

## Overview

A new app is required, either to run locally on PC, or on an iPad (Solution can be devised by yourselves, whichever is easier). The objective of the app is to provide a solution for maintaining kitchen stock, including adding of stock items, amending of, including the automated reduction in stock based upon either expiry date, or usage, or manual deletion. It will also need to include the ability to create recipes, storing ingredient requirements per person, then the calculation of amount, reducing from stock - or warning of lack of stock if required. The final requirement will be the production of a 'shopping list' when stock reaches zero, or close to zero.

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## 'Kitchen' tab

Requirements:

- The ability to add 'sections' e.g. 'Fridge shelf 1', 'Cupboard by cooker'. This should be a free text field that allows alphanumerics up to 30 characters.
- Below each section, requires a display of information (table or similar) that lists each item in that section. At minimum, a free text description, amount (e.g. weight), quantity, and expiry date should be entered. For example:

Description	Size	Quantity	Expiry Date
Canned Tomatoes	300g	3	Jan 2023

- Note on the above - some products will have different expiry dates, so a solution for this will be required - either duplication of product names, or allowances for multiple expiry dates could both be possible solutions, but this should be taken into consideration when designing.
- An add button, or method of adding new lines should be available.
- An edit button, or method of editing each line should be available.
- A delete button or method of deleting each line should be available.
- The ability to select/deselect and mass delete would be useful.
- On the first of each month, all foods expiring that month should be identified/warned to the user somehow (possibly solutions would be either some form of colour highlight, or listing the items on a new tab).
  - One additional extension to the application could be the suggestion of recipes that use the expiring products!
- The information should be displayed so it's easy to see a section and its full list of items - perhaps accordions of each section added, and an open all accordions/close all accordions button at the top?

## 'Recipes' tab

Requirements:

- Similar styling to the Kitchen tab, with add/edit/delete etc functions.
- Similar to the Kitchen tab, with the ability to add a 30 character titled recipe name.
- Ability to add ingredients (for one person) to said recipe.

- Either on the same tab (or on a new tab such as 'Cooking', whichever is easier, will be the ability to:
  - Select a recipe
  - Select the number of people cooking for
  - Show the quantities needed (multiply quantity by people - would say a limit to max of 4 people is fine)
  - Show any foods missing/not enough stock for either by highlight, colour or other method.
  - A button such as 'cook' which will automatically reduce the stock on the 'Kitchen' tab, by the amount of ingredients used.
- Issue: If a recipe calls for a 'half can of beans' and you cook for 3, you will have half a can left over - this type of thing should be highlighted in some way to the person cooking. This won't apply to other foods however, such as a bag of pasta, as that will continue to be stored as is - but 'open' foods that expire should have some sort of warning and/or have their expiry date changed. One solution could be for an 'expiry change when opened' tick box when entering foods, and then display a new 'expiry date' field when cooking with that item, so the user can override the expiry date to a new one.
- An assumption will be that all products will use grams, kg, or litres/mls for liquids (and same for recipes) so there will be no conversion to pounds and oz etc. A possible addition of a drop down list of grams/ml when adding the size should resolve that issue. A conversion of grams to kilograms etc might be required for the recipes tab if the number of persons selected is high.

## 'Shopping' tab

- A list of the items, quantities etc that have been used either via recipe or expiry (perhaps some form of colour coding to ID which, to help with food waste stuff?)
- A button next to each line with 'purchased' or similar, that opens a pop up allowing you to enter a new quantity and expiry date for the product as you've purchased it - this will need to be flexible depending on the solution used for expiry dates in the first tab. These updates will reflect on the Kitchen tab.
- A 'dismiss' button to allow the user to remove the item if they don't wish to purchase it again.
  - An extension to this might be the ability to add free text to the shopping list for items not part of 'food' such as bin bags, for ease of use to the person.
- Nice to have: Some consideration needs to be taken into not just adding in shopping when it gets to zero, but close to zero - only way i can think of doing this is to either store the values a 'stocked' kitchen looks like and add to list if its below X% of that, or ask the user if they want it adding if a certain % is used, such as if I have 5 cans of tomatoes in stock and 4 are used, i've used 80% of stock, so prompt to add to list.

## Additions

Possible additions:

- Some form of audit log in a new tab to show what's changed.
- A 'suggest recipe' button, where it matches a food selected to recipes entered, perhaps with an option of 'have all the ingredients for it' or 'don't have all the ingredients for it'
- Consider things like 'salt' and 'cooking oil' where you don't always use/know the exact weight measurements - a solution for these types of things being worked in would be useful. Perhaps that can have its own section in 'kitchen' and ability to manually purchase these - and they do not get added to the recipe outright - or when adding recipe there's an option to 'not include as part of stock'
- A large extension could be to also include calories and possibly macros - and calculate the calories and grams of fat/protein/carbs per person in a meal.
- An even larger extension could be to also include micros such as sugars and salt.