FARMER MITRA

Sakshi Dhulugade, Rushika Bedagkar, Tanuja Koli, Harshad KoliGuide: Ms.S.A.Salunkhe

Sakshi Dhulugade, computer science and engineering, Sanjay Ghodawat Institute
Rushika Bedagkar, computer science and engineering, Sanjay Ghodawat Institute
Tanuja Koli, computer science and engineering, Sanjay Ghodawat Institute
Harshad Koli, computer science and engineering, Sanjay Ghodawat Institute
Guide: Ms.S.A.Salunkhe(Lecturer),computer science and engg. ,Sanjay Ghodawat Institute

Email: sakshidhulugade07@gmail.com , rushika120507@gmail.com, tanujakoli1304@gmail.com,koliharsh57@gmail.com

Abstract *: **In the agricultural sector, farmers in village areas faced major problems because of illiteracy. Farmers cannot take advantage of internet to access information related farming. Also, there is additional benefit to farmer as there is speech-based interaction in Indian languages. farmer mitra is a user-friendly mobile application created to simplify and enhance the farming process.***
Identification of the plant diseases is the key to preventing the losses in the yield and quantity of the agricultural product.It provides all the needed information about plants diseases, solution the problems and which fertilizers are used to reduce the plant diseases.Here, we are extending the approach from computer device to small mobile application.

Keywords: Online Platform, Mobile application, agricultural information.

1. INTRODUCTION

We develop a mobile application for broadcasting agricultural information for subsistence farmers in Maharashtra, India. Since mobile phones are widely used nowadays Thus this research aimed at helping rural farmers make the use of their mobile phones more useful. Rural farmers lack agricultural information, which could be useful for their agricultural activities and development. When rural farmers lack access to agricultural information that leads them to poor farming and is outdated to technologies and better ways of farming. The least expensive rural development method is adequate access to knowledge and information in new agricultural technologies, knowledge of crops to be cultivated as per the region, improved seeding, better fertilizers, anD market produxt.

2. Review of Literature

2.1. Study of Existing System

1. User Authentication and Profiles:

Secure user registration and login. User profiles with personal information,preferences.

2. Information:

Users can access information about their crop’s diseases type, including theirsolution and fertilizers.

3. Ratings:

Allow users to rate.

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2.2. Findings from Literature review

By studying and taking overview of above existing system we have concluded that they have features as listed above but, they have some drawbacks in their features such as:

- They do not have rating system.

- Building user-friendly interface.
- Announcer or speaker driver that enable the listener to listen to a sound as an outcome.

3. Proposed System

this application provides sufficient information about plants and crops diseases. The least expensive rural development method is adequate access to knowledge and information in new agricultural technologies, knowledge of crops to be cultivated as per the region, improved seeding, better fertilizers, and market products. Another major issue is that which is the best fertilizer to use to grow a particular crop, this is also a challenging task for the farmer. Another severe issued faced is when a plant gets caught by heterogeneous diseases that has a drastic effect on agriculture sector such as less amount of agriculture production. To overcome all these issues this recommendation has been proposed. the main goal of our project is farmer get proper knowledge about farming and decrease their looses.

3.1. Advantages

- enhanced access to information: it provide to farmers instant access to crucial agricultural information, including crop management practices and fertilizers.
- reduce looses in farming: check the proper treat for particular plants and crops.
- Crop management: farmers can receive personalized recommendations for crop management techniques, including pest control, fertilizations based on the crops type.

4. Project scope

- To develop a mobile application that helps farmers and plant enthusiasts identify and manage diseases affecting crops and plants. The app will provide an easy-to-use interface for diagnosis, joy, and treatment suggestions.
- Disease Introduction:

Voice Input: User can Search particular disease or symptoms using voice input. Searchable Database: For complete information on plant diseases and symptoms.

- Disease Information: Users can access information about diagnosed diseases, including causes, effects and plants involved.

