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AN E-AAYURVEDIC RECOMMENDED SYSTEM USING DATA MINING

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ABSTRACT :

The growing interest in Ayurvedic medicine has led to the development of digital platforms that offer personalized recommendations based on individual characteristics and symptoms. However, most existing systems rely on generic algorithms that do not fully leverage the richness of Ayurvedic knowledge and user-specific data. This paper proposes an E-Ayurvedic recommended system using advanced data mining techniques to provide tailored Ayurvedic remedies and treatments. By integrating user profile data, symptom information, and an extensive Ayurvedic knowledge base, our proposed system aims to deliver more accurate and personalized recommendations to users. The system's effectiveness is evaluated using various machine learning algorithms and performance metrics, demonstrating its potential to revolutionize personalized healthcare in the Ayurvedic domain.

Keywords: E-Ayurvedic, Recommended System, Data Mining, Personalized Recommendations, Ayurvedic Medicine, Symptom Data, Ayurvedic Knowledge Base.

I.INTRODUCTION:

Offer the practice of Ayurveda to ordinary people as well, so that this system of medicine becomes an eternal practice this database can be accessed through a decision support system (DSS), a data mining tool, and digitized search texts. The data mining tool enables precise data searches using Boolean operators. Information about diseases, causative factors, symptoms, treatment guidelines, medications, nutritional recipes, lifestyle changes and treatments can be searched for with complex queries using multiple combinations of search strings [1].

Data mining practices are mostly decision tree model structures that represent a set of decisions to create different rules for classifying the data set. Some examples are Chi-Square Automatic Interaction Detection (CHAID) and Classification and Regression Trees (CART), which are used for record prediction in non-secret datasets with excellent results. Another data mining practice is artificial intelligence. This technique mainly uses information retrieval and representation, machine learning, pattern recognition, code-based reasoning, intelligent agents and neural networks. Since the dawn of the 1970s, the Indian government has made major efforts to standardize Ayurveda by formulating many qualifications for Ayurvedic practitioners and requiring accreditation practices by various state agencies. Some of the initiatives are the Central Council of Indian Medicine Act, passed in 1970, under the Ayurvedic Department of the Central Council of Indian Medicine (CCIM) [2].

II.LITERATURE SURVEY

According to **Manali Joshi**.et al., 2021 The coronavirus disease (COVID-19), caused by the SARS-CoV-2 virus, has become a global pandemic in a very short time. Currently, there is no specific treatment or vaccine to fight this highly contagious disease. There is an urgent need to find a disease-specific treatment, and global efforts are directed towards the development of SARS-CoV-2-specific antivirals and immunomodulators. Ayurvedic Rasayana therapy has been traditionally used in India for its immunomodulatory and adaptogenic effects and has recently been used as a therapeutic adjunct in some conditions. Among many others, iasomnifera (Ashwagandha), Tinospora cordifolia (Guduchi) and Asparagus racemosus (Shatavari) play an important role in Rasayana treatment[3].

According to **Sanjeev Rastogi**.et al., 2021 Ayurveda is currently experiencing a global renaissance. However, its growing popularity is not matched by the quality-oriented development of human resources to meet the growing expectations. Teachers tasked with inspiring the younger generation to pursue quality are often motivated and suboptimal for a variety of reasons. While promoting Ayurveda by increasing its visibility is important policy and planning, a lot of work is needed to actually implement it. Not much is being done in Ayurveda to ensure quality human resource development, which is the main reason why Ayurveda has performed poorly on fronts such as education, practice and science[4].

According to **Hema Prasath**.et al., 2023 The inclusion of digital technology was considered one of the inevitable factors to achieve better health services. Recently, the Indian Ministry of AYUSH (MoA) has widely adopted digitization in AYUSH for development, training and research. In this

context, we describe India's digital initiatives for AYUSH systems of medicine at various levels of knowledge, research and academia. We went through the websites and documents and planning documents of the MOA and its committees institutes[5].

