The Virtual Herbal Garden

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Abstract –

The Virtual Herbal Garden project is intended to design an optimal IT solution for the improvement of usage of the medicinal plants in the AYUSH sector. Yielding from the naturally endorsed energy, these plants have immense treatment utility but the depth of knowledge on the same remains limited for many. This initiative falls squarely into that niche since it makes it possible for the user to get a broad well categorized virtual platform that they can use to learn about several medicinal herbs from the comfort of their homes. The experience of being able to rotate and zoom into plant will be provided there hence making the image displayed fit the physical state of the plants when they are presented to the users. Furthermore, each plant that will be discussed will include other details like the scientific name of a plant, the local name for a plant, where a plant could be sourced from, the uses that were assigned to a plant and how the plant could be grown. To make it more informative, there will be media files included in the Virtual Herbal Garden such as high definition picture gallery, educational videos and an audiovisual tour.

1. INTRODUCTION

Consequently, the primary aim of using the Virtual Herbal Garden is to establish an easily available medium through which users can obtain information related to the herbal plants being used in AYUSH practices and realize their worth. This particular project will, therefore, attempt to combine new tech with traditional experience by adding an element about herbal practices.

However, while a large number of medicinal plants has been used throughout the years, the information regarding the topic remains rather limited and ill-defined in terms of geographical availability of the materials, types of available resources, and educational materials. Most of the participants of the considered issue faced some problems in obtaining the necessary information, and, therefore, handling the material. This gap is somewhat worrying especially trust building given the exponential shift towards integration and conventional health needs solutions.

Some of the findings of a literature review are that medicinal plants are something that is utilized to have a sort of impact concerning treatment and cure. For instance, Sharma et al. (2020) stress the need to develop further and higher quality information on such plants as a method of promoting conventional usage of them in the modern practice of medicine. Smart health industry is missing lots of conventional knowledge, which is not included in today's advanced health care systems and regular people all over the world do not address many of their issues to the professionals. The Virtual Herbal Garden is an answer to this dire problem since the current generation embraces technology as a way of educating the public on herbs.

This work assumes that: Apparently, the applied concept of a Virtual Herbal Garden can significantly enhance the approach to teaching and learning of Medicinal Plants since the interface is much more interactive and intuitive. This approach will involve the development of realistic three dimensional models, an all embracing plant database and information and multimedia learning resource within a holistic learning framework. Additional interaction will be in form of, type of user interactions such as guides and tours.

The Virtual Herbal Garden will be regarded successful once users data has been gathered and analyzed for the level of activity and participation using plant information and educational feed back on the garden application. Lastly, this project aims at raising awareness of the local use of natural herbs with a view of instating such practice among different individuals in improving natural remedies in their daily lives.

2.Review of Literature

2.1 Study of Existing System –

1.Digital Herbal Garden:

There is many Herbal Gardens present in India but there is such digital platform for this because not everyone can access Herbal Garden.

2. Private/Governmental Garden:

Most of herbal garden are closed or owned by private individuals and some are restricted for the Governmental uses only.

3. Access of Herbal Garden:

If one is not having permission, he or she cannot photograph, research or even observe Herbal plants that are grown in herbal garden.

4. Time Consuming:

It looks like even if you secured a permission to visit its very time trying to get there and check follow all the process.

5. Documentation:

To get to the Herbal Garden one requires to produce some documents before being allowed in and everything is done manually.

6. Limited Plants and Time:

Herbal Garden does not feature all the plants and you may run out of time to visit or do your study on that plant or even see the plant.

2.1 Findings from Literature Review –

Above Herbal Garden Herbal Garden Herbal Garden therefore have the following features, After getting an overview of above Herbal Garden we have deduced following findings. Lack of and actual Herbal Garden would signify that people have to rely on the current features, sometimes not all encompassing, helpful, time saving or efficient for everyone. These limitations can be partially overcome when using such a form of the digital Herbal Garden which would be cheaper, digitally and user-friendly when compared to the traditional Herbal Garden.

