PROGRESS REPORT – 1

Project Tree Hugger- one-stop Plant Identification tool

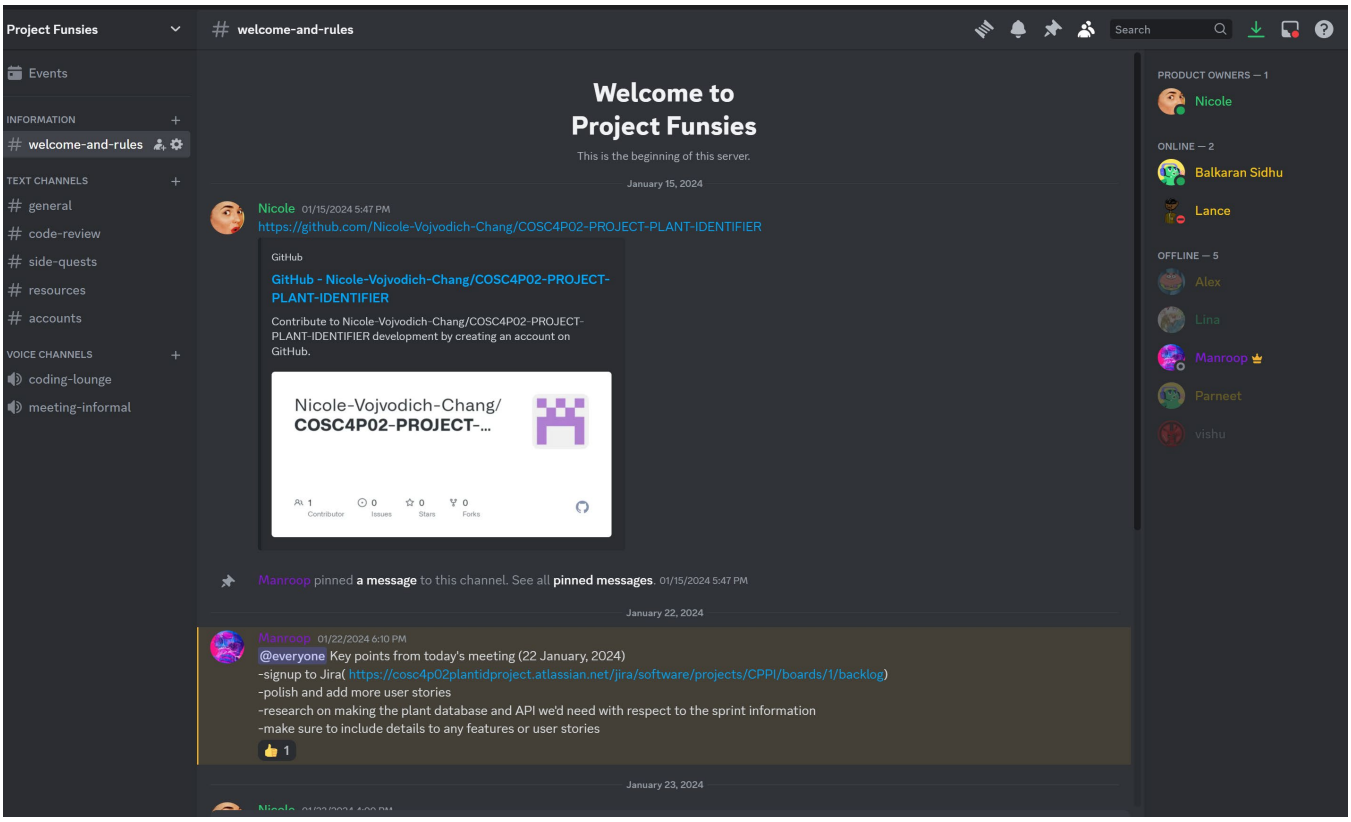
by Plant Lovers, For Plant Lovers

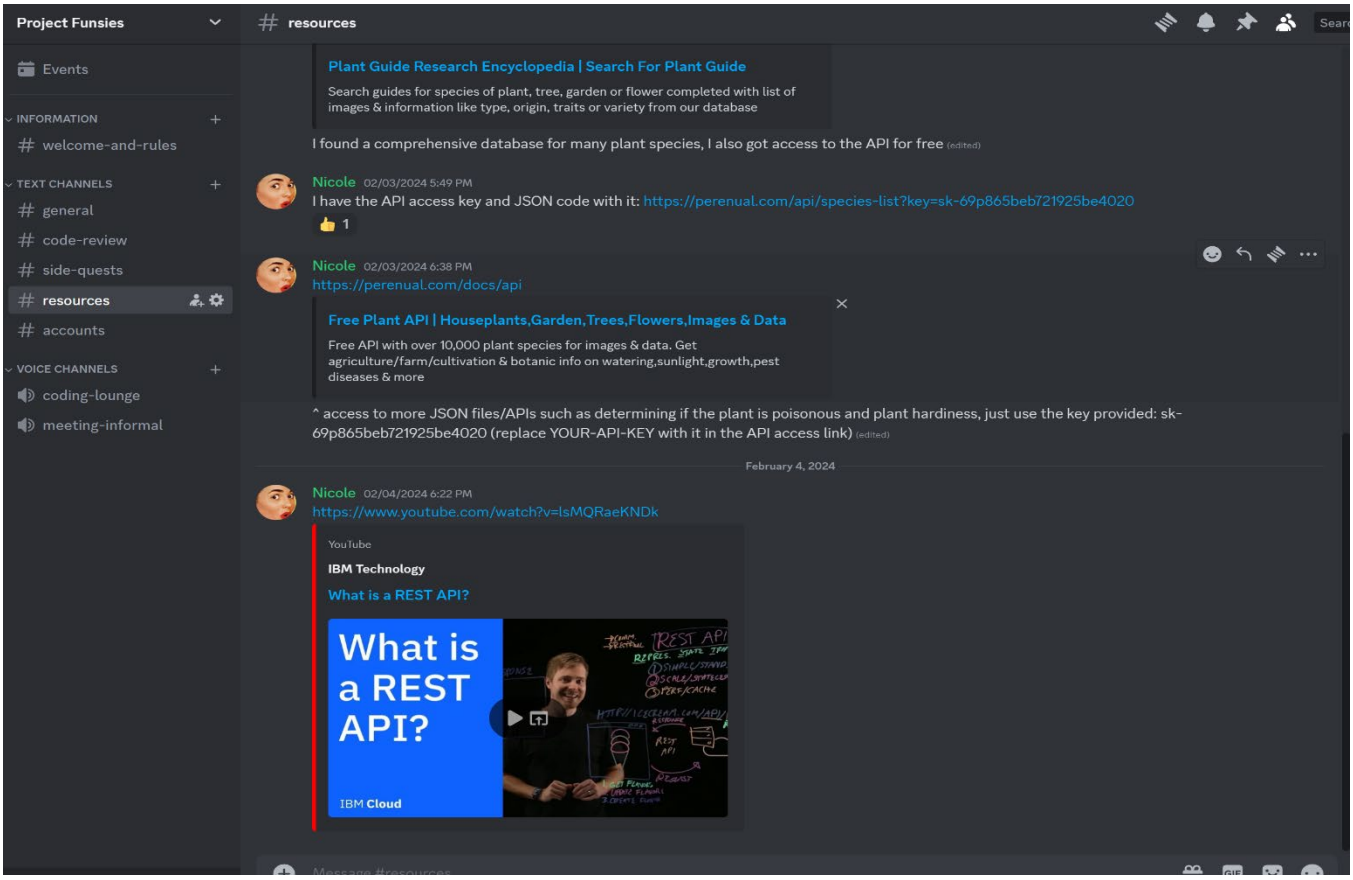
For our software development process, we chose the iterative Scrum method as it meets the requirements of our project to the fullest. In our project, we planned on an elaborate skeletal plan. As we can have multiple 2-week sprints, we can easily stay updated regarding the tasks all the sub-teams are working on. This also provides us with the flexibility to make changes and fixes to problems that arise during the 2-week development period. The specified roles for each of the teammates keep the chaos to a minimum.

