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Pest-I: A Pest Identifier Application for Solar Light Trap using Image Processing

Description

Knowing how to recognize the insects we see in our homes, yards, and even on the farm can help you determine if they are destructive pests, urban or agricultural pests, or beneficial insects. We must also determine whether or not an insect is advantageous to our ecosystem. We don't want to harm our great pollinator friends or the beneficial insects that eat pests in our plants (4hlnet, 2019). When we understand how insects live, what they eat, and how they interact with their surroundings we can know how to deal with them if they seem harmful.

With these in mind, the researchers collaborated with an Agricultural and Biosystems Engineering Student in USeP. In partner with her Solar Light Trap Study, a study in which able to trap pests. This Pest Identifier app will help the user identify the kind of insects/pests trapped in the Solar Light Trap, as well as how many pests were trapped and save valuable time compared to manual identification. Furthermore, this proposed application will provide the suggested pesticides for the identified pests if the said pests were able to damage the plants. Some applications like the Picture Insect – Bug Identifier app have some similar features, however that app doesn't have the features of identifying the number of insects trapped. The proposed application is focused on partnering with the Solar Light Trap Study and as well as on how it can be harmful to plants and humans.

Objectives

This study aims to develop a Pests Identifier application for the Solar Light Trap Study. Specifically, the study intends to:

- Identify the kind of pests caught in the Solar Light Trap:
  - Name, Description and Classification of Pests
- Identify the number of pests trapped.
- Identify the variety of trapped pests.
- Identify the beneficial trapped insects/pests.
- Provide suggested pesticide.

Scope

The scope of this application is to allow the user to capture a photo of the insect using Image Processing and count the number of pests trapped using Object Counting. The system will automatically provide information about the insect including the name, description and classification of the pests, and on how to get rid of the pests. It will also identify the variety and

which are beneficial in the trapped pests. The user will able to use the application using mobile phone, tablet and other devices.

Limitations

In using this application, the user must capture a clear image of the insect in order for the application to provide a reliable information.

References

4hlnet. (2019, September 04*). Why is insect identification important?* Retrieved from
https://4hlnet.extension.org/why-is-insect-identification-important/

"*Picture Insect - Bug Identifier - Apps on Google Play.*" Google, Google,
play.google.com/store/apps/details?id=com.glority.pictureinsect.