ECOSCAN

Plant Disease Detection System

User Manual

for

EcoScan

Web Application

TABLE OF CONTENTS

Introduction

Welcome to the EcoScan web application! The project's primary objective is to provide a user-friendly interface for farmers, allowing them to upload crop images and receive real-time analysis, enabling early disease detection and informed decision-making. By integrating state-of-the-art technology into agriculture, Eco Scan aims to optimize crop health monitoring, minimize losses, and promote sustainable farming practices.

|	
Project Name:	**Eco Scan**
Team:	**Algo-Avengers**
Project Description:	"**Eco Scan**" is a pioneering project leveraging Convolutional Neural Networks (CNN) and image processing techniques for rapid and accurate plant disease detection.
	For farmers
	Who uploads an images
	the Eco Scan
	is a deep neural Network model application
	that provides rapid and accurate plant disease detection in real time and free of cost
	rather than subscribing to highly paid applications with less accuracies**.**
	Our application will help the user with CNN algorithms to analyze and identify potential diseases swiftly.
Benefit Outcomes:	**Aims to:** • optimize crop health monitoring, • minimize losses, • promote sustainable farming practices.
GitHub Link:	Home · htmw/2024S-AlgoAvengers Wiki (github.com)

Getting Started

1. **Homepage**

   - **Access:** Open your web browser and enter the URL provided for the EcoScan application. You will land on the homepage.

   - **Navigation:** Use the navigation bar at the top of the page to access various sections such as Home, About Us, Weather Forecasting, and more.
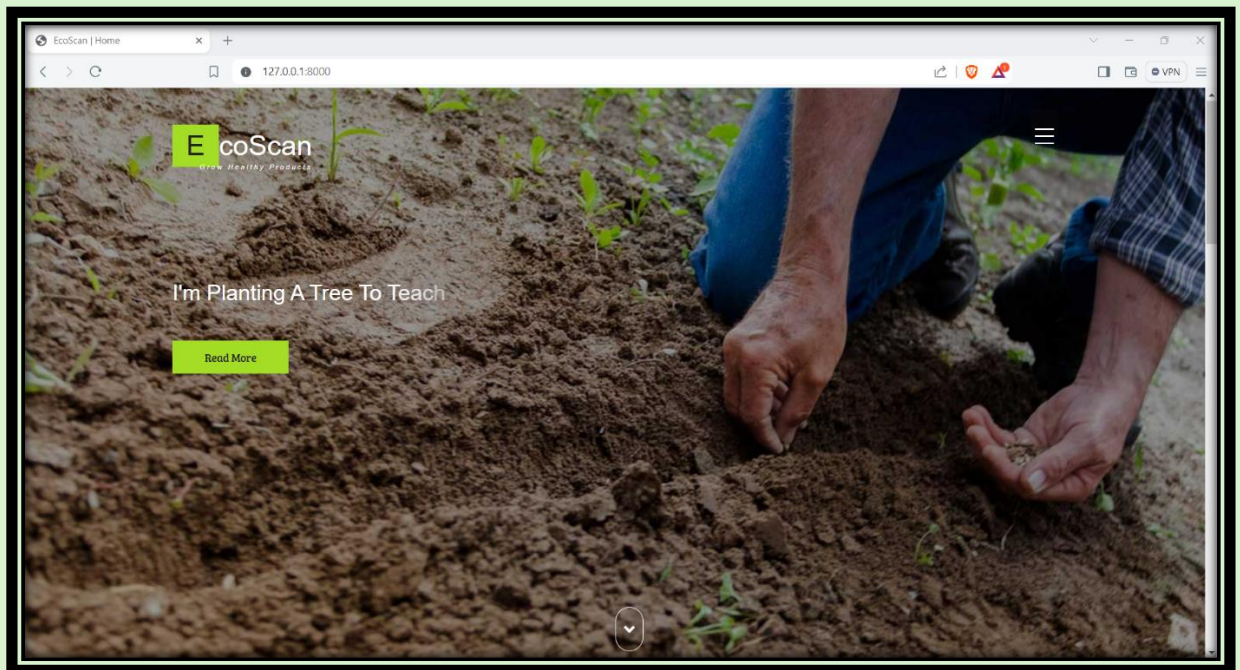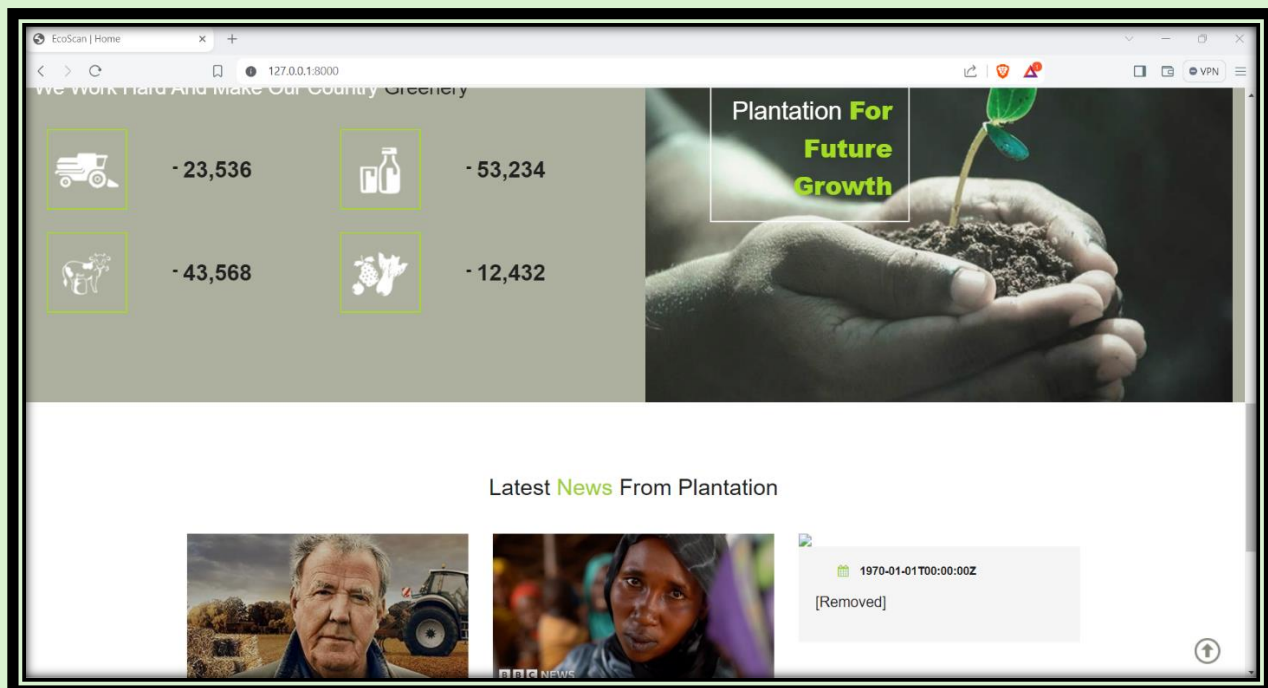

