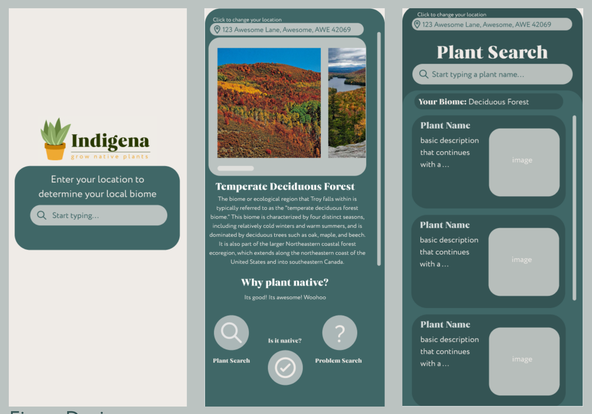
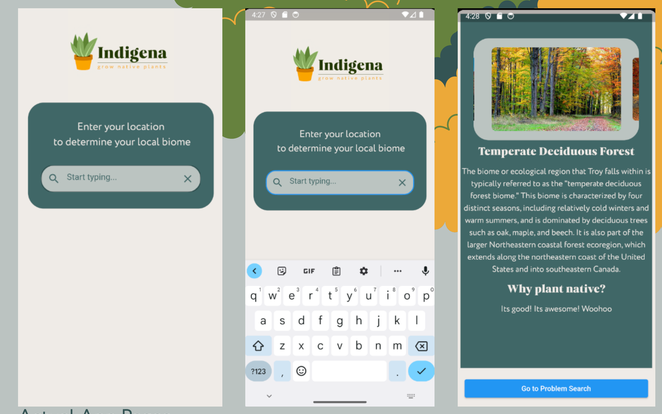
Indigena

grow native plants



Figma Designs



Actual App Pages

Introduction

Indigena is an app that helps local gardeners and farmers plant native plant species. It provides information on which species to plant, how to plant them, and their impact on local pest and animal populations.

Why is this important?

Many people don't realize that most of America's natural landscape was once vast grasslands, not the woody forests we see today. While there were some forests in North America before Europeans arrived, they were much less extensive than the grasslands.

European colonists brought their familiar European trees with them and planted them in large numbers. This led to a decline in native grassland ecosystems.

While humans can adapt to different landscapes, the original native animal and plant species cannot. The decline of native grasslands has caused an ecological imbalance, resulting in overgrowths, invasive species, and competition. There is now an overwhelming number of pest species attacking farmer's crops, and the natural ecological systems that once kept them at bay have been disrupted.

Planting native plants can help to restore our native grassland ecosystems and regulate animals, plants, pests, and people.

Objectives

1. **Finish all design work in Figma of UI**
   a. Search pages, user pages
2. **Implement a working front-end**
   a. Implement completed pages from Figma into Flutter
3. **Gather data**
   a. Biome data, plant data, pest data
   b. Start with Troy, NY biome data and then expand

Materials and Methods

Stack: Flutter, Android Studio, Github, VSCode

Flutter is being used as both front-end and back-end. Android Studio is being used to simulate an Android device on laptops.

Results/Progress

Learning/Teaching Flutter:
With a new member on the team, there was a need for a lot of guidance. Nick has had no previous app development experience and has never used Flutter. It was a challenge to get him up to speed. He was provided with Flutter docs, flutter videos, and more but the best method of teaching a new member was through guided code. Queenie learned how to create co-authored commits and then guided Nick through her already implemented code and through starting other page implementations.

Implementation in Flutter:
After Nick had gained some confidence in implementation, the group split off into different sections of the app. Nick continued to work on implementation of designs and Queenie began working on implementing search functionality.

Queenie worked on the implementation of the Google Maps API for location and address search for the Search Page (image above). The goal was to have the user input a query of their location into the location search bar and then have the Google Maps API generate a list of suggested locations, autofill the location, and then use the location data along with biome data to determine the user's local biome. Along the way, there were many complications. There were many inconsistencies in documentation online for how to implement it. This included outdated information about Flutter, the Google Maps API, and the way that access works generally. Eventually, Queenie moved on to more page development and will return to this issue later.

Both Nick and Queenie worked on making functional pages in the Indigena app. Nick worked on the Biome page, the home page after the Search Page in which the user is told of their native biome, a short blurb about it, and is then given the option to explore the app further through the various other search pages that they can access. Queenie helped Nick with the base of the page and Nick implemented the details. Along the way, he created an image carousel (shown above) to display images of the native biome, the header, the text, and one button to take the user into the next search page. He began a rudimentary implementation of this search page.

Next Steps:
Queenie will return to the backend work next semester. Nick will continue with implementations of the rest of the frontend pages. They will both work on gathering plant data to base the app off of.

Conclusions

1. **Keep chugging along**
   a. Despite many setbacks this semester, we were able to accomplish a lot. Although not every goal was met, there was a lot learned this semester that we can both take with us as we continue in our coding journeys.
2. **Make more realistic goals**
   a. We need to be more honest in terms of setting goals for the semester. Although it all sounds possibly doable for one semester, realistically all goals were quite high reaches for a 2 person project with a new, inexperienced member.
3. **Hiccups happen**
   a. With a new member, a lot can break. It is important to see these moments as learning moments that we can move on from, rather than as an issue or a problem
   b. When implementing pages, we learned that logistically, the pages cannot look *exactly* as they look in the designs. It was important for us to embrace these changes and move on.

References

Flutter Docs:
https://docs.flutter.dev/
Stack Overflow:
https://stackoverflow.com/questions/tagged/flutter
Figma Learn:
https://help.figma.com/hc/en-us

Acknowledgements

Project Lead: Queenie Sun
Developer: Nick Grablevsky

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Inspiration: Burke Parham

Color Palette