Advanced International Journal for Research (AIJFR)
E-ISSN: 3048-7641 ● Website: www.aijfr.com ● Email: editor@aijfr.com

A Study on Pharmacology Formulations from Classical Ayurvedic Texts and Governance of Traditional Medical Plants

Dr. D. J. Samatha Naidu[1], M. Navya[2]

[1]Professor, MCA department, Annamacharya PG college of Computer studies, Rajampet.
[2]Student, MCA Department, Annamacharya PG college of Computer studies, Rajampet.

Abstract

Ayurvedic classical texts contain extensive knowledge about medicinal plants and pharmacological formulations. However, in the existing system, this knowledge is dispersed across multiple traditional sources and requires manual analysis by experts. Such conventional approaches are time-consuming, difficult to navigate, and lack structured data support for personalized or disease-specific recommendations. The lack of digitized and structured information limits the effective utilization of Ayurvedic pharmacological knowledge in modern healthcare practices. In the existing system, there is minimal computational assistance for analysing patient symptoms, characteristics, and contraindications, resulting in generalized treatment approaches. The proposed system focuses on digitizing, structuring, and validating pharmacological formulations derived from classical Ayurvedic texts. By applying systematic analysis and modern research methodologies, the framework integrates medicinal plant data, formulation components, governance standards, and sustainability considerations. This structured approach improves accessibility, efficiency, reliability, and scientific validation while preserving traditional knowledge systems. The study also emphasizes governance mechanisms for sustainable management of traditional medicinal plants, ensuring regulatory compliance and long-term conservation.

Keywords: Ayurveda, Pharmacology, Medicinal Plants, Herbal Formulations, Governance, Sustainability.

1. Introduction

Ayurveda is one of the oldest traditional systems of medicine, representing a comprehensive science that integrates philosophy, biology, pharmacology, and therapeutics. Classical Ayurvedic texts such as the Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya provide systematic knowledge regarding medicinal plants and pharmacological formulations. These texts describe the properties (Rasa, Guna, Virya, Vipaka), preparation methods, therapeutic indications, dosage standards, and contraindications of numerous herbals and herbo-mineral formulations. The science of Ayurvedic pharmacology (Dravyaguna and Bhaishajya Kalpana) focuses on the identification, analysis, and therapeutic application of medicinal substances for disease prevention and management. In the traditional system, knowledge of pharmacological formulations derived from classical Ayurvedic texts is preserved through textual references and practitioner-based transmission. However, much of this information remains

scattered across multiple scriptures and commentaries, requiring expert interpretation and systematic compilation. The absence of structured scientific documentation, standardization procedures, and integrated regulatory mechanisms limits the effective utilization of Ayurvedic formulations in contemporary healthcare systems. Additionally, the increasing demand for traditional medicinal plants has raised concerns regarding conservation, sustainable harvesting, quality control, and policy governance. In the modern era, there is a growing need to scientifically validate classical pharmacological formulations and establish proper governance frameworks for traditional medicinal plants. Rapid commercialization, habitat destruction, and overexploitation of medicinal plant resources have created significant ecological and regulatory challenges. Without proper governance, authentication, cultivation standards, and conservation strategies, the sustainability of valuable medicinal species may be threatened. Therefore, ensuring valid identification, standardization of formulations, and ethical utilization of medicinal plants has become a central focus in the field of traditional medicine research and policy development. Traditional systems relied primarily on textual authority and practitioner experience for authentication and validation of formulations. However, this approach has certain limitations in terms of uniform quality assurance and regulatory compliance. In recent years, advancements in pharmacological research, phytochemical analysis, and policy frameworks have provided new opportunities to strengthen validation mechanisms. The integration of classical Ayurvedic principles with modern scientific methodologies and governance strategies can significantly improve the safety, efficacy, reliability, and sustainability of pharmacological formulations while preserving the integrity of traditional medicinal knowledge.

Objectives

- To analyze Ayurvedic formulations
- To study medicinal plant roles
- To ensure sustainable governance

Methodology

The study is based on classical texts, literature review, and analytical evaluation of pharmacological data. The research methodology adopted in this study follows a structured and systematic approach to analyze pharmacological formulations derived from classical Ayurvedic texts and evaluate governance mechanisms for medicinal plant conservation. The methodology framework includes multiple stages such as problem identification, literature review, system analysis, proposed methodology, implementation, evaluation, and results interpretation.

Data Collection and Documentation:

This stage involves gathering relevant information from classical Ayurvedic texts such as Charaka Samhita and Sushruta Samhita, along with research articles and government reports. The collected data is organized and documented for further analysis.

