

Shri Shankaracharya Institute of Professional Management & Technology, Raipur

Major Project(Phase-I) Report on

App Based solution to identity & Solve Disease in Tomato & Potato Plant

CSE 7th Semester

Department of Computer Science and Engineering,

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Project Guide

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Introduction about Project

- Introducing our new app, the Planter, a revolutionary tool that uses machine learning image recognition to diagnose plant diseases. With just a snap of a photo, our app can accurately identify the disease and provide tailored solutions for treatment. Say goodbye to guesswork and hello to expert-level plant care with the Planter

Application Area

- Why did you opt to work on this project?
 - Because we believe that the application of machine learning and image recognition technology in the field of plant health can revolutionize the way we care for our plants and make it more accessible for everyone.
- What are the Applications and Benefits of this project?
 - The application is to diagnose and treat plant diseases with an easy and accurate way, the benefits are save time and effort, and get expert level knowledge and care for your plants
- Who are the End Users of this project?
 - The end users of this project are individuals, farmers, and gardeners who want to take their plant care to the next level.

Literature Review

- Literature Survey

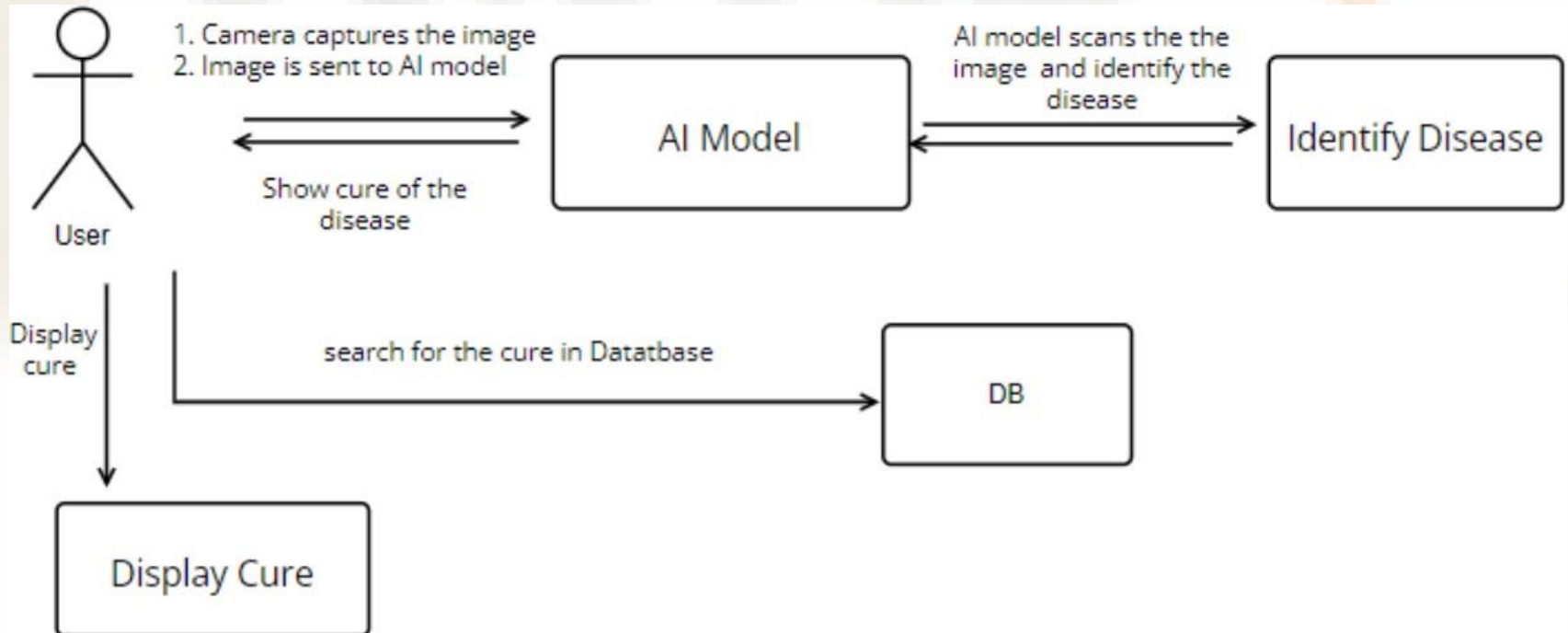
- Our literature survey is a comprehensive examination of existing research and publications related to the topic of our app, which uses image recognition technology to diagnose and treat plant diseases. We explore the current methods of diagnosis and treatment, as well as the potential of machine learning technology to revolutionize the field and provide accurate, efficient and expert-level solutions for plant care.

