House-plant

An app that stores meta data about the House-hold's plants and provides daily/weekly/monthly to-do lists comprised of watering, fertilizing, pruning, and repotting tasks.

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Problem Alignment

It is difficult to keep track of when plants need to be watered, fertilized, pruned, and repotted.

- The frequency of fertilizing plants varies across varieties. It can range between weekly to twice a growing season.
- Plants vary in the amount of time needed between repotting. Some plants need to be repotted every 4 years while others are repotted once a year. Seedlings may even need to be repotted multiple times a month.
- While it is important to inspect if plants are dry enough prior to watering, a watering task list would expedite watering as not every plant would need to be checked. Additionally, it would help house sitters know where to start.
- Missing a pruning can result in unruly plants throughout the year as it generally can't be done late.
- Plants require different levels of light, and the wrong amount of light can quickly damage or kill a plant.

High Level Approach

We will build an app to organize user plant data including the ability to query and manage plants and their corresponding tasks in a flexible manner.

Audience: Who are we building for?

Initial version is slated for internal use by the house-hold only. However, design considerations should allow the app to scale to hobby plant tenders.

Goals

- The app should store and view metadata for plants including watering, fertilizing, pruning, and repotting frequencies. Other included metadata: type of plant, light needs, soil needs, pet safety data, and location.
- The app should return daily, weekly, and monthly to-do lists that can be filtered by different attributes.

Non-goals/Future Goals

- The app will not have a calendar UI element because the effort to build exceeds the desired timeline of completion.
- The app will not produce push notifications for similar timeline constraints.
- The app will only be usable on the user's local machine - future state could include a web-app, but for current state this is out of scope.
  - Since the scope of this project is just for our personal use, account creation is not necessary.
  - Inputs to the database would need to be sanitized for general use but is not necessary now.
- This app will not use an LLM to pull relevant information about plants, but this is also a potential future goal.
- A future goal is to be able to bulk add plants that are similar.
- A future goal is for the app to suggest scientific name, enumerated nick names, etc when adding plants.

Solution Alignment

Key Features

1. The App shall use a local, persistent database to add, modify, and remove records.
2. A user should be able to add a plant.
   Fields available to the user:

Name	Mutable	Optional	Format	Examples
Name	Yes	Yes, will be created using common name + incrementing number if not provided.	Free text	Spencer, Mother, Money Bags
Major Location (Indoor/Outdoor)	Yes	No	Free w/ existing drop down	Outside, Inside
Minor Location	Yes	Yes	Free w/ existing drop down	Dorothy's office
Scientific Name	Yes	Yes	Free text	
Common Name	Yes	No	Free text	Blue Spruce
Pet Friendly	Yes	Yes	Options	Yes, No, mild upset
Light Needs	Yes	Yes	Free text	Bright indirect
How dry soil should be in between waterings	Yes	Yes	Free text	Completely dry
Fertilizing Schedule	Yes	Yes	Duration	# days, # weeks, # months
Repotting Schedule	Yes	Yes	Duration	# days, # weeks, # months
Soil Information	Yes	Yes	Free text	Loamy, sandy
Fertilizer Information	Yes	Yes	Free text	pH

UI Buttons available on the add a plant page:

- Add plant
- Add and duplicate plant - stretch
- Back

3. The user should be able to view, modify, and delete a single plant.
   All fields listed in the add a plant table shall be viewable. In addition, the plant's primary key will be viewable here as well as it will be created upon plant addition.
UI Buttons visible from the view page:
- Duplicate
- Modify
- Delete
- Print - stretch
- Back

The following features will be investigated in a future PRD iteration.

4. The app should be able to query plant information by attribute.
5. The app should return task lists that are filtered by type and timeframe. The timeframe start date should be customizable (meaning it doesn't have to start on today).
6. A user should be able to mark tasks as complete or delay them.

Key UI Principles

- Design should be friendly and plant-centric. The UI should utilize blank space and green color tones.
- Development should be focused on getting the app out the door as a greater importance than reusability as I'm trying to get a PM job :).

Appendix

Resources: https://www.lennysnewsletter.com/p/my-favorite-templates-issue-37 https://docs.google.com/document/d/1mEMDcHmtQ6twzNlpvF-9maNlAcezpWDtCnyIqWkODZs/edit

Open Questions

In the future, we might want to restrict major locations by user defined enum so they won't be created on the fly. This would mean we would need a separate page for the user to create a major location.