4.1. Objective of Proposed System

- Early Disease Detection: Enable users, consisting of farmers and agricultural pro- fissional, to speedy and as it should be identify diseases in plants and crops via searching particular disease/symptoms and voice input.
- Disease Monitoring: Display Information of particular Disease and provide solution to cure that particular disease at an early level.
- Accessibility and Ease of Use: Ensure that the app is user-pleasant and on hand to a wide range of users, which includes people with limited technical information.
- Crop Health Improvement: Ultimately, enhance crop health, increase agricultural productiveness, and decrease the economic and environmental effect of plant dis- eases.

5. Designing

XML, or Extensible Markup Language, is a versatile text-based markup language designed for representing and exchanging structured data. It follows a hierarchical structure where elements, enclosed in angle brackets, define the data. Each element has an opening tag and a corresponding closing tag. Attributes within the opening tags provide additional information.

XML is both human-readable and machine-readable. Its plain text format facilitates understanding for humans, while parsers can interpret it programmatically. The hierarchical nature of XML enables the representation of complex data structures through nesting elements. XML finds applications in diverse areas, such as web development, con- figuration files, and data interchange between heterogeneous systems. It serves as a

standardized means for organizing and storing information, contributing to data integrity and efficient communication between software components.

6. Development

JAVA

Java is a versatile, object-oriented programming language known for its Platform independence. Code written in Java can run on any device with a Java Virtual Machine (JVM). It features automatic memory management, a rich standard library, and strong support for multi-threading.

Widely used in web development and various applications, Java has a large and active developercommunity.

7. Software Configuration

- OPERATING SYSTEM : WINDOWS 7 OR HIGHER
- FRONT-END LANGUAGES : ANDROID(XML)
- BACK-END LANGUAGES : JAVA
- DATABASE : SQLLITE

7.1. HARDWARE CONFIGURATION

- RAM : 4GB MINIMUM
- PROCESSOR : INTEL CORE I3 OR HIGHER
- NETWORK CONNECTION : ETHERNET or WIFI
- ANDROID VERSION : ANDROID 6 +

8. UML Diagrams

Flow chart

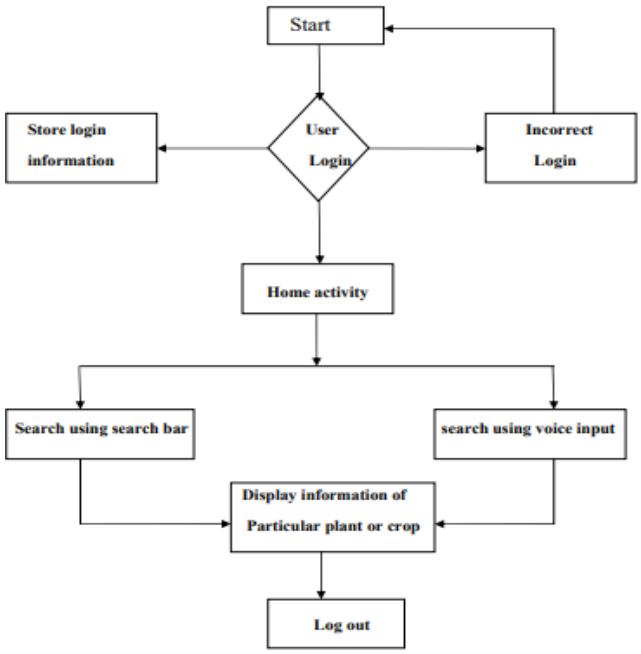

Fig.1Flow Chart

The above flow chart describes the complete flow of the system. If user wants to use the platform, then user has to first create the account then login to the application. User can view the home page and the information about the crops.