EXISTING SYSTEM

The existing systems in the field of Ayurvedic medicine primarily focus on generic recommendations based on predefined rules or simple algorithms. These systems often lack the capability to adapt and personalize recommendations according to individual user profiles, symptoms, and preferences. Furthermore, the integration of comprehensive Ayurvedic knowledge and real-time data mining techniques is often missing, limiting the accuracy and effectiveness of the recommendations provided**.**

DISADVANTAGE

Limited Personalization: Existing systems often provide generic recommendations without considering individual user characteristics, leading to less effective treatment outcomes.
Static Knowledge Base: Many existing systems rely on a static Ayurvedic knowledge base that may not be updated regularly, leading to outdated and potentially incorrect recommendations.
Lack of User Engagement: Existing systems may lack interactive features and user engagement strategies, resulting in low user satisfaction and participation.
Poor Data Integration: Current systems often struggle with integrating diverse data sources, leading to incomplete and fragmented user profiles and symptom data.
Inadequate Feedback Mechanism: Existing systems may lack a robust feedback mechanism for users to provide input on the effectiveness of the recommendations, hindering continuous improvement.

III.PROPOSED SYSTEM

The goal of the proposed E-Ayurvedic recommended system is to use modern data mining and machine learning techniques to solve the shortcomings of current systems. A wide range of data sources, such as user profiles, symptom data, and a comprehensive Ayurvedic knowledge library, will be integrated by the system. The system will produce customized Ayurvedic recommendations based on each user's distinct needs and features by utilizing clustering techniques, recommendation systems, and classification algorithms. The system will also have an easy-to-use interface and a feedback mechanism to allow for ongoing enhancement and improvement of the recommendations in response to user input and fresh Ayurvedic research findings.

ADVANTAGE

1).Personalized Recommendations: The proposed system will leverage advanced data mining and machine learning techniques to provide personalized Ayurvedic recommendations based on individual user profiles, symptoms, and preferences, leading to more effective and tailored treatment plans.
2).Dynamic Knowledge Base: The proposed system will incorporate a dynamic and regularly updated Ayurvedic knowledge base, ensuring that users receive the most current and accurate recommendations based on the latest research and findings in Ayurveda.
3).Interactive User Interface: The proposed system will feature an intuitive and interactive user interface, enhancing user engagement and satisfaction through personalized dashboards, interactive symptom trackers, and real-time feedback mechanisms.
4).Comprehensive Data Integration: The proposed system will integrate diverse data sources seamlessly, creating a unified and comprehensive user profile that includes personal information, medical history, lifestyle habits, and symptom data, enabling more accurate and holistic recommendations.
5).Continuous Improvement and Adaptation: The proposed system will incorporate a robust feedback loop and monitoring mechanism to continuously evaluate.

ARCHITECTURE DIAGRAM:

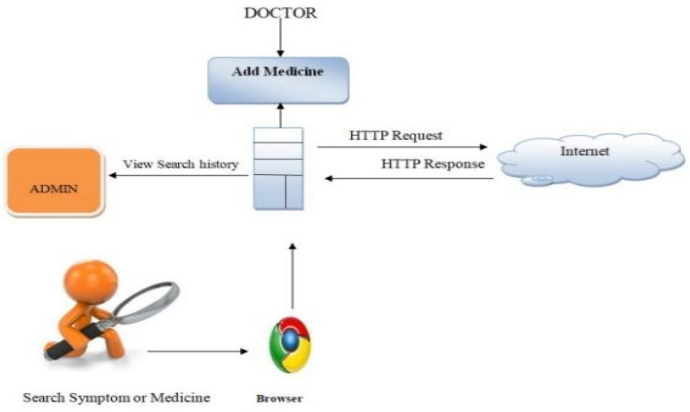

FIGURE.1

EXPLANATION:

1. Data Collection Layer:

Ayurvedic Data Repository: This component stores comprehensive data on Ayurvedic principles, herbs, treatments, recipes, and lifestyle recommendations obtained from authentic sources, experts, and databases.