Planting A Tree: Click on "Read More" to learn about the benefits and methods of planting trees.

Carousel: View featured fruits like Pomegranates, Lemons, Kiwi Fruits, Apples, and Strawberries by clicking on the arrows to navigate through the carousel.
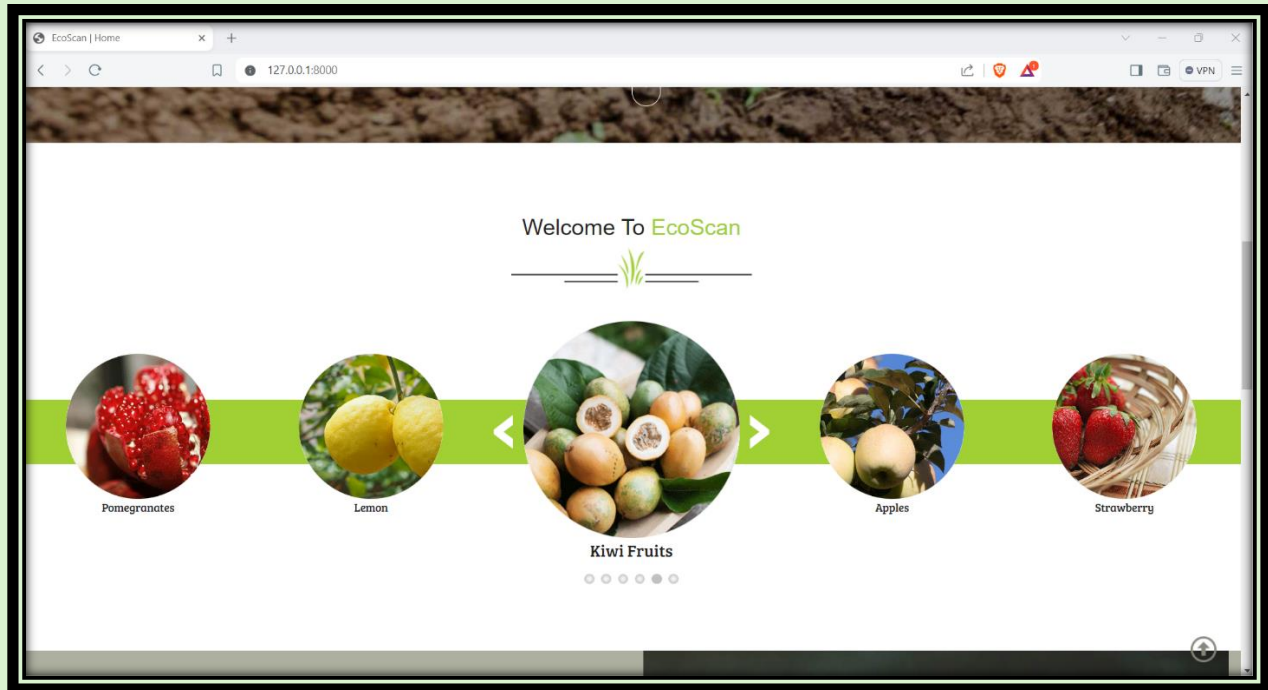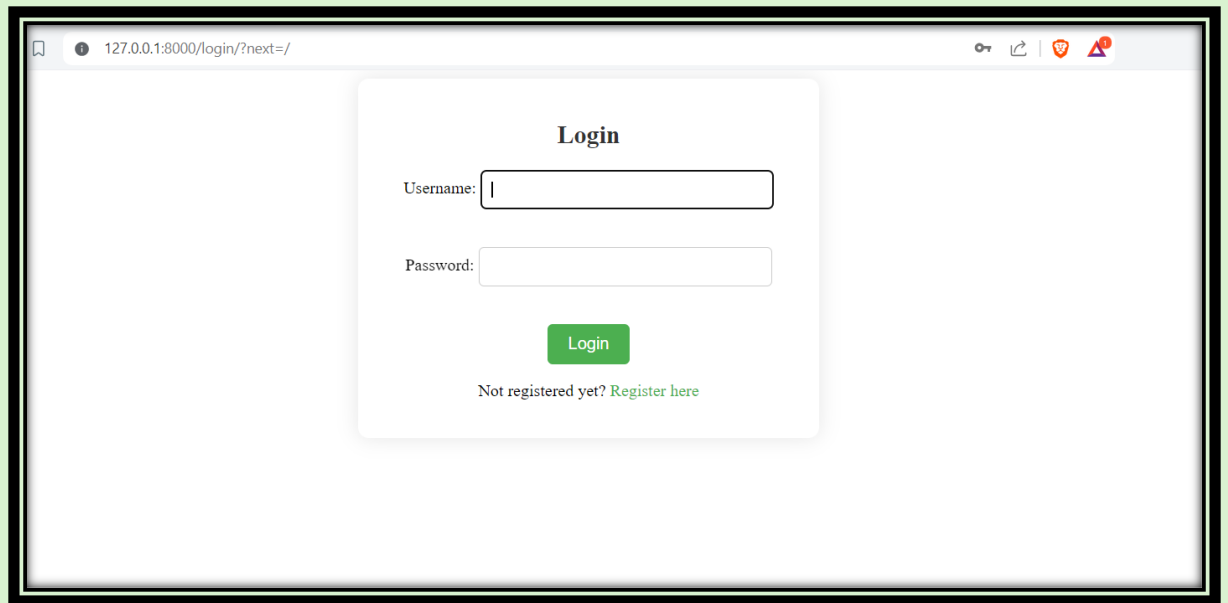