3. Problem Statement

Develop a Virtual Herbal Garden which will be an engaging, informative and engaging platform to the users, presenting the multitude of medicinal plants utilized in AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy).

3.1 Scope of project –

This will be accomplished through the development of a Virtual Herbal Garden that will fill this gap by allowing users to tour an online facility where they can learn about various medicinal plants while at the comfort of their own homes. Description: Each participant is supposed to create Virtual Herbal Garden that motivates users, is interesting and easy to navigate. This virtual garden should include: Medicinal Plant Models On Interactive 3D: User friendly 3D models of medicinal plants where the user can move around the model. Detailed Information: Inclusive information on the location of each plant; its scientific name; vernacular names; habitat; pharmacological activity and; technique of propagation. Multimedia Integration: Images, videos, and audio explanations in high definition for better understanding of the content. Search and Filter Options: User-friendly search tools to quickly find particular plants and sort them according to certain characteristics including medicinal properties zone and division. Virtual Tours: Pre-packaged guided tours of the app focused on certain aspects, for instance, Plants for digestion, Plants for Immunity, Plants for Skin Care, etc User Engagement Annotations where the user can bookmark favourite plants, and annotate specific points to remember them more easily, Social Media sharing of the information. Expected Outcome: The expected outcome is an elaborate Virtual Herbal Garden that will educate students, practicing clinicians, and other AYUSH enthusiasts.

4. Objective of Proposed System

1. Convenience and Accessibility:

Allow the users to access a digital solution where they can Visit and learn on Herbal plants and

homeopathy medicine Ensure that the system facet is applicable to the people of different ages.

2. Efficiency

Minimally invasive in terms of physical intervention in studying and watching Herbal plants; ease of the process.

Visit. I would also like to decrease time taken in boarding processes as well as transactions documentation to reduce the overall

Digitally visiting service.

3. Security

Use built-in Data methods and data encryption to ensure privacy of users information.

4. Real-Time Updates

To display current details of Herbal plants and Herbal Medicines.

