GreenThumb

Group 8

Toby Buckmaster, Aaron Parker, Darrelle Simonton, Adam Ustby

System Overview

GreenThumb Tracker is an innovative application designed to assist gardening enthusiasts in managing their plants with ease and precision. The platform allows users to perform several essential tasks, ensuring a comprehensive approach to plant care and growth monitoring.

Key Features

- User Registration: Users can easily create an account to start using the application. The registration process is straightforward, requiring basic personal information to set up a profile.
- Plant Name Recording: Users can catalog their plants by recording their names in the application. This feature helps in maintaining an organized inventory of all the plants they are nurturing.
- Water and Growth Records: The application provides a system for users to log the watering schedule and growth progress of their plants. By recording these details, users can track the health and development of their plants over time.
- Local Weather Information: GreenThumbTracker integrates weather forecasting for users' local areas. This feature allows gardeners to anticipate weather conditions and plan their plant care activities accordingly.

Communication and Support

The preferred communication medium for the GreenThumb group is Microsoft Teams. For any assistance or inquiries regarding the application, users can reach out to the following contacts:

- Toby Buckmaster: buckmas4@uwm.edu
- Aaron Parker: parkeraw@uwm.edu
- Darrelle Simonton: simonton@uwm.edu
- Adam Ustby: aaustby@uwm.edu

Access Instructions

https://github.com/aaron-parker-cs/greenthumbtracker

Instructions to install and run the project:

- Clone the repository to a folder on your computer
- You must have Node.js installed on your computer. If you are using Windows, I recommend installing it using Microsoft's NVM utility: https://github.com/nvm-sh/nvm?tab=readme-ov-file#install--update-script
- Copy the following into a .env file in the backend folder. Put this file in the root of backend, it should look like GreenThumbTracker > Backend > .env
  MYSQL_USERNAME=testing-user
  MYSQL_PASSWORD=insecure-testing-password
  MYSQL_DATABASE=GreenThumbDB_dev
  MYSQL_HOST=db.greenthumbtracker.org
  PORT=8800
  TYPEORM_SYNCRHONIZE=false
  ENVIROMENT=development
  CLIENT_URL=http://localhost:5173
  JWT_SECRET=example-jwt-secret
  OPEN_WEATHER_API_KEY=0981fcb4aaf0f39c80b611b1032575e7
  OPEN_WEATHER_API_URL=https://api.openweathermap.org/data/3.0/
- Open your terminal and change directories to the backend folder. Run the command "npm install && npm start" to start the backend daemon.
- Repeat the same for the front-end. Then, navigate to the local host URL. It should be localhost:5173 by default.

NOTE: You cannot register accounts running locally as this requires AWS secrets to work. Please register at https://dev.greenthumbtracker.org/ first before running locally.

Access Links:

Live: https://www.greenthumbtracker.org/

Dev: https://dev.greenthumbtracker.org/

Database: db.greenthumbtracker.org:3306

You may login using MySQL Workbench to view the tables if you wish, note that some features may be disabled because of permission levels.

Demo account credentials (dev only):

Username: testing-user

Password: insecure-testing-password1

Required Test Scenarios

1. The first core task we would like you to perform is registering for an account. This should be done on our website, https://www.greenthumbtracker.org/register
2. The second core task the GreenThumb team would like you to do is to record plant information. This is a two-step process:
    a. Navigate to the “plants” page and add a new plant. You should be able to create, edit, and delete plants.
    b. Then, navigate to the “records” page, open the drawer, and click on your new plant. This should allow you to record information about your plant. You should be able to create, update, and delete records.
3. The third core task on the website is to navigate to the “weather” page. You should be able to type in your city and see a weather forecast for five days in 3 hour time slices.

IOS MOBILE APP

GreenThumbTracker - User Test Plan

Welcome! This document serves as a structured guide for testing the GreenThumbTracker iOS application. This test plan is intended for a new user to validate all core features while interacting with the app’s SwiftUI frontend, Node.js backend, and MySQL database.

⚠ Disclaimers

- Some features rely on the Trefle API. If plant encyclopedia data, plant family, or region data does not load, it may be due to Trefle API endpoints being temporarily unavailable.
- In the 'Region Detail' view under distribution exploration, only the first ~20 plants are loaded

initially to avoid performance issues with large datasets. This is due to the high volume of plants per region.

1. Authentication Tests

1.1 Register a New Account:
- Open the app, go to Register, enter valid credentials, and tap Sign Up.
- If registration fails in the iOS app (400 Bad Request or error), use the React web frontend to create an account, then return to the app.

1.2 Email Verification:
- Click the verification email link. Then log in from the app.

1.3 Invalid Login:
- Try logging in with incorrect credentials. Expect an error message like 'Invalid email or password'.

2. Plant Management

2.1 Add a Plant
- Use the 'Add a Plant' button, fill in fields, and save.
2.2 View Plant Details
- Tap a plant card to see detail view.
2.3 Edit a Plant
- Tap edit icon, change name/species, and save.
2.4 Delete a Plant
- Tap delete and confirm. All associated records should be removed.

3. Watering Records

3.1 Add a Water Record
- From a plant's page, tap '+ Add Water', enter details, save.
3.2 Edit a Water Record
- Tap a record, edit details, save.
3.3 Delete a Water Record
- Swipe or tap delete, confirm.

4. Chart Visualization

4.1 Water Chart
- Tap 'View Water Chart' on a plant.
4.2 Multi-Trend Chart
- Tap 'Multi-Trend Chart', choose 2 record types. Each has its own Y-axis on the same time axis.

5. Plant Encyclopedia

5.1 Search for a Plant
- Navigate to Encyclopedia, search e.g., 'Aloe'.
5.2 View Details
- Tap plant card for description, family/genus, and region info.

6. Distribution Regions

6.1 Browse Regions
- Regions are displayed as image cards using TDWG codes.
6.2 Region Details
- Tap a region to see a static map, Apple MapKit view, and list of plants native to the region.
- Note: Only the first ~20 plants are shown to reduce loading strain.

7. Backend & Database Validation

7.1 MySQL Consistency (admin only)
- Add/edit/delete data, verify it reflects correctly in database.
7.2 API Check
- Confirm endpoints return 200 and correct data via logging or Postman.

8. Edge Case Tests

- Add plant with blank name → Show error
- Add water record without amount → Show error
- Use app offline → Fallback or error message
- Delete a plant with records → Records should also be deleted

9. Feedback Questions

- Was the UI intuitive?
- Any crashes or bugs?
- Was data updating promptly?
- Any feature confusion?
- Would you recommend the app?