Textual Analysis

The collected Ayurvedic content is analyzed to extract important pharmacological information such as medicinal plant names, formulations, and therapeutic uses. This helps in understanding traditional knowledge systematically.

Feature Extraction

Key features such as plant properties, preparation methods, dosage forms, and treatment categories are identified and categorized for structured analysis.

Data Validation

The extracted information is validated by comparing it with modern scientific research and existing literature to ensure accuracy and reliability.

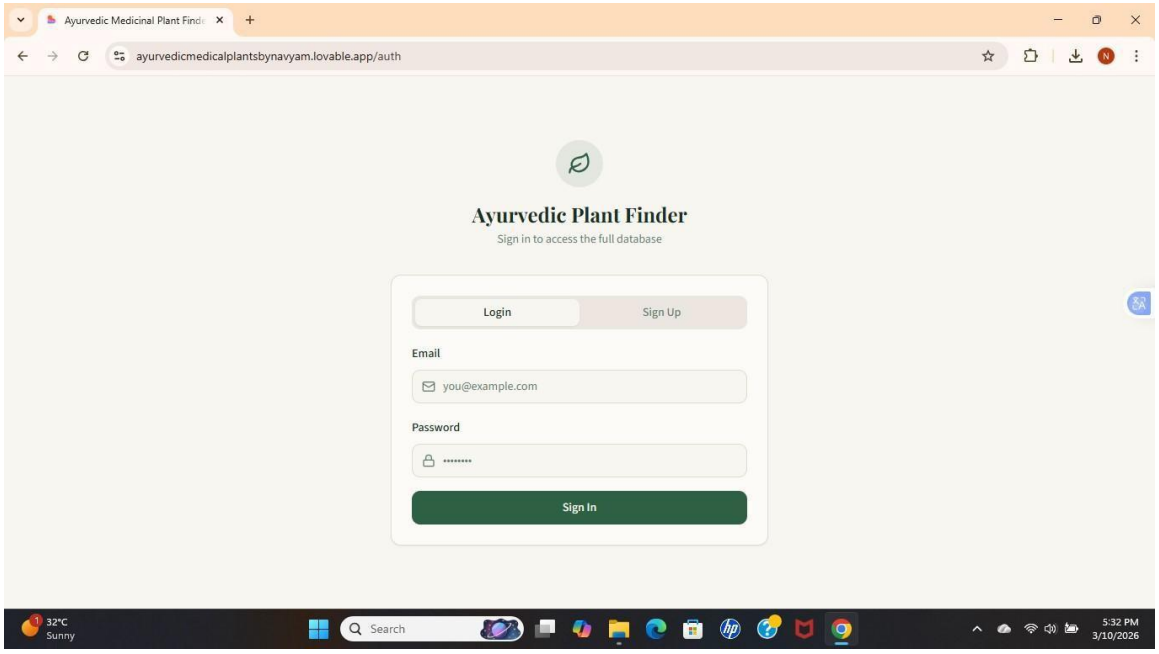
Database Management

All validated data is stored in a structured format for easy access, retrieval, and further processing. This improves efficiency in analysis.