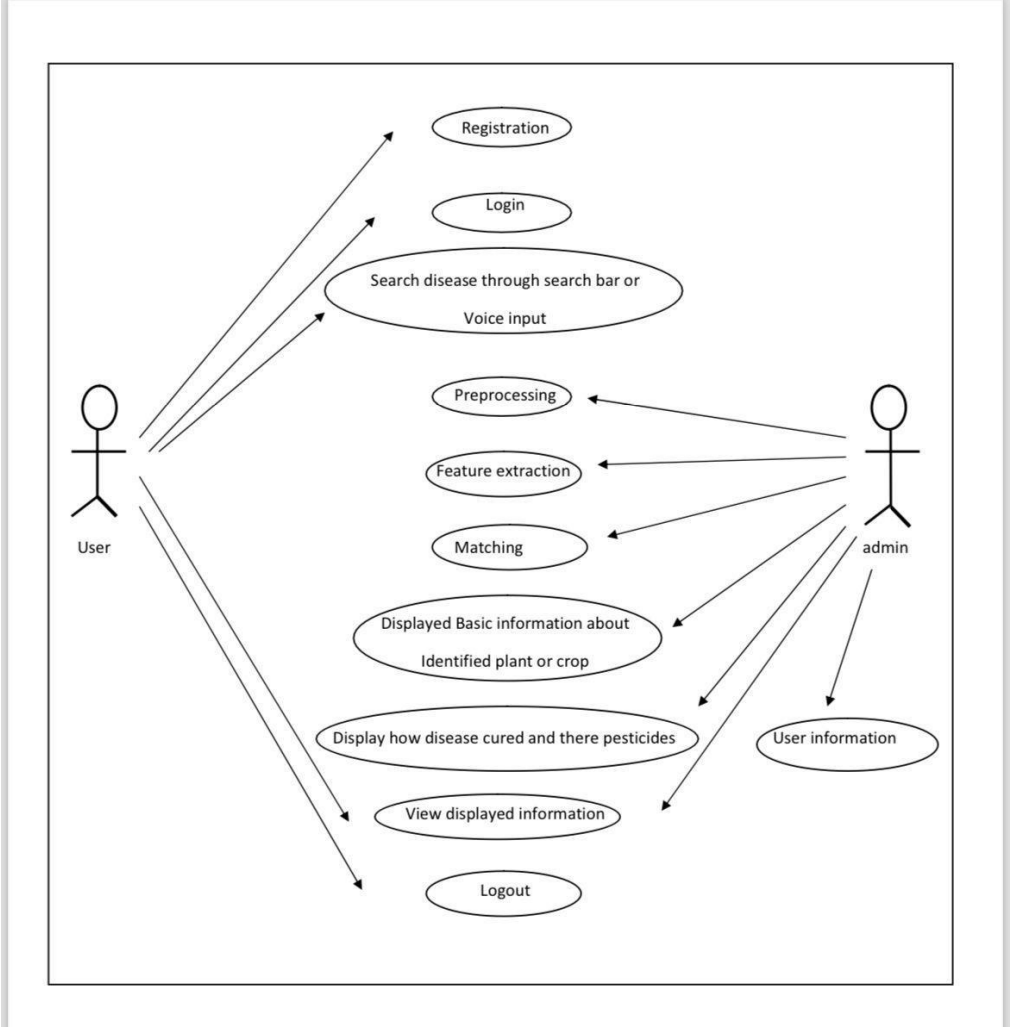

Fig.2 Use-case Diagram

1. **Actors**:
   - **User**: Represents individuals who interact with the system. They can perform actions such as logging in, registering.
2. **User Actions**:
   - **Login**: Users can log in to the system.
   - **Registration**: Users can create new accounts by providing a username, password, and email or phone number..
   - **Include Relationship**: The Registration process includes entering user details.

DFD diagrams

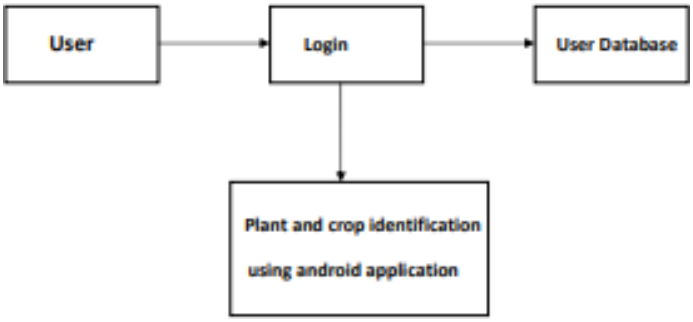

Fig.3Level 0 DFD

1. **Entities**:
   - **User**: Represents individuals interacting with the system.

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2. **Processes**:
   - **Login**:
     - Users log in.
     - Their information is stored or retrieved from the "User's Database."
   - **Registration**:
     - Users can create new accounts by providing a username, password, and email or phone number.
3. **Activate Account**:

   - Allows users to give ratings.
4. **Databases**:
   - **User's Database**: Stores user login information.