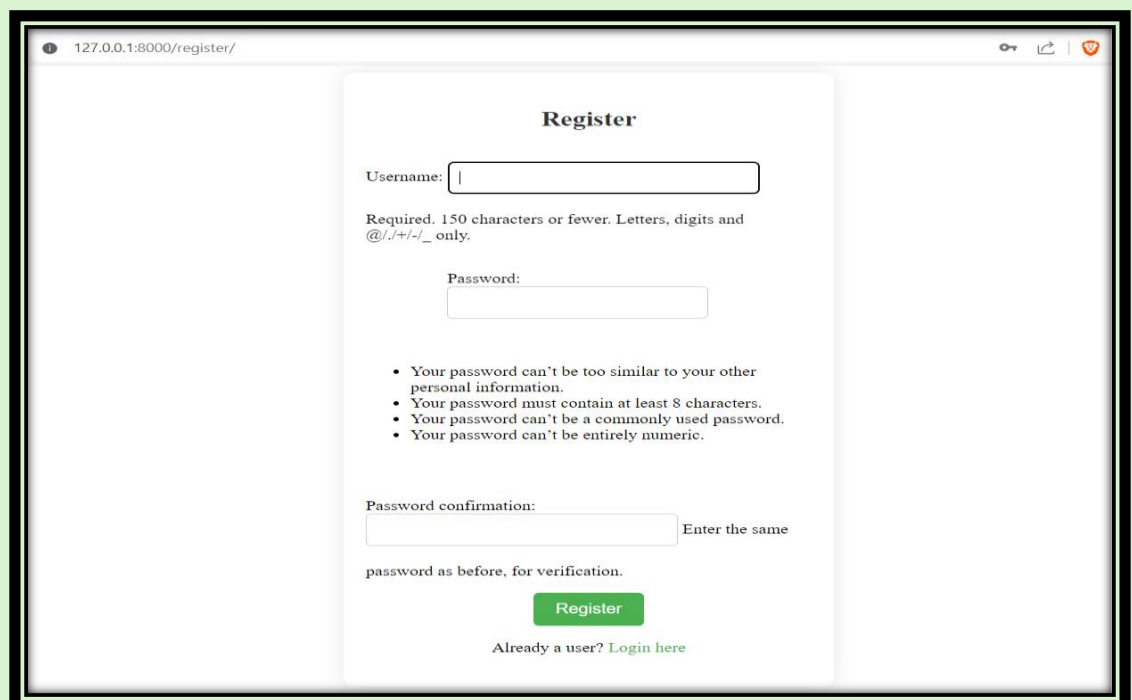**Latest news:** Check out the feed for the latest news about planation.

2. Login/Signup

- **Access:** Click on the 'Login' button in the upper right corner to enter your credentials or select 'Signup' to create a new account.