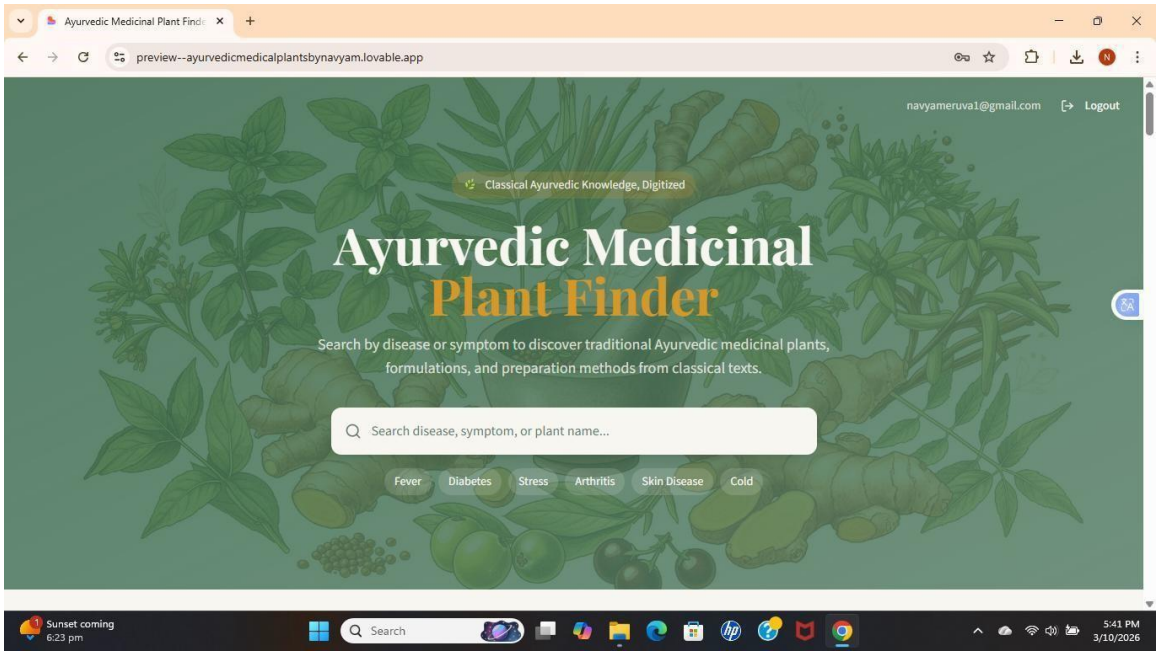
Decision Evaluation

Based on the analysis, conclusions are drawn regarding the effectiveness of formulations and governance strategies for sustainable use of medicinal plants.

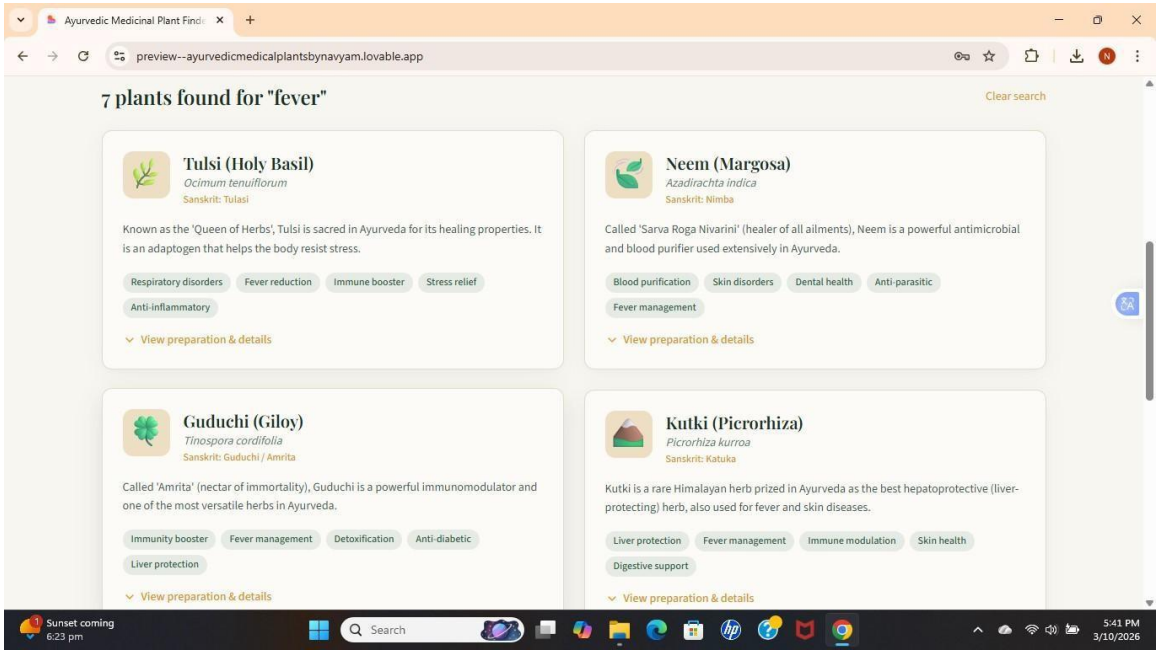
Screens:



