e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
Volume:03/Issue:01/January-2021 Impact Factor- 5.354 www.irjmets.com

DISEASE DETECTION AND PRODUCT RECOMMENDATION ANDROID APP

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ABSTRACT

To ensure crop safety and prevent the crops form decaying and destroying by bacteria. India is an agriculture based country. It holds second position in the world in terms of agriculture. In agriculture sector majority of farmers are facing problems of crops destroyed by bacteria. So this android application is developed for farmers so that they can identify the disease destroying their crop and get required pesticides for their crop so that they can prevent the crop from being destroyed.

Keywords: Disease detection, products recommendation, chatbot, digital payments.

I. INTRODUCTION

The modern world is enclosed with gigantic masses of digital visual information. To analyze and organize these devastating ocean of visual information, image analysis techniques are major requisite. In particular, useful would be methods that could automatically analyze the semantic contents of images or videos. The content of the image determines the significance in most of the potential uses. One important aspect of image content is the objects in the images that are required to be recognized. Our app will scan the leaf and find the disease .On the basis of type of disease identified it will recommend products. The products are displayed according to the user convenience .Farmer can communicate with consultant through chat and voice message and will get the solution chat as well as on their phone. A chatbot facility is also provided in the app for this purpose.

II. METHODOLOGY

As India is a agriculture based country and almost more than sixty percent of the population of India depends on agriculture for their survival. India is in second position after china in the world. As India is a developing country. Agriculture sector plays an important role. As in agriculture sector latest technology is being used for increasing the production of crops but up to know there is no such technology is developed by India which can care for the quality of crops. To day in India almost more than sixty percent of the farmers are using smartphones and so there is a need to develop an application with the help of which they can take care of their crops and prevent their crops as the crops are their only lifeline. This app will be most accurate in detecting the disease by just recognizing the picture of the damaged crop and recommending a list of products available for curing the disease.

III. MODELING AND ANALYSIS

Model Used:-CNN model

A Convolutional Neural Network (ConvNet/CNN) is a Deep Learning algorithm which can take in an input image, assign importance (learnable weights and biases) to various aspects/objects in the image and be able to differentiate one from the other. The pre-processing required in a ConvNet is much lower as compared to other classification algorithms. While in primitive methods filters are hand-engineered, with enough training, ConvNets have the ability to learn these filters/characteristics. The architecture of a ConvNet is analogous to that of the connectivity pattern of Neurons in the Human Brain and was inspired by the organization of the Visual Cortex. Individual neurons respond to stimuli only in a restricted region of the visual field known as the Receptive Field. A

collection of such fields overlap to cover the entire visual area.

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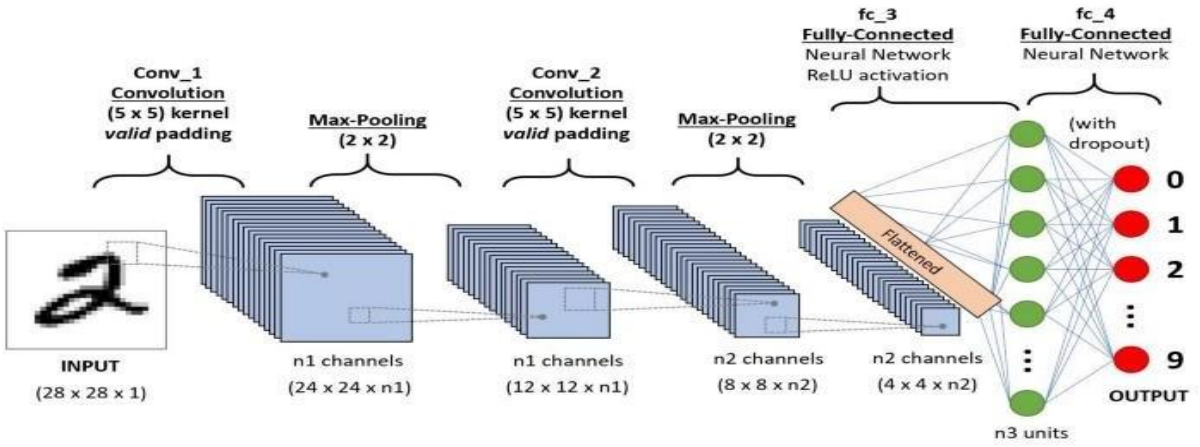

Fig.-1: CNN model.