- **Information Needed for Signup:** Provide your email address, create a password, and fill in any other required information to set up a new account.
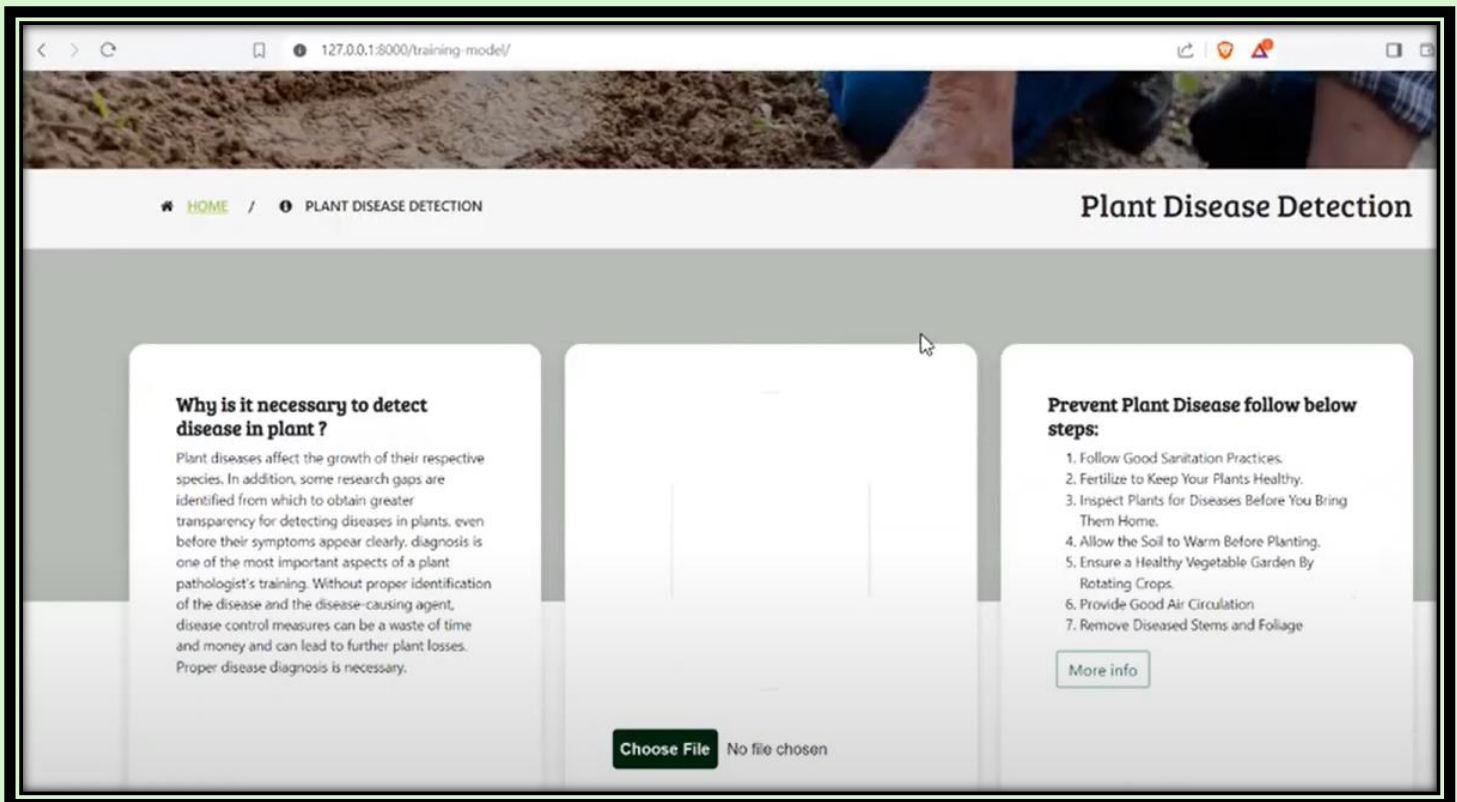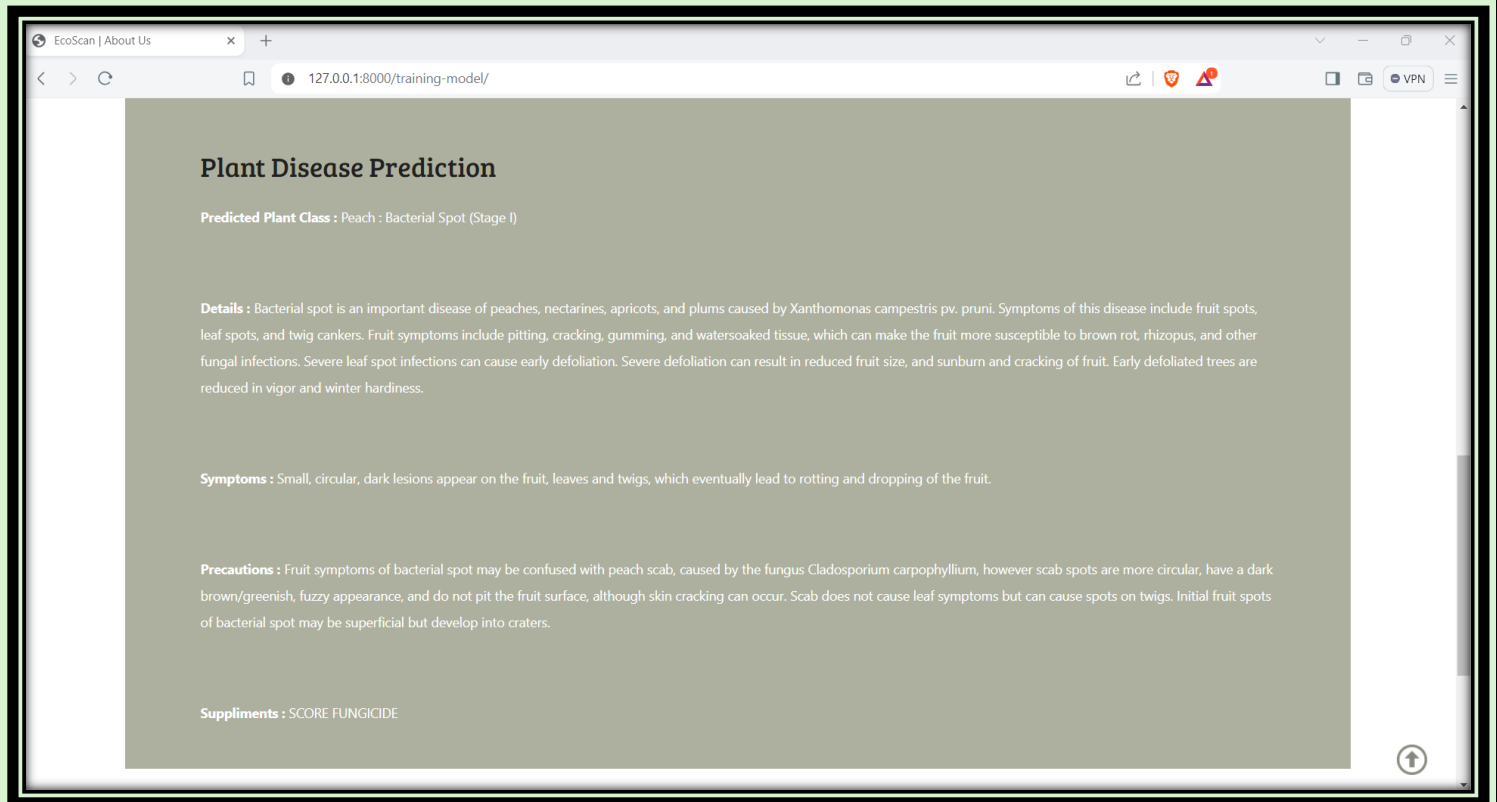
Main Functionalities of EcoSCAN:

1. Disease Detection

- **Access:** Navigate to the 'Disease Detection' section from the homepage.

- **Usage:** Upload an image of a plant leaf, and the system will analyze it to detect any diseases.

- **Results:** After processing, the application will display the type of disease detected along with detailed information and suggested steps for treatment.

Plant Disease Prediction

Predicted Plant Class : Peach : Bacterial Spot (Stage I)

Details : Bacterial spot is an important disease of peaches, nectarines, apricots, and plums caused by Xanthomonas campestris pv. pruni. Symptoms of this disease include fruit spots, leaf spots, and twig cankers. Fruit symptoms include pitting, cracking, gumming, and watersoaked tissue, which can make the fruit more susceptible to brown rot, rhizopus, and other fungal infections. Severe leaf spot infections can cause early defoliation. Severe defoliation can result in reduced fruit size, and sunburn and cracking of fruit. Early defoliated trees are reduced in vigor and winter hardiness.