5.Methodology

5.1 System Architecture/Flow/ER/DFD Diagram –

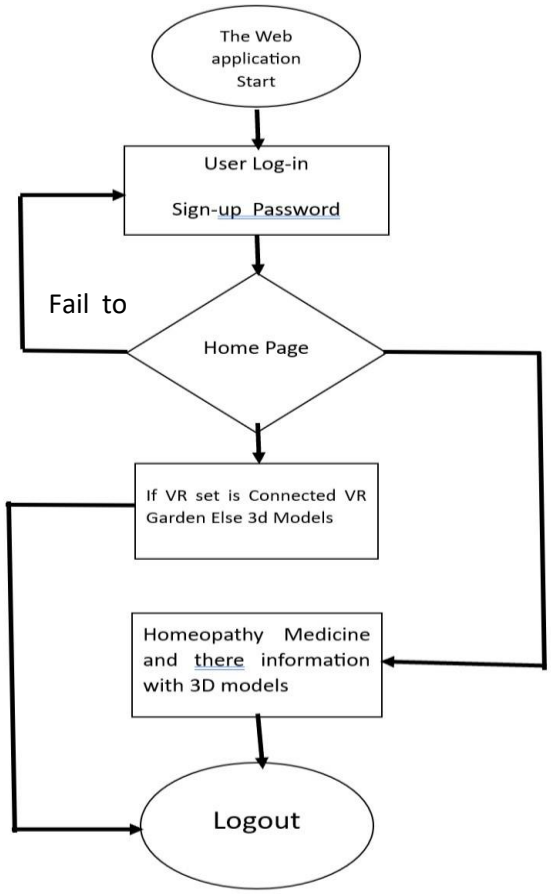

Figure 5.1: Flow Diagram

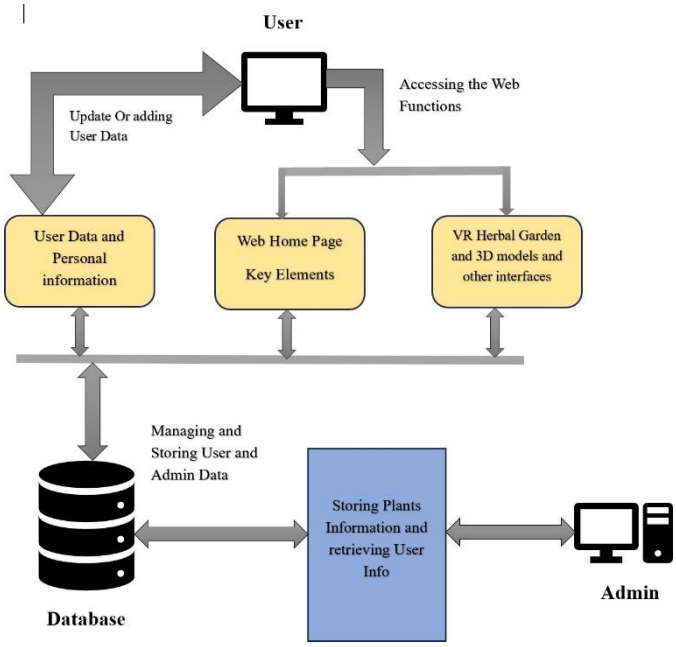

Figure 5.2: System Architecture

5.2 Modules of software system –

Admin:

It will confirm and validate the details of the user.

User:

They can also Physical visit and study of herbal plants virtually.

Virtual Garden:

That's Virtual Garden you need a VR set to Experience the Herbal Garden

Encyclopedia:

It is an extensive database of Medicinal plants with pictures in 3 dimensions.

Homeopathy Tab:

A very useful medicinal informative page which contains vast information about homeopathy medicines.

6.Requirements

6.1 Software Requirement –

1.Frontend

HTML

CSS

JS

2.Backend

React JS

Node JS

MongoDB

6.2 Hardware Requirement –

Ram: 8GB

Processor: Intel core i5

Hard Disk: 512GB

7.Application of Proposed System

1. User Management:

Registration and Profiles: through creation of accounts users may signup to create the profile, monitor usage & maintain personalized data.

2. Study Generation:

The users can conveniently study the herbal plants If not virtually see then watch and other related herbal medicine.

3. Payment Processing:

Online Payments: Implementation of payment interfaces allows users to Donate for new update.

4. Route Management:

Gives information of Herbal Plants, Homeopathy.

8. Future Scope

Actually the Virtual Herbal Garden is fully based on VR,3D models and the user can interact with the models and feel as in real life but in presented prototype such effects were not implemented as our project need some big team for such things We have our future goal in that our project should implement very advanced and detailed effects like VR,AR,3D in the web and many other modifications according to the technology like AI.

9.Conclusion and Future Work

The Virtual Herbal Garden providing the opportunities for creating the possibilities of afforestation in the AYUSH sector and increasing the availability of adequate knowledge regarding the medicinal plants. Such ideas concerning the therapeutic respect of herbal medication in the literature review as light and interactive, as well as easily comprehensible. Concerning the Virtual Herbal Garden, one can add more Interactivity and Knowledge with the help of 3D models, media, Social Elements. Therefore, the main focus of future research will remain the continued construction of the platform, utilizing the views and subsequent interactions of the users. There are some basic areas that one can easily identify, which need to be explored in order to achieve further enhancements, some of such which are: it is needed to work with the help of search options provided by the hosts, working media and to enhance the multimedia contents, also needed to incorporated community contents to provide feeling of community in users. In addition, therefore, integrating parts of games will likely lead to an enhancement of motivation and acquisition of knowledge in the case of its implementation. The fresh update of the database and installation of new plants and information as well as make the platform active to serve as information hub.

10. Bibliography

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