IV. RESULTS AND DISCUSSION

The texting method used here is Black Box Testing. It is carried out to test functionality of the program. It is also called 'Behavioral' testing. The tester in this case, has a set of input values and respective desired results. On providing input, if the output matches with the desired results, the program is tested 'ok', and problematic otherwise.

Table-1: Test case 1

Test Case 1	
Test Case Summary	It will check whether the system detects the detect in the plant with accuracy >=50% or not.
Test Procedure	Place and start scanning the photo.
Expected Result	The disease must be detected with accuracy greater than 50%.
Actual Result	The disease with accuracy greater than 50% are detected.
Status	Pass

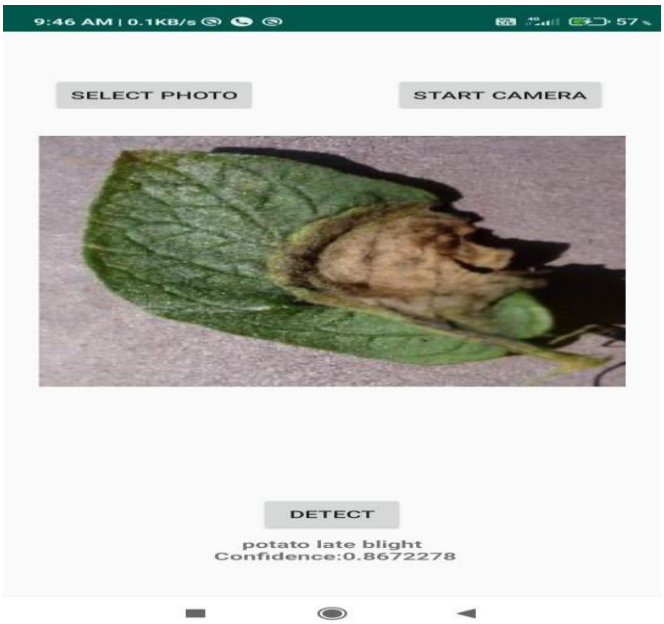

Fig.-2: Test case 1 Output

V. CONCLUSION

The application can detect crop disease from leaves of the crop plant with an accuracy of 86.72percent. The customer can buy the products available in the app and can request the admin to add any particular product if they wants . The farmers does not have to consult with shopkeeper the app provides proper consultancy services for farmers.

ACKNOWLEDGEMENTS

It gives us great pleasure in presenting this project Report titled:''AgroShop". On this momentous Occasion, we wish to express our immense gratitude to the range of people who provided invaluable support in the completion of project. Their Guidance and encouragement has helped in making this project a great success. We express our gratitude toour project guide Prof Mrs Akshita Mishra, who provided us with all the guidance and encouragement and making the lab available to us at anytime. We also would like to deeply express our sincere gratitude to Project coordinators.

VI. REFERENCES

[1] Samuel Strupp, Norbert Schmitz, and Karsten Berns,—Visual-Based Emotion Detection for Natural Man-Machine Interaction.

[2] Michael lyon and Shigeru Akamatsu, —Coding Facial expression with Gabor wavelets, IEEE conf. on Automatic face and gesture recognition, March 2000

[3] Kuan-Chieh Huang, Yau-Hwang Kuo, Mong-Fong Horng, Emotion Recognition by a novel triangular facial feature extraction method.

[4] S. Dornbush, K. Fisher, K. McKay, A. Prikhodko and Z. Segall Xpod- A Human Activity and Emotion Aware Mobile Music Player, UMBC Ebiquity, November 2005.

[5] Renuka R. Londhe, Dr. Vrushshen P. Pawar, —Analysis of Facial Expression and Recognition Based On Statistical Approach, International Journal of Soft Computing and Engineering (IJSCE) Volume-2, May 2012.

[6] Russell, —A circumplex model of affect, Journal of Personality and Social Psychology Vol-39(6), pp1161–1178 , 1980.