Symptoms : Small, circular, dark lesions appear on the fruit, leaves and twigs, which eventually lead to rotting and dropping of the fruit.

Precautions : Fruit symptoms of bacterial spot may be confused with peach scab, caused by the fungus Cladosporium carpophyllium, however scab spots are more circular, have a dark brown/greenish, fuzzy appearance, and do not pit the fruit surface, although skin cracking can occur. Scab does not cause leaf symptoms but can cause spots on twigs. Initial fruit spots of bacterial spot may be superficial but develop into craters.

Suppliments : SCORE FUNGICIDE

2. **Weather Forecasting**

- **Access:** Select the 'Weather Forecasting' from the navigation bar.

- **Usage:** Choose your location from the drop-down menu and click 'Submit Now'.

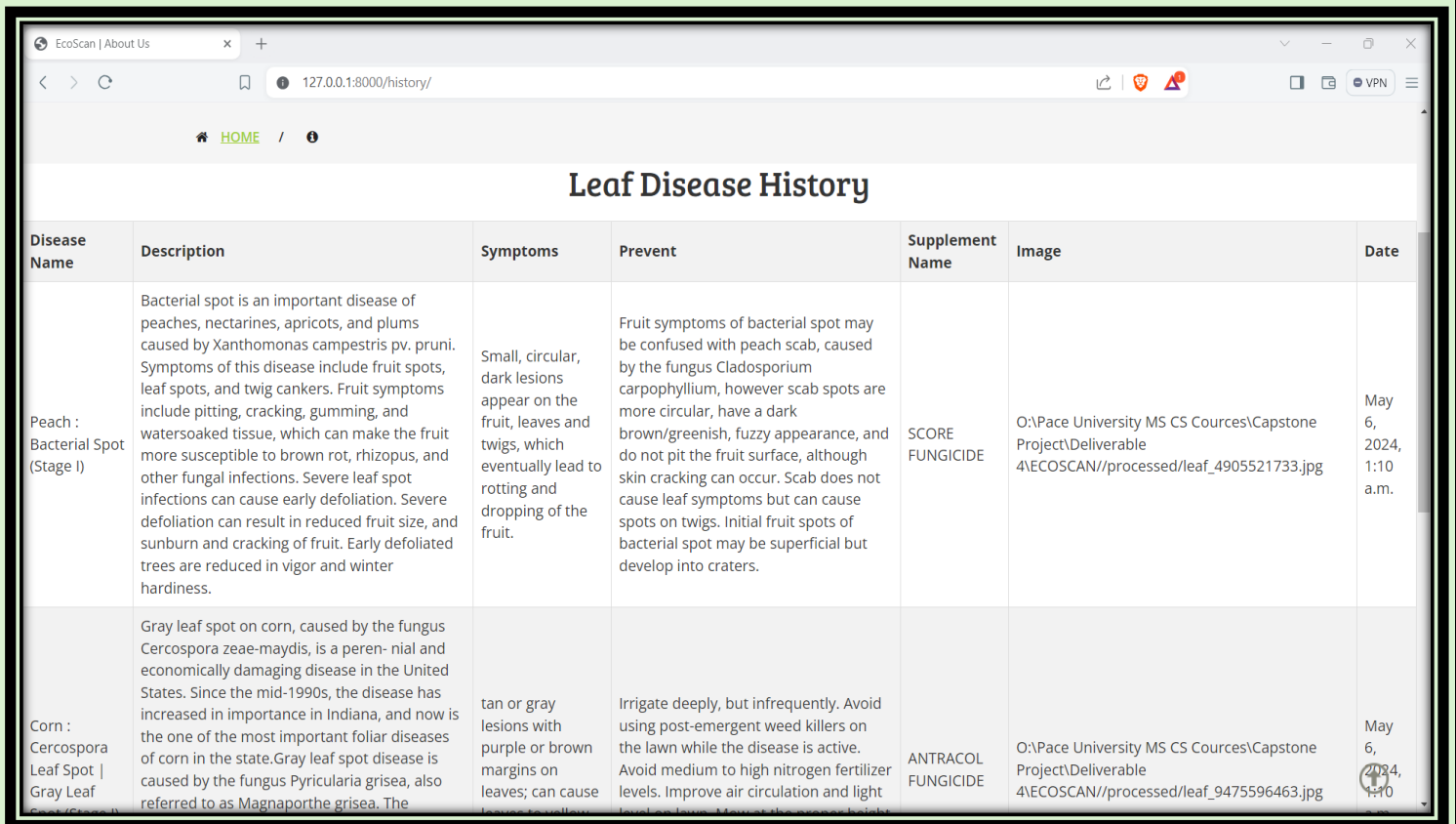- **Results:** The application will display the current weather conditions including temperature, humidity, and general weather status for the selected area.
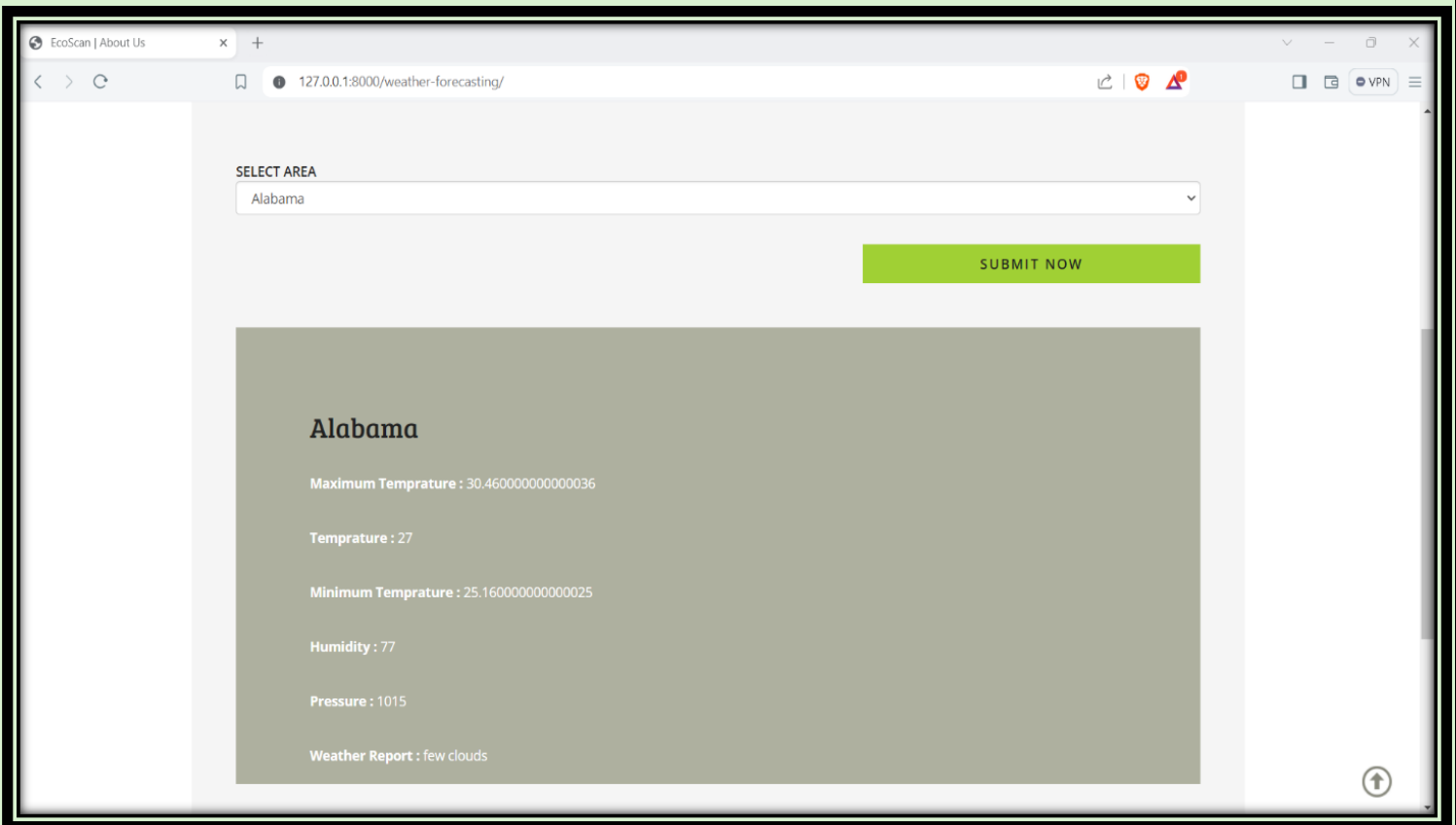
3. **Plant Care History**