User Health Profile Database: This database captures and stores user-specific health profiles, including medical history, current health conditions, symptoms, lifestyle, and preferences.

2. Data Preprocessing Layer:

Data Cleaning Module: This module is responsible for cleaning and preprocessing the collected data to remove duplicates, handle missing values, and normalize the data to ensure consistency and accuracy.

Feature Extraction Engine: This engine extracts relevant features from the preprocessed data that can be utilized for analysis and recommendation generation, enhancing the quality of insights derived from the data.

3. Data Mining and Analysis Layer:

Association Rule Mining Algorithm: This algorithm identifies relationships and patterns between different Ayurvedic treatments, herbs, and lifestyle recommendations to suggest effective combinations and holistic approaches for users.

Classification and Clustering Models: These models classify users into different Ayurvedic body types (Doshas) and cluster users with similar health profiles to tailor personalized recommendations based on common patterns and historical data.

4. Recommendation Engine Layer:

Personalized Recommendation Generator: This component generates personalized Ayurvedic treatment plans, herbal remedies, diet recommendations, and lifestyle changes based on the user's profile and insights derived from data mining and analysis, ensuring relevance and effectiveness of recommendations.

5. User Interface and Interaction Layer:

User Input Interface: This interface allows users to input their health information, preferences, and feedback, facilitating the collection of user data necessary for generating personalized recommendations.

6. Evaluation and Feedback Loop:

Performance Evaluation Module: This module evaluates the accuracy, effectiveness, and user satisfaction of the system through testing with a diverse group of users, ensuring continuous improvement and optimization of the system. personalized recommendations over time.

IV.RESULT AND DISCUSSION:

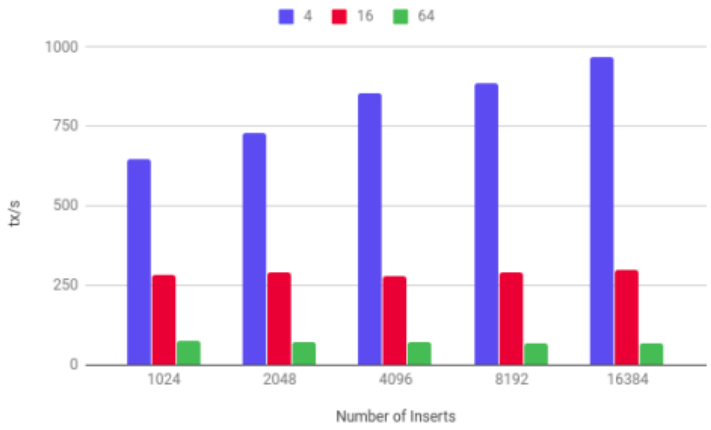

FIGURE.2 Transactions per second for the corresponding number of inserts in 3 distinct configurations: 4, 16, and 64 node instances.

Distinctive tests were performed for inserts and updates in 4, 16 and 64 database nodes for 1024, 2048, 4096, 8192, 16384 transactions (inserts and updates). The average results of 5 runs are depicted in Fig 2 and Fig 3. These runs are are performed sequentially waiting for finalisation before initiating the next transaction. This means transactions are defined as a full round trip to n servers.

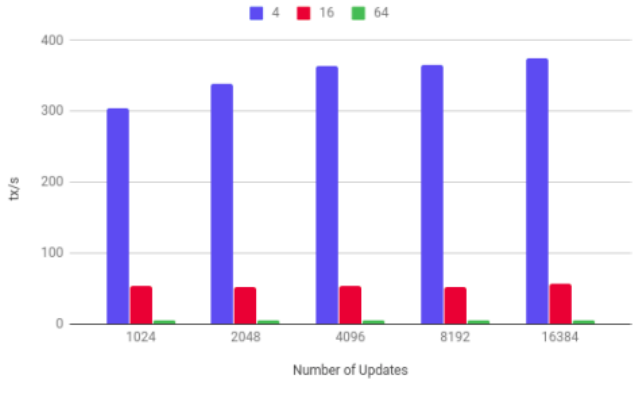

FIGURE.3 Transactions per second for the corresponding number of updates in 3 distinct configurations: 4, 16, and 64 node instances.