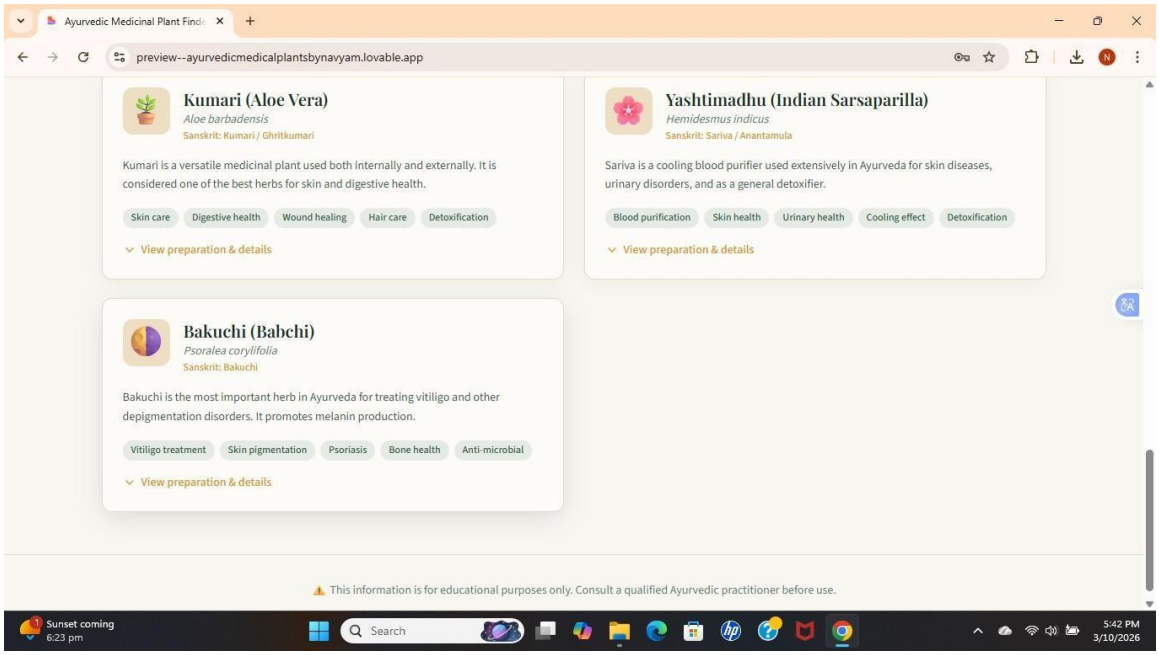
Screen : 1



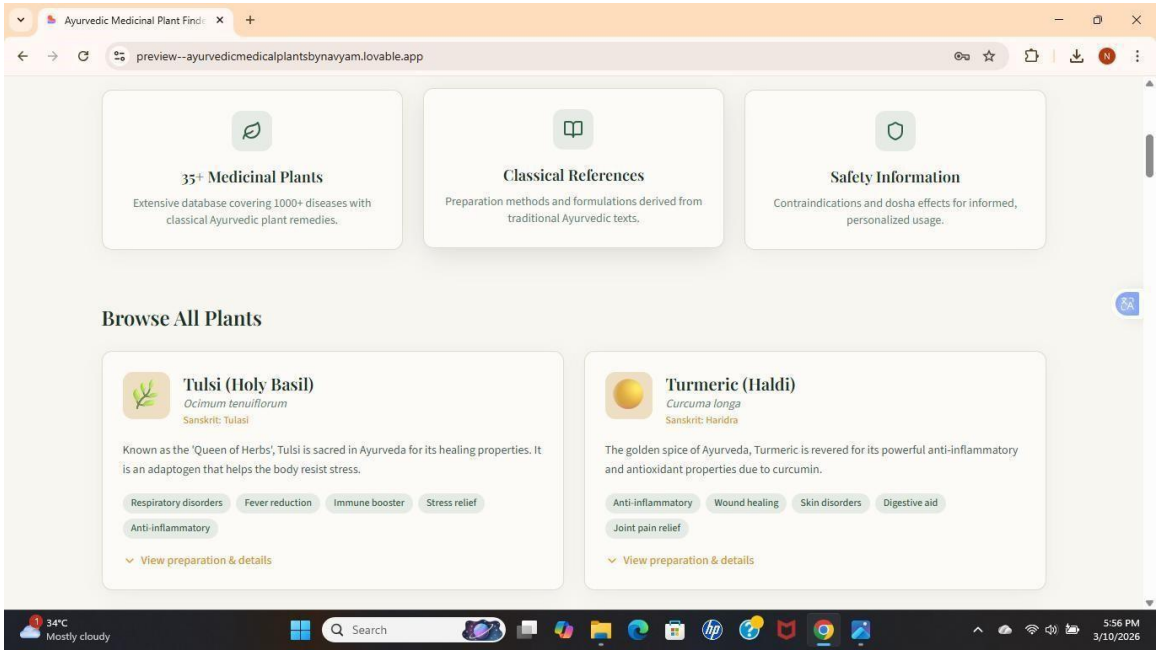
Screen-2



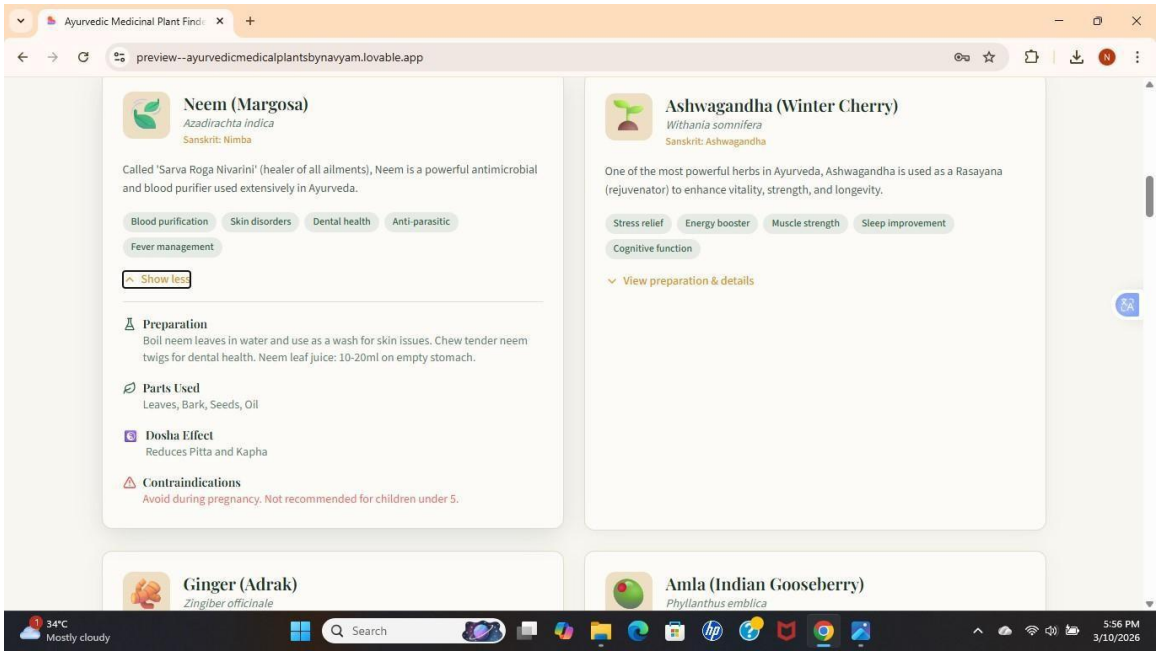
Screen -3



Screen -4



Screen-5



Screen -6

Conclusion

This project presents an Ayurvedic Disease Prediction and Herbal Treatment Recommendation System, which helps users identify suitable Ayurvedic plants and remedies based on diseases or symptoms. The system provides a simple and user-friendly interface where users can search for diseases and receive information about medicinal plants used in traditional Ayurvedic treatments. The application is developed using modern web technologies such as JavaScript, React, Node.js, and Tailwind CSS, which help create a responsive and interactive user interface. The system stores plant information in structured data files and retrieves relevant results based on user search queries. This allows users to quickly access information about herbal remedies and traditional medicinal plants.

The project helps promote awareness of Ayurvedic medicine and natural treatments, making it easier for users to explore herbal solutions for common health problems. By providing detailed plant information, preparation methods, and safety guidelines, the system can assist users in understanding the benefits of Ayurvedic remedies. Overall, the system demonstrates how modern web technologies can be used to create an efficient digital platform for accessing Ayurvedic medicinal knowledge. The application improves accessibility to traditional healthcare information and provides a useful reference for people interested in natural and herbal treatments.

References

1. React Official Documentation, “React – A JavaScript Library for Building User Interfaces,” Available: https://reactjs.org
2. Node.js Foundation, “Node.js Documentation,” Available: https://nodejs.org
3. Mozilla Developer Network (MDN), “JavaScript Guide,” Available:https://developer.mozilla.org
4. W3Schools, “HTML, CSS and JavaScript Tutorials,” Available: https://www.w3schools.com

5. Tailwind CSS Documentation, “Utility-First CSS Framework,” Available: https://tailwindcss.com
6. Geeks for Geeks, “Introduction to Web Development Technologies,” Available: https://www.geeksforgeeks.org
7. Tutorials point, “ReactJS Tutorial,” Available: https://www.tutorialspoint.com
8. National Institute of Ayurveda, “Introduction to Ayurvedic Medicine and Herbal Treatments,” Available: https://www.ayurveda.com