- **Access:** Go to the 'History' section to view past records of plant diseases.

- **Functionality:** This section provides a historical overview of various plant diseases, including descriptions, symptoms, preventive measures, and treatments.


Leaf Disease History

Disease Name	Description	Symptoms	Prevent	Supplement Name	Image	Date
Peach : Bacterial Spot (Stage I)	Bacterial spot is an important disease of peaches, nectarines, apricots, and plums caused by Xanthomonas campestris pv. pruni. Symptoms of this disease include fruit spots, leaf spots, and twig cankers. Fruit symptoms include pitting, cracking, gumming, and watersoaked tissue, which can make the fruit more susceptible to brown rot, rhizopus, and other fungal infections. Severe leaf spot infections can cause early defoliation. Severe defoliation can result in reduced fruit size, and sunburn and cracking of fruit. Early defoliated trees are reduced in vigor and winter hardiness.	Small, circular, dark lesions appear on the fruit, leaves and twigs, which eventually lead to rotting and dropping of the fruit.	Fruit symptoms of bacterial spot may be confused with peach scab, caused by the fungus Cladosporium carpophyllium, however scab spots are more circular, have a dark brown/greenish, fuzzy appearance, and do not pit the fruit surface, although skin cracking can occur. Scab does not cause leaf symptoms but can cause spots on twigs. Initial fruit spots of bacterial spot may be superficial but develop into craters.	SCORE FUNGICIDE	O:\Pace University MS CS Cources\Capstone Project\Deliverable 4\ECOSCAN//processed/leaf_4905521733.jpg	May 6, 2024, 1:10 a.m.
Corn : Cercospora Leaf Spot	Gray Leaf Spot (Stage I)	Gray leaf spot on corn, caused by the fungus Cercospora zeae-maydis, is a peren- nial and economically damaging disease in the United States. Since the mid-1990s, the disease has increased in importance in Indiana, and now is the one of the most important foliar diseases of corn in the state.Gray leaf spot disease is caused by the fungus Pyricularia grisea, also referred to as Magnaporthe grisea. The	tan or gray lesions with purple or brown margins on leaves; can cause leaves to yellow	Irrigate deeply, but infrequently. Avoid using post-emergent weed killers on the lawn while the disease is active. Avoid medium to high nitrogen fertilizer levels. Improve air circulation and light level on lawn. Mow at the proper height	ANTRACOL FUNGICIDE	O:\Pace University MS CS Cources\Capstone Project\Deliverable 4\ECOSCAN//processed/leaf_9475596463.jpg	May 6, 2024, 1:10 a.m.