Main communication channel – Discord Server

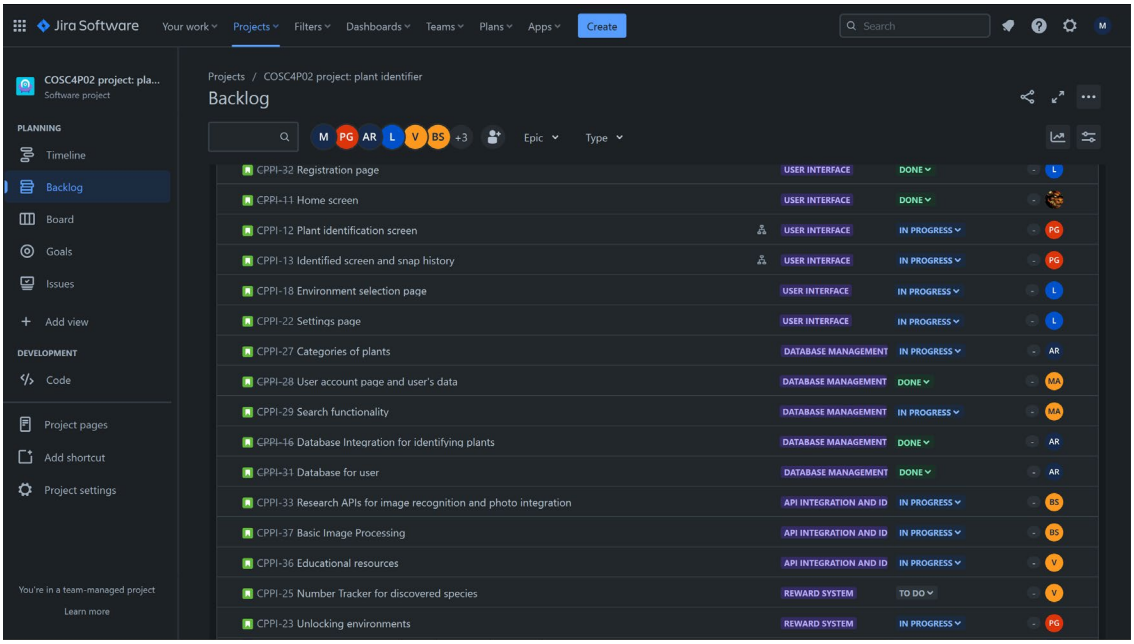
The reason behind choosing Discord is the user-friendly interface and useful features that are extremely helpful for keeping information organized. It is also the main channel for all out-sprint meetings and other update meetings (if needed). With the screen-share features we can easily see the working progress of all members.

We hold the mandatory meetings every two weeks, and sometimes twice a week if any clarifications are needed.

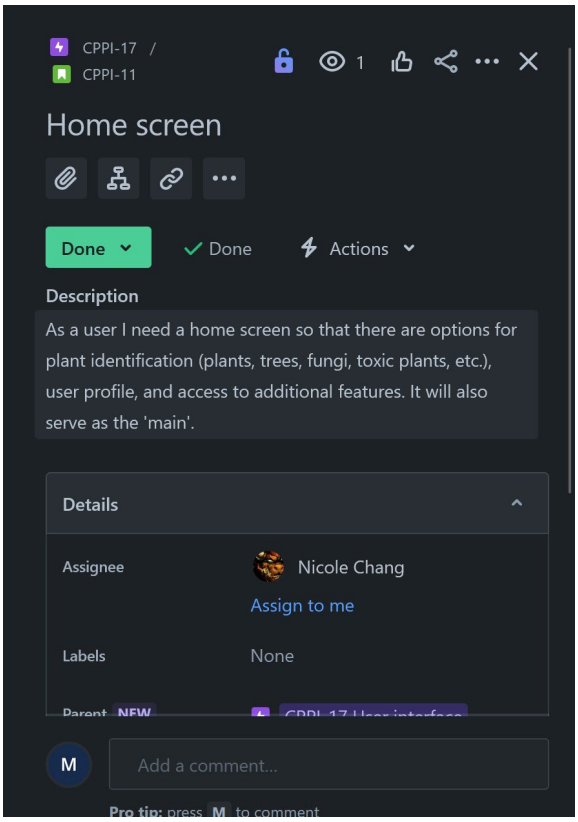




Project management tool – Jira



Jira was used for management of all the sprints including information regarding the user stories and the tasks that were assigned to everyone



Contributions of every team member-

1) Alexandre Reuillon(6197834)
    - **Integrated backend with database**:
        i. Created user account database.
        ii. Created user create account page backend to allow for creation of user and insertions into database with salted and hashed passwords.
        iii. Created login page to authenticate users and allow for user sessions.
        iv. Created an identification page such that users can view plants they identified and also allow for analytics down the line.

