**PrepifyAPI – Project Proposal**

**Overview**

PrepifyAPI is a RESTful API service designed to help users efficiently plan, organize, and track their meals for the week. It allows authenticated users to create personal meal plans, define recipes with ingredients, and assign those recipes to specific days and meal types. The API also provides public access to all meal plans, while restricting modification rights to the authenticated creators.

**Core Functionalities**

1. User Authentication and Registration

* Secure user registration and login.
* Token-based authentication using Laravel Sanctum.
* Only authenticated users can manage their own data.

2. Meal Plan Management

* Users can create multiple meal plans.
* Meal plans can be publicly viewed by any user.
* Only the owner (creator) of a meal plan can update or delete it.

3. Recipe Management

* Authenticated users can create, update, and delete recipes.
* Each recipe includes a title, description, instructions, and a list of ingredients.

4. Ingredient Management

* Ingredients are stored separately to allow reuse across multiple recipes.
* Ingredients are associated with recipes through a pivot table that stores quantity and unit.

5. Meal Entries (Scheduling)

* Recipes can be scheduled into a user’s meal plan via meal entries.
* Each entry includes the day of the week and meal type (e.g., Monday – Breakfast).
* Users can modify the schedule by adding or removing recipes for specific meals.

6. Public Access

* All users, including unauthenticated ones, can view existing meal plans and their associated recipes.
* Only the meal plan owner can edit or delete their meal plan or associated entries.

7. Validation and Security

* All API endpoints include input validation to prevent invalid or incomplete data.
* Protected routes require authentication, and authorization is enforced based on user ownership.

**Technologies Used**

* Framework: Laravel
* Database: SQLite
* API Testing & Docs: Postman
* Admin UI: Filament