- Problem Identification

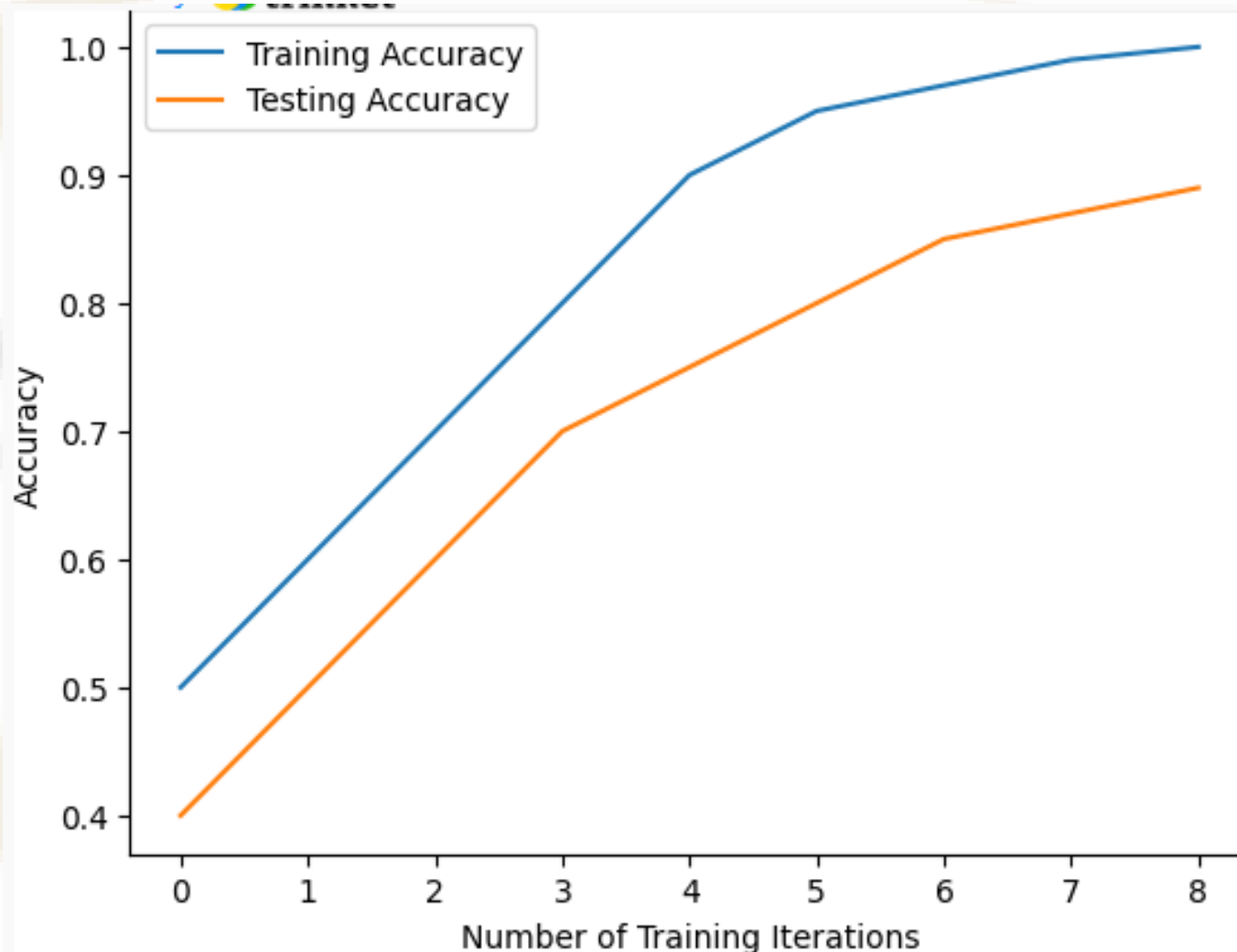
- The Problem Identification is the process of identifying a specific problem or gap in the current state of knowledge or practice within the field of research. In the case of our plant disease diagnosis and treatment app, this could involve identifying the limitations and inefficiencies of current methods of diagnosis and treatment, and identifying the potential benefits of utilizing machine learning and image recognition technology to address these issues.