    - **Integrated backend with Database:**
        i. Created page to view list of plants using a REST API that can query through a database of plants -This page displays images of the plants where applicable aswell as their common name and scientific name.
        ii. Created a search function on the same page such that a plant can be searched through the REST API- This search function displays the results the same way the main plant list page would.

2) Balkaran Sidhu (6837322)-
    - Created a plant identification page and implemented API Created a upload image button which allows user to upload image from the system.
    - Created a camera button which allows user to take picture.
    - The picture stays on the page and it is used as an input to the API applied. To make the page more interactive used the hover function and included the instructions for user to upload or click picture and inserted the retry button if user want to upload different picture.
    - Researched the APIs to be implemented for the plant identification and used plant.id API for the application as it can accurately identify more than 33,000 plants.
    - For the implementation, converted the URL image to form-data because plant.is only takes form-data as input request.Then used that image to send the request to Plant.id using its Api key. The response from Api of the identified plant is displayed on the screen.

3) Lance Brown (6445944)-

    - **Created a login page for signing in/up users:**
        i. As of now the page provides forms for entering login information as well as check for errors in user input.
        ii. Currently setting up page to sending requests with the login/sign up data and receiving requests for acknowledgement.
        iii. Currently researching how to keep users logged in securely.

    - **Created a setting page for users to choose how they interact with the system in both visual experiences and communications:**
        i. As of now the page has multiple elements that can be used to adjust desired settings (e.g. "send email notifications")
        ii. Currently working on sending requests to to the server indicating changes have been made to user preferences.
        iii. Currently working on making the page look more nature themed to fit the aesthetic of the rest of the webapp.

    - **Created an environment page that will be used to allow users to view the plant species that:**
        i. As of now the page can list multiple records based on a static list of plants.
        ii. Currently working on sending requests to the server to pull a list of know plants for the user that is logged in.
        iii. Currently working on finding photos to represent the different types of environments that can be unlocked.

4) Manroop Singh Rakhra (6857551)-
    - **Team Organising and Communication:**

i. Organized all the team meetings making sure we had majority of our members in attendance (so far, we've had only one meeting with missing members). When they did miss a meeting, I made sure to do a make-up session ton get them up to speed with the team's activity and progress.
ii. I recorded all the meeting using OBS studios and uploaded all our sprint meetings in case someone misses the meeting or for future review.
iii. I used when2meet, a neat and free service to find the common time that works for everyone, it's a small yet important thing to make sure the entire team is aware of all the progress being made.
iv. Communicated any conceptual doubts or problems to the TA or the professor on the behalf of my team.
v. Compiling this Progress Report, making sure

- **Making decisions and effective delegation of tasks:**
  i. I made sure to distribute the tasks based on my team's strengths. This allows us to progress quicker and causes lesser problems. But again, the team itself is determined to learn and research if they come across something they are not well-versed in.
  ii. During meeting, I mediated the flow of ideas and made sure we were staying productive and staying realistic to our initial goals. When needed, I made the final decisions/suggestions and make sure everyone was onboard with it.
  iii. Making sure that all the team members feel heard and had a say in the decisions that were made.
- **Working with the Product Owner**
  i. to make design decisions and to hash out the overall architecture of the web-app, before presenting it to the team.
  ii. Provided ideas regarding the research process and other design related visions.

5) Marylina Aka Beyeh (7056260)-
   - **User Account and User Profile Design:**
     i. Landing Page: Display user's basic information (name, profile picture). Include navigation to other profile sections.
     ii. About Me Page: Input fields for users to update their basic information (name, password, picture, occupation). Option to save changes and update the profile.
     iii. Achievement Page: Show the user's achievements based on the number of plants uploaded. Use JavaScript to request unlocking new features based on achievements.
     iv. Delete Account Page: Display a warning message before allowing users to delete their account. Send a request to the backend to delete the user profile upon confirmation.
     v. Environment Page: Showcase different environments for plants (e.g., Garden, Meadow, Forest). Unlock new backgrounds as achievements are earned. Include links to access each environment.
6) Nicole Chang (7201841)-

