I have very limited time (< 12 hours) to come up with a proof of concept of a full stack Android/web app that mimics a part of CAl AI app's core features.

the core feature we are interested in is the ability to take a photo with current device of a food item, have it be analyzed by AI (maybe a recent model of Gemini? or whatever recent good model that can recognize food items), retrieve data from the analysis, stores the data in a database, then display it dynamically on the frontend.

Let's work on getting a PRD generated for the minimum core feature app So, in essence I need a calories tracker app that can do the following or have following features:

* App name (Let's call it Cal Snap) at the top
* A number showing calories left. For now let's have it arbitrarily set to 2500 before any updates are made in 'Recently Eaten' (maybe a progress bar or circle for visual indication)
* A macronutrient breakdown of Proteins, Carbs, and Fats left to consume for the day in number of grams (maybe a progress bar or circle for visual indication). These numbers default to 0 without any entries in 'Recently Eaten'
* A 'Recently Eaten' section comprised of series of photos that user has taken and a brief display of calories and macro breakdown as well as time stamp for each.
  + Clicking on each component (picture included card-like infographic mentioned earlier) leads to a page where a bigger version of the picture is at the top (size of the picture should be the same no matter which one was selected, to standardize) followed by information below that breaks down information regarding that image.
  + the breakdown should include: \* name of the food item in picture \* quantity (default at 1) \* calories \* macros breakdown in grams \* List of ingredients associated with the food item with a calories value associated with each \* if the picture depicts raw/base level ingredient, maybe this section remains blank
* the original app has a 'health score' rating, however, I think I will omit this or relegate this to a stretch goal I do not currently plan for.
* a button (maybe in the bottom right corner?) to add to Recently Eaten (should take user to a sort of camera app/function), maybe call it 'Scan Food' \* Should the scan food function in the app have distinct categories for things like food labels, barcode, and also be able to take in a picture from user's device's gallery, and obviously the main option to take a picture with the device? I do want to keep the scope small so maybe I should only focus on having AI interpret whatever image is taken on the spot in-app.

Do not 1:1 copy but take the attached images as reference for how the page should appear

Important Tech requirements:

* the backend must be written in Python
* the frontend should be done in Flutter
* other aspects of the app are open to use whatever, but languages/frameworks I'm most familiar with are (don't necessarily need to pick from these): TypeScript, JavaScript, Node.js, React, Express.js, PostgreSQL, Tailwind to name a few.
* Version control through GitHub on my cal-tracker-poc repo
* I need build/deployment instructions so I can demo what I have. I am somewhat familiar with using Digital Ocean but I would need step by step instructions one way or another.
* I will need documentation (hence the PRD) that I can understand as a relative novice in software engineering/web dev and be able to use to present this to a senior engineer.
* I will also need good commenting in the code (when we get there) that help me understand what each section of the code is doing.
* just explanations in here as we go maybe a good idea as well for each feature that is implemented (maybe this should be a text or .md file?)

Ask me questions to fill in any gaps for what you need before moving forward to generating PRD and eventually implementation.