Pittsburgh Spotted Lanternfly Reporting Platform

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Intro:

The invasion of the spotted lanternfly has become a significant ecological concern in the Pittsburgh area. These invasive pests not only pose a threat to agricultural crops but also disrupt local ecosystems. To address this issue and harness the power of community engagement, we propose the development of the Pittsburgh Spotted Lanternfly Reporting Platform – a web-based initiative that empowers residents to actively participate in the identification and tracking of spotted lanternfly sightings. Users can login to the platform and update a map that shows where lanternflies are most prominent by pinpointing the exact location where they've seen or killed a lanternfly. The platform also has a leaderboard that keeps track of the number of lanternflies a user has killed to encourage friendly and fun competitions. Users can also utilize the discussion board to talk to other users.

Possible technologies that we might need:

HTML, CSS, JavaScript: Basics for creating the structure, styling, and interactivity of the website.

Backend: Django Framework can allow us to create user authentication systems as well as the backend databases that will allow this platform to function.

Google Maps Integration: We may possibly need to integrate google maps for our project. I found a tutorial on how to do that from Google here.

Project Description:

The project will have several features. We will list and describe them each:

1) Login / Authentication System
    - This will be achieved by using Django Framework and databases.
2) View Pittsburgh map with the reported spotted lanternfly population visualized
    - We will collect user data and visualize them as colors on the map.
    - As we collect more user data, the visualization will also update.
3) Allow users to report congregations of spotted lanternfly that they see by clicking a spot on the map and submitting a form.
    - This part might require some knowledge from outside of class and requires integrating a map. We are considering using google maps to achieve this, and we found tutorials provided by Google on how to integrate maps into web applications.
4) Possibly, we can implement a discussion board so people in the community can discuss the problem together.
    - This will be achieved by using Django Framework and Ajax