- **Define the Home Page Layout**: Design the layout of the home page, considering the placement of elements such as the search bar and image uploader. Use HTML, JavaScript and CSS to create a visually appealing and responsive layout that adapts well to different screen sizes.
- **Implement Frontend Search Functionality**: Integrate a search bar into the home page layout using HTML and CSS. Use JavaScript to handle user interactions with the search bar, such as capturing user input.
- **Create the Image Uploader**: Add an image uploader component to the home page layout, allowing users to upload images from their devices. Use HTML, JavaScript, and CSS to style the image uploader component, providing visual cues for users. Implement JavaScript and HTML code to handle image upload events, such as selecting an image file and initiating the upload process.
- **Implement Image Upload Functionality:** Write code to handle image uploads, including validation and processing. Implement logic to validate uploaded images, such as checking file size, format, and dimensions.
- **Display Uploaded Images and results**: Once an image is successfully uploaded, display it on the home page to provide visual feedback to the user. Use HTLM, JavaScript, and CSS to dynamically update the home page content with the uploaded image and information about the image, ensuring a seamless user experience. With the use of APIs and TensorFlow, performing such tasks above was possible. We will integrate more effective APIs such as plant.ID and Perenual.

7) Parneet Singh Gill (6854640)-
   - **Created a splash screen**:
     i. I created an animation using Figma.
     ii. Integrated Figma animation into webpage using JavaScript.
   - **Created a webpage for Plant Identification screen**:
     i. Gave instructions how to use the function to have best results.
     ii. Created a Camera button which allows user to take picture, it also allows a user to recapture image if the user is not satisfied with previous image.
     iii. The captured image stays on the page and I though it as an input for whichever API team will be using to identify the image.
     iv. Created Upload image function which allows user to upload image from the system.
   - **Created backend using Django framework**:
     i. Created a sqlite3 database using Django.
     ii. Database stores the users and also plant history of each user.
     iii. Created a page for users to sign up and make an user account in the system and the passwords are stored as hash.
       - When an user successfully creates an account it automatically redirects the user to login page, where user can login and come to home page.

iv. Created a “Add a New Plant” page which gives a form to fill, and user can add a name, description and Image URL: to it and finally hit the “Add plant” button and the plant gets stored to the database corresponding to the logged in user.
    - Created a page “Plant list” which comes after hitting Add Plant button and it shows all the plants that had been identified by the user which is logged in and tells the description and also have URL of the image.
v. Created a log-out button where the user can log out of the system.
vi. Through Django admin I can control and see the database and make changes as required.

8) Vishishtha Sharma (6855944)-

- **Get wallpapers upon completing achievements:**
    i. Users receive wallpapers upon completing achievements.
    ii. Users can choose from different backgrounds to apply.
    iii. Whenever user unlocks a new background, they get a pop-up notification with the name of the wallpaper.
    iv. Integration with achievement tracking system which serves as the basis of our achievements system.

- **Educational resources**:
    i. Gathered resources like plant care guides for different types of species.
    ii. Users have access to various other articles that can be helpful to plant enthusiasts.
    iii. Made access points within the application interface to access these resources.

- **Counting Number of Species**:
    i. Developed species counting feature which counts the number of species that user has uploaded.
    ii. Configured trigger to reward wallpapers upon species identification. This is done by calling the wallpaper function since it forms the basis of rewards system.

Complication and Problems

There were not a lot of problems faced to begin with. Everyone in the team are hardworking, ambitious and involved. As we progressed through our first the only hiccups, we faced were things like learning to work with Git and GitHub. Since not a lot of us have worked with version control software, that is a learning curve that we have to get over. Apart from that one shortcoming was us realizing that task delegation could have been better as there were multiple individuals working on the same functions/pages, separately. So, we ended up with two database ideas and two Photo identification UIs with different APIs.

This ended up working in our favour as we got to pick the better out of the same items though moving forward, it was decided that we should avoid working on thing separately. For sprint-2 planning, I made sure to create sub-teams or collaborations among teammates working on similar areas of the project, so it'll be helpful for them to be mutually coordinating their parts and working together to double down on the overall productivity.