# Marvellous Meal Maker

## A virtual stock pantry, meal planner and recipe application software.

I have chosen to make the Cookwell/recipe/methodology book data scraper to API/program. The current problem is that it is hard to come up with meals throughout a week, whilst keeping in with dietary preferences, the problem of decision paralysis, ingredient/cuisine fatigue. The program will attempt to solve this issue by returning with a recipe that the recipient is then able to make, reducing waste, allowing for automation over certain parts of the process to allow for greater expediency to the actual cooking.

This application would allow for a more generally streamlined cooking performance, due to the busywork of choices being made, or at least suggested, it’ll help users plan meals with the pantry it has contained within itself, due to the recipe and pantry modules and it will allow for a refined list of recipes to be findable with the tagging system, allowing for certain requirements to be met, or current tastes to be sated.

The stakeholders chosen will be Pip, my grandmother and James my IT tutor. Both have time to dedicate to the project through its various cycles and through feedback. The combination of both stakeholders will be able to ensure maximal experience across board.

Pip will be both a primary and secondary stakeholder due to the possible use cases that she may be able to use the software in.

I will be obtaining stakeholder feedback through bringing the stakeholders along with the testing process, interviews with specific criteria in regards to the direction and suitability of the software, observed usage, questions about the software, finer interaction with specific modules.

Difficulties of this project might be due to a lack of coding experience, for the project that is currently lead out. Project length could be quite high due to scope creep or other such degenerative elements. The project might not get done in time. The project might be too complex to conceptualize.

The system will be delivered within the language Python 3.x, using Visual Studio code as the IDE. Python will be chosen due to the strong support for data structures and algorithms, robust libraries (e.g. Json, date time), good readability for both development and end use cases, fast prototype development.

The program will condense cooking books, methodologies, websites, and summarised videos, into lists for each item, deploy a weekly planner and shopping list with weightings provided to things done before, giving a negative bias against recipes that have been done recently.

The problem can be solved through computational methods due to the processes of the program, in relation to the calling and stating of the recipes. The program would be able to plan a weekly plan of recipes, and therefore be able to cover all of the days that the problem may come up in.

The problem is amenable to a computational solution.

<https://www.ocr.org.uk/images/170844-specification-accredited-a-level-gce-computer-science-h446.pdf> THIS IS CHAPTER 3 IN THE BOOK.

## Design Methodology

The design methodology that I have chosen for this project is the Kanban style task-management approach. The Kanban approach is an agile system that works through the following practises as outlined in the Kanban Guide(<https://kanbanguides.org/open-guide-to-kanban/#definition-of-kanban-in-the-context-of-knowledge-work>):

* defining and visualizing a workflow
* actively managing items in a workflow
* improving workflow

The kanban approach is suitable because, it offers a visual feedback mechanism to the user through the Kanban Board allowing for prioritization, subdivides into specific sections and subsections allowing for optimal allocation and time allocation, focus on one, or few processes avoid bottlenecks, decomposition is easier with the visual framework and subdivisions, specifying key features with a size based approach allowing for greater focus to be allocated towards said key features.

Kanban would be good for the project because the baked in visual element would allow for easier comprehension of the many required modules that are needed for the program, as a whole, to be completed.

## Project Plan

Initially the framework for the virtual pantry will be made first, allowing for a storage of virtual items, consisting of real-life fridge’s, freezer’s, pantry’s, cupboard’s and so on. The ability to append to itself or to a subsidiary off of it, taking in a user’s input is both highly necessary and a milestone for the project as it would allow for greater usability for the end user, especially if integrated with a GUI. Holding amounts of those items inside the virtual pantry will also be important as different methodologies may require different amounts of foodstuffs and items. Another important milestone will be if items are variants of each other, or other such sub denominations, such as skimmed milk, as this would allow for an easier time with substitutions and variations to meals. Other important areas to include for the virtual pantry are expiration and best use by dates, where and how the items are stored inside the kitchen or other locations, food groups of the items, if the item contains any allergies and whatever they are, ingredient availability as per going to a corner store in comparison to a specialised bistro market and ingredient texture.

Next a framework for the recipes, in its own self-contained module. This will have a list of methodologies, both base and recipes to allow for construction of meals to happen. An important add on and milestone for the framework will be a display of what recipes use what methodologies. Another important milestone will be for variants of meals to be displayed, alongside bodges, helping to make meals of different kinds and make approximations of meals even if an end user doesn’t have all of the ingredients, if the food tastes good as leftovers or if it improves overtime as leftovers. Other things to include are texture, spiciness, cuisine, set up time, if the meal can be eaten hot or cold.

Alongside all of this, a tagging system shall be added to both food items and recipes. I’m not sure if this tagging system should exist or instead simply be part of the prior two modules.

Next, a weekly planner alongside a weighting system shall be made, with a consideration of the previous week, and each day with each other day in regard to meal variety. A specific milestone would be for the algorithm to contain the last meal made inserted into it, which would then alter meals afterwards, making them less like the meal made before, unless there are leftovers or another qualifier. There shall be an internal memory made up to a month’s worth of meal storage, as a framework to allow for the other projected module segments to work off of, before it gets loaded into long term memory. Things that will require the months memory would be, expiration dates, uncommonly picked cuisines, allergies, having an ability to force through certain elements, allowing for blocking of certain elements.

Major milestones would be the big 4 and big steps within the system of the modules of the big 4.

And to be basic:

Pantry of items

(list of individual items that are found in a household@, amounts of those items@, when those items go yucky or expire@, MILESTONE; ability to append to the program itself or a separate program with more items@, where those items are stored@, how those items are stored@, if the food has allergies and what they are@, is it a spice or a salt, MILESTONE; if it has any variants for example milk@, subdomains depending on what food group they are for example protein or carb or fat@, ingredient availability for example a bistro only item or a grocery item@, ingredient texture@)

Recipe list/methodology list

(list of base methodologies@, list of recipes@, MILESTONE; what recipes use which methodologies@, what is the texture of the meal@, what is the Scoville/spiciness of the meal@, what cuisine/s is the meal from@, how much set up time does this meal have@, can the meal be eaten hot or cold@, MILESTONE; what are the variants of this meal@, what bodges can be done to the meal to get it approximately done@, if a foodstuff is leftovers-able or if it tastes better as a leftover@)

Tagging system for both embedded into the prior two

(MILESTONE; a framework that allows for the prior tags on certain things to be detectable by the weekly planner, cuisine, texture, speed to make, spiciness, allergies, aesthetic, smells, health benefits, set up time, how easy it is to turn into other things if it is a set up thing)

Weekly planner with algorithm usage

(MILESTONE; algorithm with the latest thing made inserted into it@, memory of previous meals up to a month where afterwards it gets stored into longer term memory@, make a new thing based off of what things expire currently@, and what cuisines haven’t been done enough@, certain people coming over with allergies@, settable to have forced elements for example quick as you only have an hour@, allowing for blocking of certain elements depending on taste at the time@)

Design methodology

Think about authentication

SUGGESTIONS FROM “PIP”:

Paragraph structure and grammar re-through

Breaking down by section