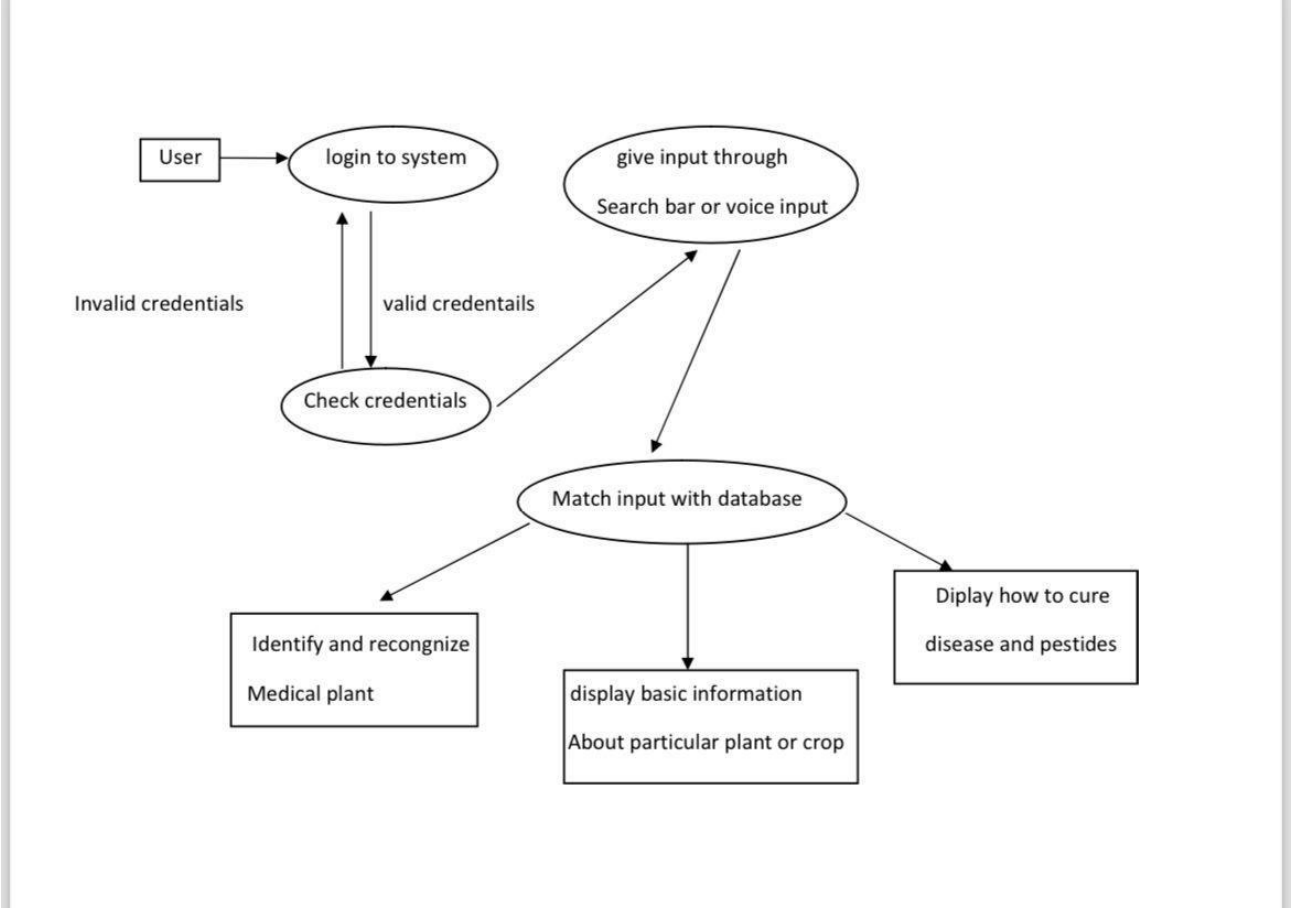

Fig.4 Level 1 DFD

1. Users:

- Users start by **logging in or signing up**. Their information is checked against the **Users' Database**.
- They can **view crops information, type of diseases, fertilizers used**.
- Users can **select a suitable language.**
- They also have an option to **add ratings** for the experience , which are stored in the **Ratings Database**.

