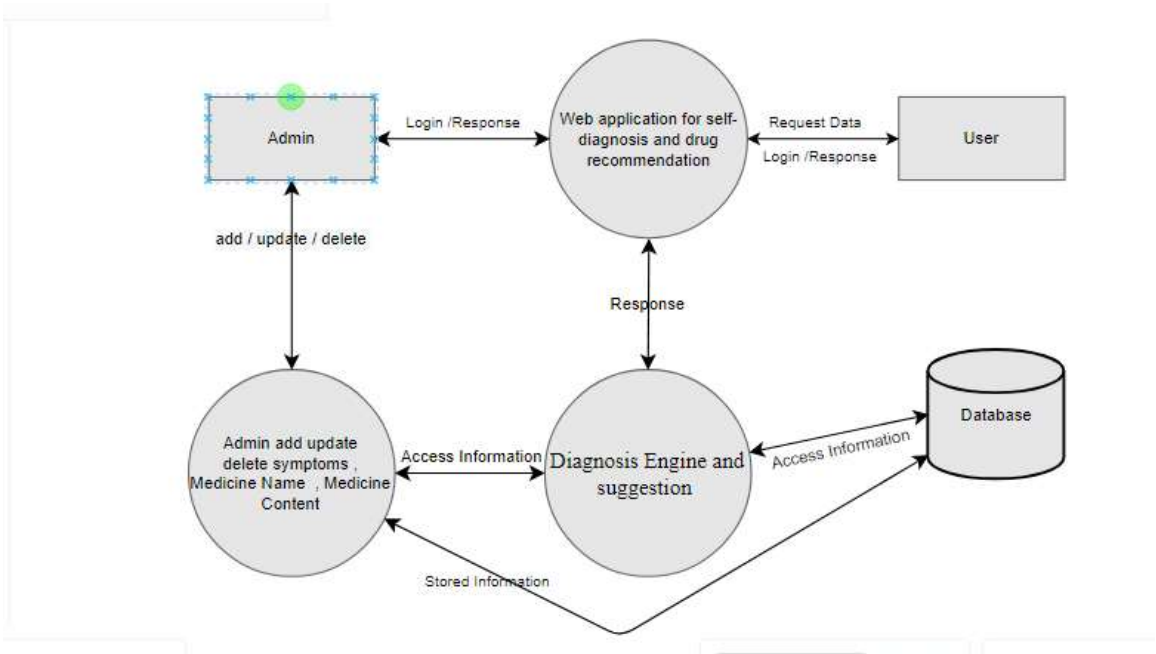

Fig. 4: DFD Level 2

Unified Modeling Language (UML) Diagrams

The Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system. The creation of UML was originally motivated by the desire to standardize the disparate notational systems and approaches to software design. It was developed by Grady Booch, Ivar Jacobson and James Rum Baugh at Rational Software in 1994–1995, with further development led by them through 1996.

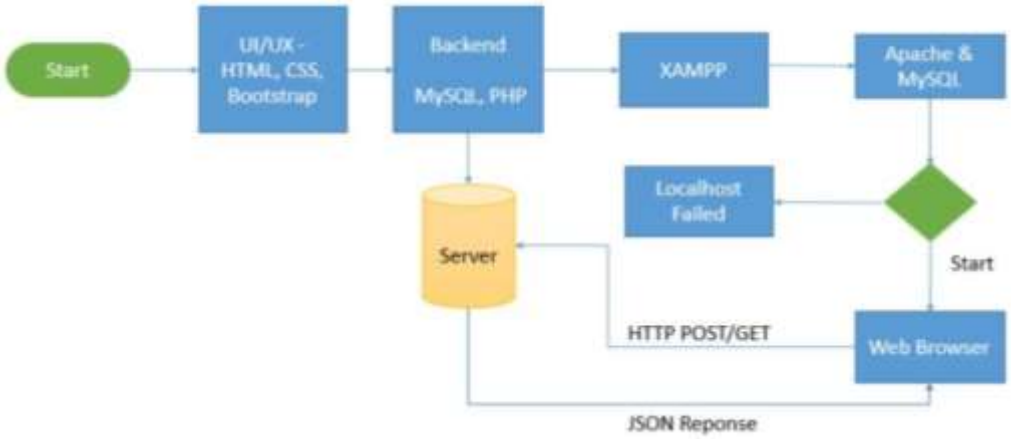

Fig. 5: Work Flow Diagram

Detail Information of Experiment Setup

1. PHP:-

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications. This tutorial helps you to build your base with PHP.

Why to Learn PHP?

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.

Features:-

- PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, and even build entire e-commerce sites.
- It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- PHP is forgiving: PHP language tries to be as forgiving as possible.
- PHP Syntax is C-Like.

2. Sublime Text 3:-

Sublime Text is a shareware cross-platform source code editor with a Python application programming interface (API). It natively supports many programming languages and mark-up languages, and functions can be added by users with plugins, typically community-built and maintained under free-software licenses. Sublime Text is powerful where you need it to be, but simple and out of your way at the same time. Great keyboard shortcuts and multi-selection options. Great package manager installation process for easily extending functionality.

Features:-

- Auto completion, Syntax Highlight, Code Folding

- Customizability
- Lightweight, Fast and Stable
- Powerful Search

3. Database

MYSQL:-

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Microsystems (now Oracle Corporation).

In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web applications, including Drupal, Joomla, phpBB, and WordPress. MySQL is also used by many popular websites, including Facebook, Flickr, MediaWiki, Twitter, and YouTube.

MySQL is offered under two different editions: the open source MySQL Community Server and the proprietary Enterprise Server. MySQL Enterprise Server is differentiated by a series of proprietary extensions which install as server plugins, but otherwise share the version numbering system and are built from the same code base.

Features:-

- Cross-platform support
- ACID compliance
- SSL support
- Query caching

Conclusion

The field of medicine is a sensitive topic due to the fact that one mistake could lead to the loss of countless human lives. HealCore is a medical tool that does not require any prior medical knowledge and that is useful for self-diagnosis and treatment recommendation.

When the traffic on website increases we will be charging the doctors, pharmasists' and nurses or service providers for the registration charges.Also we will add Ads credit through Google Ads as Affiliate Marketing for revenue.

At the moment, the accuracy is at a decent level but there are a few things that can be done in order to increase it. Firstly, custom translation could solve the issue of problematic words. A problematic word is a word which loses its meaning when is translated from one language to another.

Secondly, the number of diseases in the database should also be increased. To sum up, the solution proposed in this paper can still be improved and that is why feedback is vital. In the near future, HealCore might get in touch with healthcare professionals for ideas to bring new useful features and services to the users.

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