Project proposal

ITPV302 Project

Nathan Rogers   221412581
Zanele Mndaweni   225097524
Max Naidoo   225227053

Contents

Problem Domain

In today's fast-paced world, meal planning and cooking can become daunting tasks for many individuals. Whether it's balancing work, school, or personal life, this leaves little to no time for meal preparation, let alone cooking. However, when South Africans were asked about their attitudes towards food, only 16% picked "I do not enjoy cooking" (Bashir, 2024). This indicates that the majority of people do enjoy cooking and are most likely hindered by their busy daily routines.

A study in the UK found that people waste roughly 43 minutes a day, amounting to 37 hours a year, deciding what to eat. Of the 2,000 adults surveyed, 57% noted that dinner was the hardest meal to decide on. The top reasons for this difficulty included a lack of inspiration and trouble finding the right recipes, with 30% attributing it to not having the necessary ingredients to make their desired dish. (Lumley, 2024).

Despite the vast amounts of data available online, one would think following recipes would be a no-brainer. However, for many, this process has become a stressful and time-consuming chore. These are some of the common grievances experienced by users of recipe apps and sites:

- Many recipes are usually accompanied by long-winded essays with ingredients listed at the very top of the page, often with absolutely no reference to their corresponding measurements when needed.
- Users often struggle to find the perfect recipe in a sea of thousands of recipes based on the ingredients they have available.
- Recipes often assume users are all at the same skill level, using jargon such as "creating a roux" without considering that some may not know what that means.
- Many recipe sites only accommodate a single measurement unit, such as the imperial system.
- The lack of personalization options, such as being able to save recipes or plan meals for the future, makes sticking with a single recipe app difficult.
- Existing recipe apps and websites often fail to cater to user preferences and dietary restrictions or remember them for future recommendations, making them less effective.

It is clear from the above that there is a clear need for a solution that simplifies meal planning and cooking, making it more enjoyable and accessible for everyone, regardless of their skill level. Allowing people to incorporate this activity into their busy lives without the added stress.

Proposed Solution

The solution we propose is a mobile app and a website that is designed to make planning and cooking easier and more enjoyable for all users. This system aims to address the common issues faced by users when it comes to cooking, such as a lack of inspiration, trouble finding the right recipes as well as the need for dietary customization.

What should our system do and how should it do it?

Registered users can customize and set preferences based off dietary needs (vegan vegetarian etc.). Recipes can then be filtered by available ingredients, time, difficulty and adjusted for serving size.

The app will incorporate beginner-friendly features that offer basic skill walk through, step-by-step instructions with images and videos. There should also be a "Cook with Me", feature that aims to assist users as they cook with built-in timers and ingredient measurements displayed at each step.

Users will be able to save recipes for offline use. They may also plan meals for future dates and generate shopping lists based on recipe ingredients. Searching and categorization of recipes (breakfast, dinner, student meals etc.) will cater to those who have dietary preferences with the ingredients they currently have.

Whether it should be desktop-, web- or mobile-based (or even a combination of some of them).

Our group is considering developing both a website and a mobile app. A web-based system as recipes are often found online. Additionally, a mobile app which also aids in the market for users that use their phones for recipes.

What technologies do you think you'll use to develop the system?

For creating the mobile app and a website, we considered using Flutter, React Native (along with React) and Ionic. We considered using different APIs such as MealDB and suggestic. We also came across recipe datasets we could make use of for our database on Kaggle. For prototyping we considered using Figma. For version control we are using GitHub.

A list of all (or at least some of) the screens or system functions

- Login screen/registration screen
- Profile management page
- Saved recipes page
- Help section
- Home screen (Personalised for registered users)
- Recipe searching and filters for finding specific recipes.
- Recipe detail screen with instructions ("Cook with Me", mode activation from this screen)

References

Bashir, U. (2024, August 5). *Attitudes towards food in South Africa as of June 2024*. Retrieved from Statista: https://www.statista.com/forecasts/1266353/attitudes-towards-food-in-south-africa

Lumley, S. (2024, April 10). *Indecisive Brits spend 37 hours a year trying to choose what meals to eat, study finds*. Retrieved from Wales Online: https://www.walesonline.co.uk/news/uk-news/food-mealtimes-indecision-dinner-choices-28968056