9. Snapshots of the system

Fig.1 Registration page

Here user can create their new account by providing username, password, phone number, email. All the login information of user stored in the database.

Fig.2.login page

User can login here using their login information if the login information match with the stored stored information of user then user will login to the system.

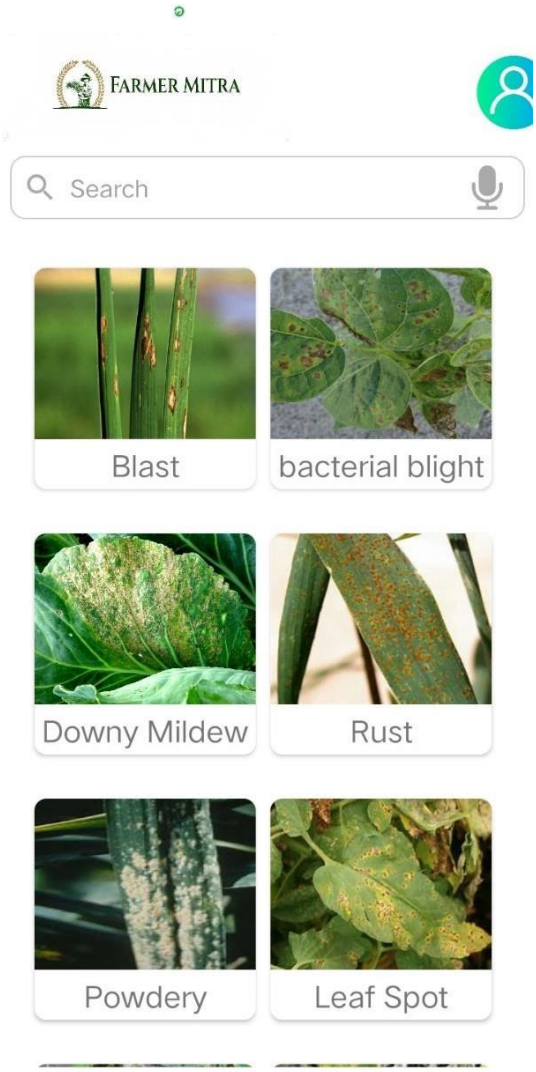

Fig.3 home page

After the login home page will displayed. Information about crops. Type of diseases, fertilizers. User can also search for the diseases. if user have trouble in reading information they can click on the speaker for listen the information.

Fi.g4. crop information page

Here is one crop information user can view the information in both languages like English and Marathi. If user have trouble in reading information they can click on the speaker for listen the information.

10. Conclusion And future work

The successful creation and deployment of such an app require careful attention to data collection, model training, user interface design, and ethical considerations. Continuous improvement, user feedback, and rigorous testing are crucial to ensure accuracy and user satisfaction. By effectively bridging the gap between technology and agriculture, a medical leaf detection and crops app can contribute to sustainable and efficient farming practices, benefiting both farmers and the broader ecosystemr

10.1. FUTURE ENHANCEMENT

- Natural Language Processing (NLP) Techniques Mobile app integration
- User Experience Enhancements.
- Performance Optimization and Scalability.
- Ethical Considerations and Privacy.

11. References

[1] D. A. D. S. Jayalath, T. G. A. G. D. Amarawanshaline, D. P. Nawinna, P. V. D. Nadeeshan and H. P. Jayasuriya, and quot;Identification of Medicinal Plants by Visual Characteristics of Leaves and Flowers,and quot; 2019 14th Conference on Industrial and Information Systems (ICIIS), 2019, pp. 125-129, doi: 10.1109/ICIIS47346.2019.9063275.

[2] N. Deepak and R. Ahmed, and quot;Neural networks based leaf identification using shape andstructural decomposition - IEEE Conference Publication and quot;, Ieeexplore.ieee.org,2016.[Online].Availableat:https://ieeexplore.ieee.org/ielx 7/794857 4/7955253/07955302.pdf?tp=and amp;arnumber=7955302and amp;isnumber=795

[3] https://plantix.net/en/