4. **Area Details**

- **Access:** Select 'Area Details' from the menu to view information about soil types and suitable crop recommendations for different regions.
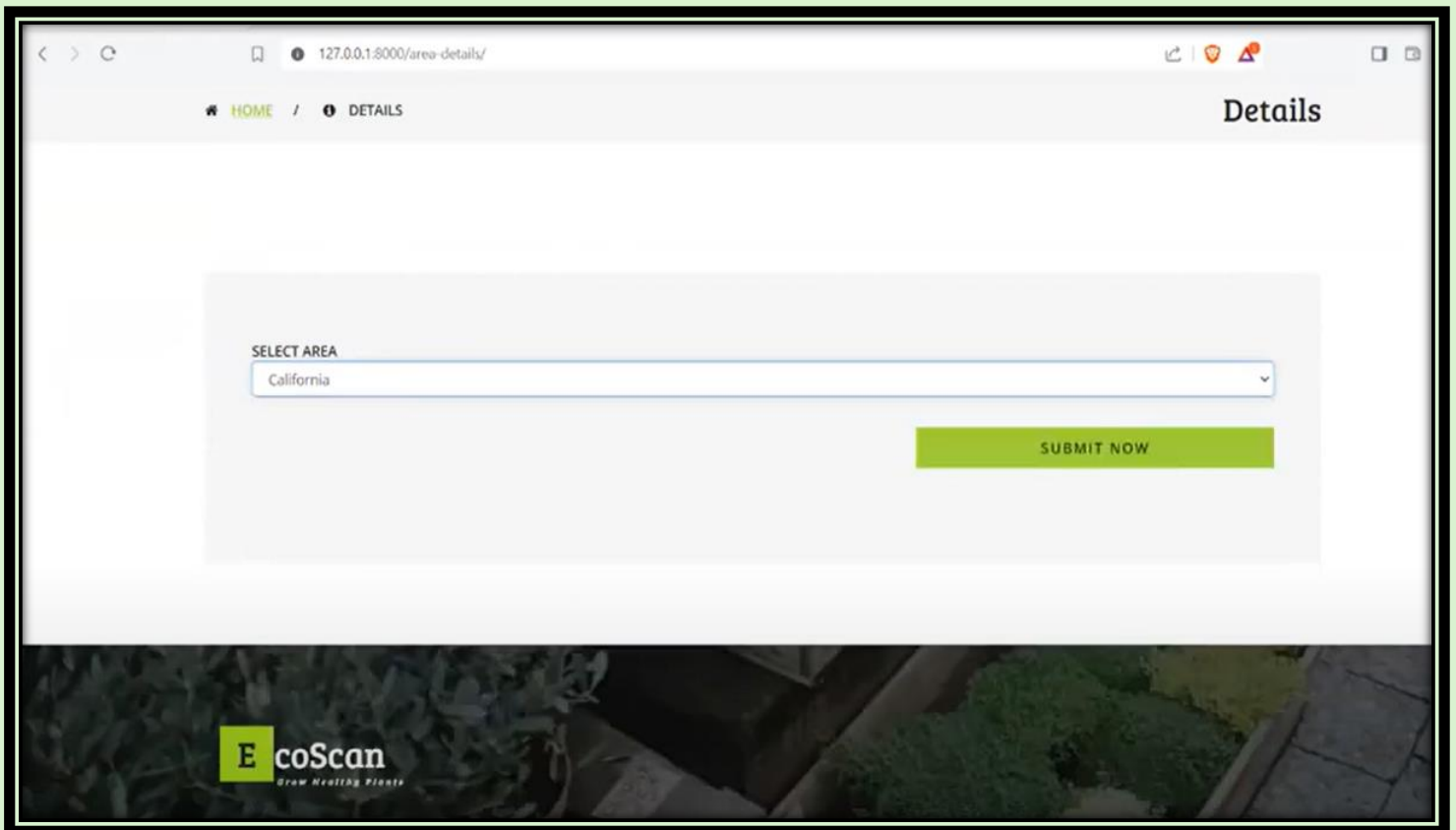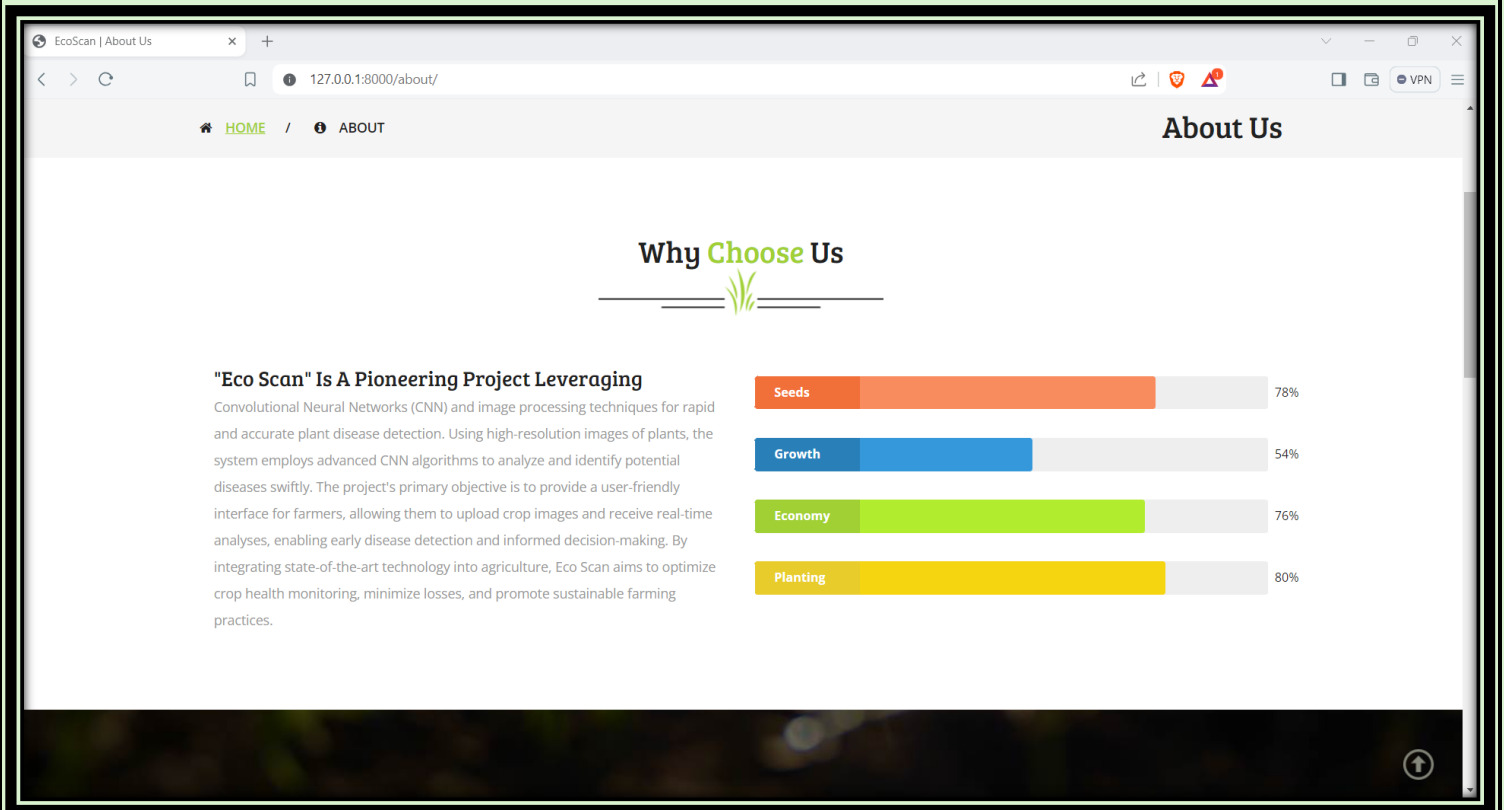
- **Features:** Information on various soil types like sandy soil, and the best practices for planting and maintaining crops suited to these conditions.
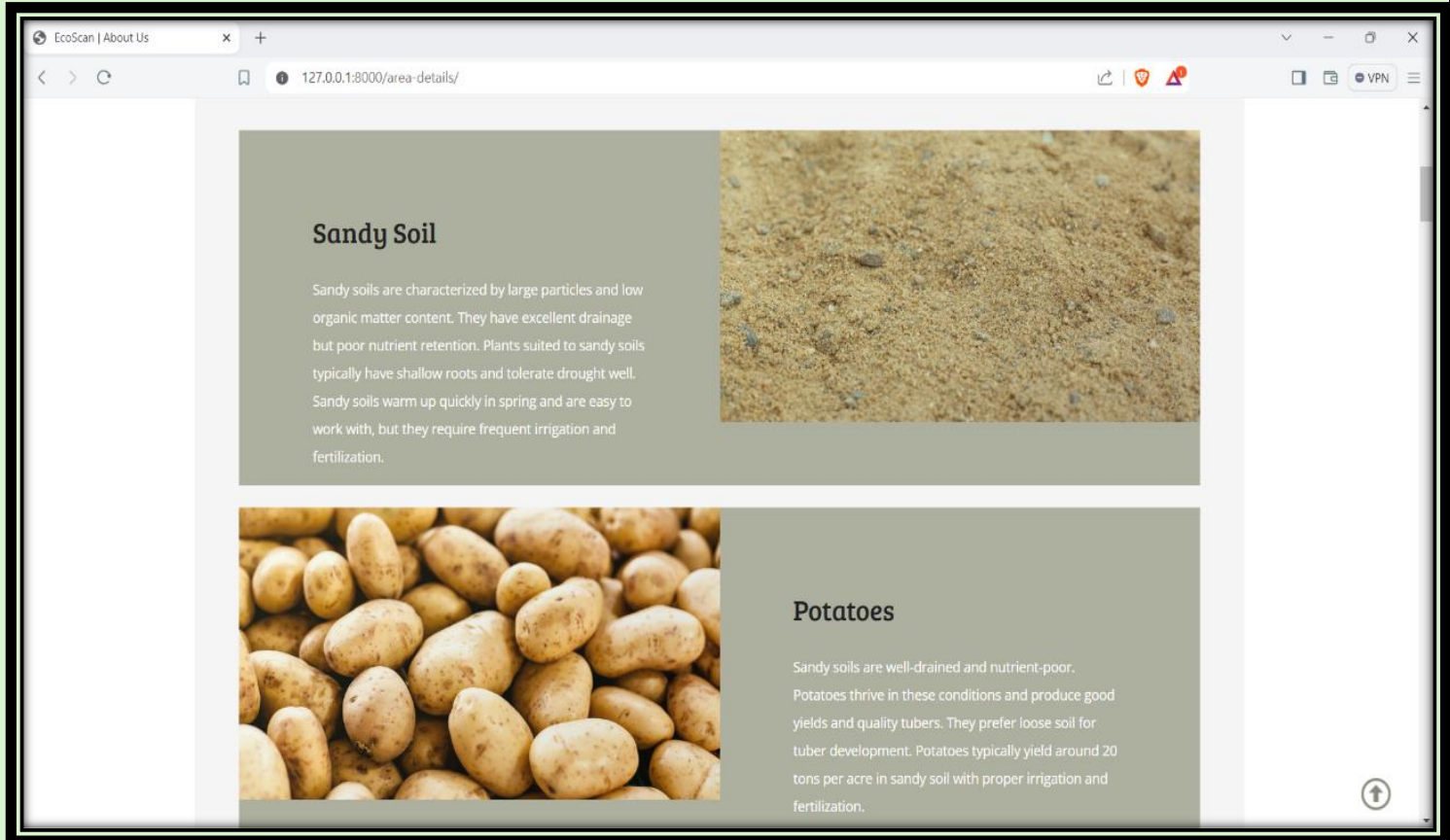
5. **About Us**

- Learn more about the EcoScan project, its goals, and the technologies used.

- This section also includes graphical data on the success rates of different planting strategies used within the community.

Troubleshooting and Support

- **Image Upload Issues:** Ensure the image is in a supported format (e.g., JPEG, PNG) and does not exceed the size limits. If problems persist, try reloading the page or using a different browser.

- **Weather Information Errors:** If the weather data appears incorrect or does not load, check your internet connection and ensure you have selected the correct area. If the issue continues, contact support.

- **General Support:** For any other issues or inquiries, reach out to our support team via the 'Contact' section. Provide a detailed description of your issue, and we will assist you as soon as possible.

Conclusion

The EcoScan web application is designed to be user-friendly and informative, providing valuable insights into plant health and environmental care.

We hope this manual helps you navigate and make the most of the various features available.

Happy gardening and plant care!