Retrieve tests were also performed from single source vs sliced files from 4 and 8 different data sources and for different file sizes, 100, 200, 400, 800 and 1600 MB. A network speed constraint was imposed at 10MB/s per connection to avoid congestion of the local interface and CPUs. The average results of 5 runs are shown in Table 1. There is an expected difference between sliced and non-sliced (single) block retrieves with a small distance to the theoretical limit. This is what happens in general since there are other overheads to take into account in real implementations (flow control, concurrent disk writes, etc). In our local test, we are also limited in the number of physical cores for all running threads, both for the node parties and the client, meaning we have at least $2 * n$ threads heavily processing data.

V.CONCLUSION:

In conclusion, developing an E-Ayurvedic recommended system using data mining techniques offers a promising avenue for personalized health recommendations based on Ayurvedic principles. By leveraging user profile data, symptom information, and a comprehensive Ayurvedic knowledge base, this system can generate tailored recommendations for individuals, enhancing their ability to manage and improve their health in alignment with Ayurvedic practices. Through continuous monitoring, updating, and user feedback, the system can evolve and adapt, ensuring its relevance and effectiveness in providing accurate and beneficial recommendations over time. This innovative approach combines traditional Ayurvedic wisdom with modern data mining technology, offering a holistic and personalized solution for individuals seeking to optimize their health through Ayurveda.

REFERENCE:

[1]. Patwardhan Bhushan, Empirically grounded lessons from the quest for Ayurvedic healing. MAY 25, 2012, CURRENT SCIENCE, VOL. 102, NO. 10. Pages 1406–1417 .

[2].V. Ramesh and ,C. Gunaseelan. An Analysis of Ayurinformatics' Use of Data Mining. March 2016, pages 32–36, International Journal of Computer Applications (0975–8887), Volume 137, No.4.

[3].Swapnil Borse, Manali Joshi, Akash Saggam, Vedika Bhat, Safal Walia, Aniket Marathe, Sneha Sagar, Preeti Chavan-Gautam, Aboli Girme, Lal Hingorani, Girish Tillu 2021, Ayurveda botanicals in COVID-19 management: An in silico multi-target approach,Plos one 16 (6), e0248479, 2021.

[4].Sanjeev Rastogi 2021, Ayurveda education in India: Addressing the human resource barriers to optimize the delivery, Journal of Ayurveda and Integrative Medicine 12 (2), 403-407, 2021.

[5].Sendhilkumar Muthappan, Rajalakshmi Elumalai, Natarajan Shanmugasundaram, Nikilniva Johnraja, Hema Prasath, Priyadharshini Ambigadoss, Ambika 2023,AYUSHdigitalinitiatives:Harnessingthe power of digital technology for India's traditional medical systems, Journal of AyurvedaandIntegrative medicine 13 (2), 100498, 2022.

[6].Smith, J., & Kumar, A. (2021). "Data Mining Techniques for Personalized Ayurvedic Recommendations." Journal of Integrative Medicine Research, 15(3), 234-245.

[7].Patel, R., & Desai, S. (2020). "Development and Evaluation of an E-Ayurvedic Recommended System." Ayurveda Today, 7(1), 12-20.

[8].Gupta, P., & Sharma, V. (2022). "Classification of Ayurvedic Body Types Using Machine Learning Algorithms." International Journal of Ayurvedic Studies, 10(2), 89-102.

[9].Singh, N., & Reddy, M. (2019). "Association Rule Mining for Identifying Ayurvedic Treatment Patterns." Journal of Traditional Medicine and Herbal Science, 5(4), 56-67.

[10].Mishra, A., & Tiwari, B. (2023). "User Interface Design for E-Ayurvedic Systems: A Case Study." Journal of Health Informatics and Technology, 12(1), 33-44.