Methodology

•Workflow Diagram

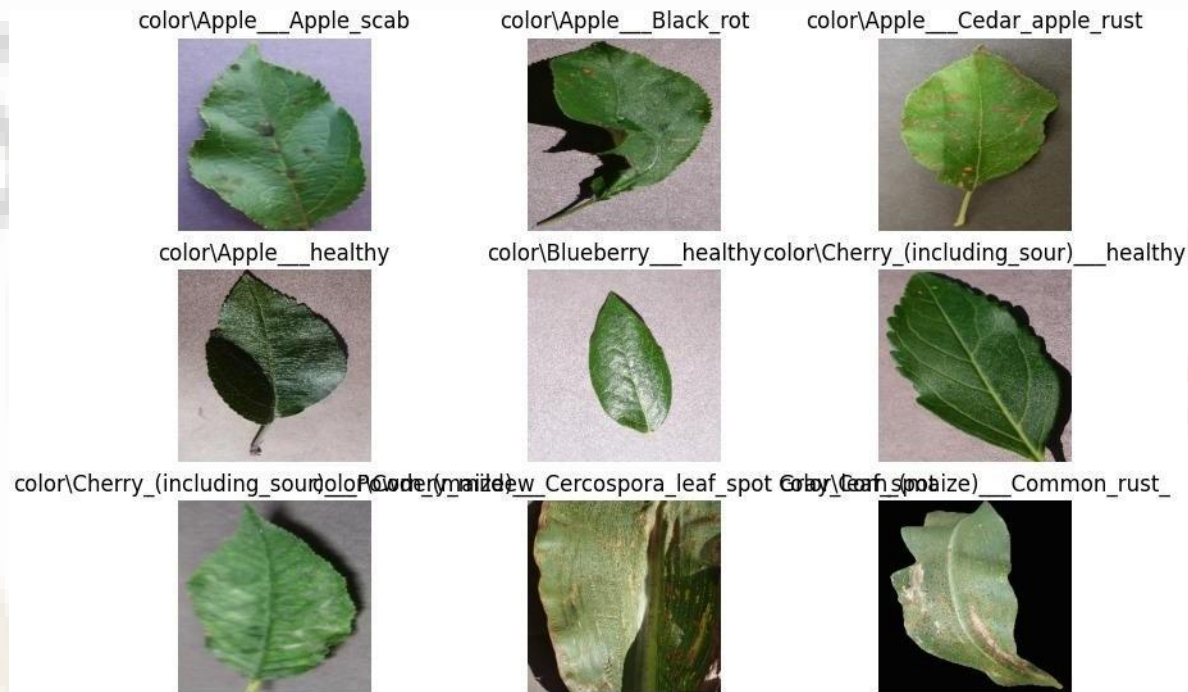


Experimental Setup

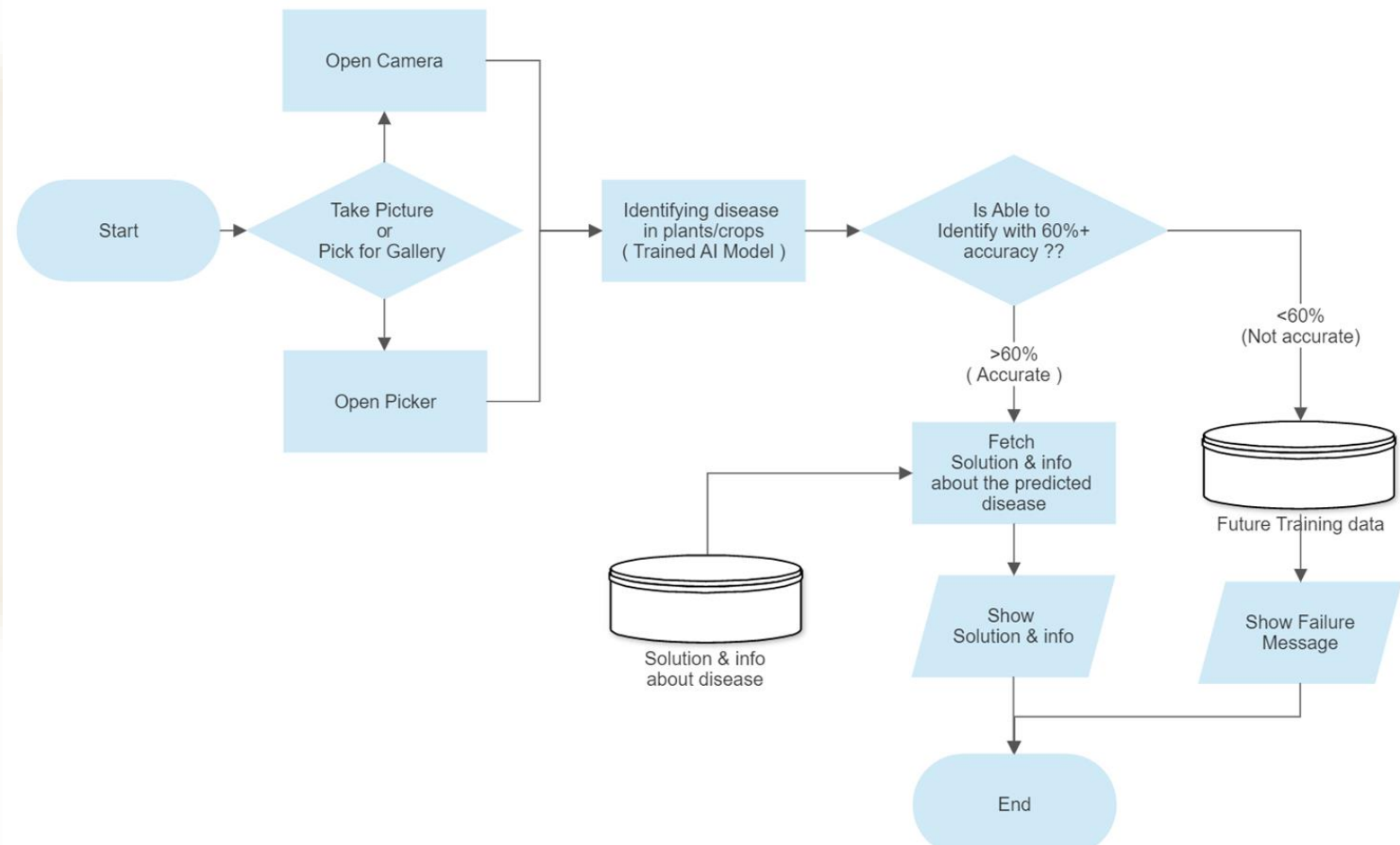


Database Used

- We have used a data base of plant disease added some of our own labeled data of local plant sample image



Project Work Flow Diagram

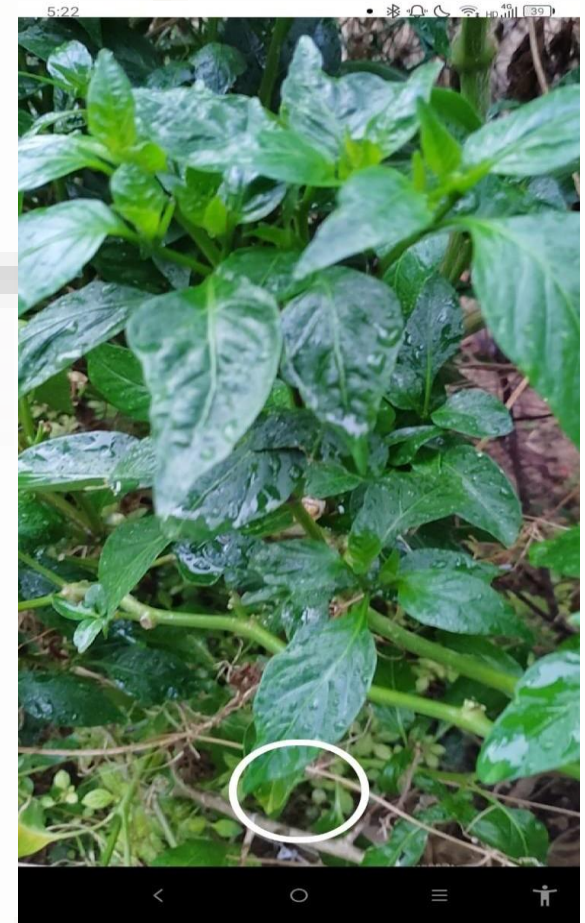


Result & Conclusion

•Camara view

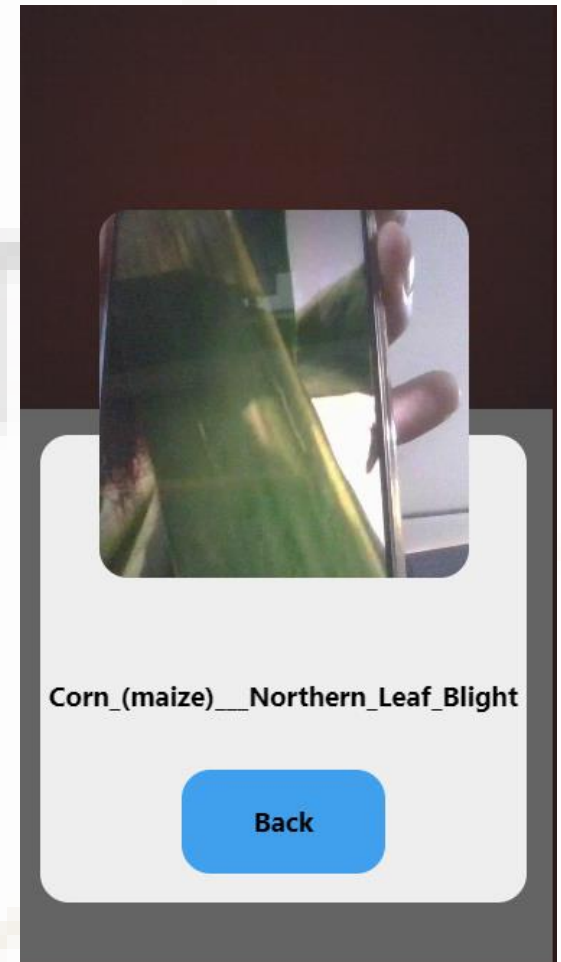
Click photo: The app has a feature that allows the user to take a photo of a plant using their device's camera. Upon clicking the "click photo" button, the photo is captured and sent to the model for identification and information retrieval.

Hold to pick: The app also has a feature that allows the user to select an image from their device's gallery instead of capturing a new one. Upon long-pressing the "click photo" button, an image picker appears, and the user can select a photo of a plant from their device's gallery to send to the model for identification and information retrieval.



Sample Result

The screenshot shows the results of an image recognition model that has been trained to diagnose plant diseases. The top portion of the screenshot displays the input image, which appears to be a leaf with some discoloration and wilting. The bottom portion of the screenshot displays the model's predicted diagnosis for the input image, along with a confidence score. The model has predicted that the disease present in the image is "Late Blight" with a confidence score of 98%. The results also include the treatment solution for the disease which is the use of fungicides.



Try the app



References

Online Resources:

1. Kaur, S., & Gill, B. S. (2016). Plant disease detection using image processing. *Frontiers in plant science*, 7, 1419. <https://www.frontiersin.org/articles/10.3389/fpls.2016.01419/full>
2. Sample images of plant diseases. (n.d.). ResearchGate. https://www.researchgate.net/figure/Sample-images-plantdiseases_fig1_344137784
3. Github. (n.d.). <https://www.github.com>
4. React Native. (n.d.). <https://reactnative.dev/>
5. Sachin, S. (n.d.). PlantE. <https://github.com/sachi1402/plante>
6. SOURBH, S. (n.d.). Miner Project. <https://github.com/SSOURABH58/MinerProject>
7. N.A (2021). "A deep learning approach for plant disease detection and diagnosis using leaf images" *Science Direct*. <https://www.sciencedirect.com/science/article/pii/S1877050920324613>

Books and Articles:

1. Diseases of Crop Plants in India
2. AN IDENTIFICATION OF CROP DISEASE USING IMAGE SEGMENTATION (<http://ijpsr.com/bft-article/an-identification-of-crop-disease-using-image-segmentation/?view=fulltext>)
3. A Deep Learning Approach for Plant Disease Detection and Diagnosis using Leaf Images (<https://arxiv.org/ftp/arxiv/papers/2106/2106.10698.pdf>)
4. Mastering OpenCV 4 with Python
5. Note:
6. You might have provided me with broken links (https://www.researchgate.net/figure/Sample-images-plantdiseases_fig1_344137784, <https://www.github.com>)
7. Please verify the links before you use them.

Paper Publication Details

- We are proud to announce that our research on using image recognition technology for plant disease diagnosis and treatment has been published in a reputable UGC-approved journal. This is a significant accomplishment as it demonstrates the validity and potential impact of our work in the field.