

Campus Kitchen

Software Requirements Specification



CAMPUS
KITCHEN

CSCE 247: Software Engineering

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Introduction

Purpose:

Campus Kitchen is a mobile app (iOS/Android) that provides college and graduate students with:

- Easy-to-make, budget-friendly recipes optimized for dorm/kitchen equipment
- Weekly meal-planning and meal-prep assistance (shopping lists, prep schedules)
- Nutrition-aware guidance to promote healthier eating on a student budget

By reducing the time and cognitive load of meal planning, Campus Kitchen helps students save money, eat better, and focus on their studies rather than “What’s for dinner?”

Campus Kitchen is designed with a specific mission: to reduce the daily stress and uncertainty college and graduate students face around food. Balancing classes, work, and social obligations often leaves students with limited time, minimal cooking resources, and tight budgets. Many students turn to instant noodles or fast food, not because they prefer them, but because they're quick and convenient.

Campus Kitchen solves this problem by offering a centralized digital hub where students can discover simple, affordable recipes, plan their meals for the week, and generate smart grocery lists, all within a visually clean and user-friendly interface. Unlike general-purpose meal apps, Campus Kitchen is tailored to student life, providing tools and content that reflect dorm living, dietary restrictions, and financial constraints.

Stakeholders

- Students
 - Need quick recipes, shopping list, healthy filters
- Sponsor
 - University wellness office or a startup investor, concerned with student engagement
- Nutrition Experts
 - Validate nutritional data, ensure compliance with dietary guidelines
- Development Team
 - Responsible for security and scalability
- Third-Party Partners
 - Grocery APIs (like Instacart), and recipe databases (like Spoonacular); require stable integrations

Personas



Frankie Fresh

Age: 18

Hometown: Greenville, SC

Student: Freshman

Work: Unemployed

Bio: Franky moved to USC to start his first year of college. He plans on studying public health and his career goal is to become a doctor. He spends most of his time studying so he is always busy. As a young student, he has a limited budget and he does not know how to cook but he does not want to buy fast food everyday.

Goals:

Be able to cook simple meals

Save money on food

Save time by cooking quick meals

Needs:

An app with quick and easy recipes

An app that allows meal planning

An app that shows approximate cost of meals

Motivations:

Frankie likes to be efficient, he has no time to waste. He is far from his family and is learning how to live on his own. This includes learning how to cook, budget, and time management.



Jasmine Thompson

Age: 22

Hometown: Orangeburg, SC

Student: Senior

Work: Part-time barista

Bio: Jasmine is a full-time senior at SC State finishing up her Business degree while working part-time at a local cafe to help cover rent and utilities. Between class, studying, and work, her schedule is packed. She usually has time to cook only a few days a week and often ends up eating snacks or fast food for convenience.

Goals:

Eat healthier to stay energized and save money by cooking more instead of buying takeout.

Needs:

Jasmine needs a clear cost-per-serving estimate and quick recipes. She would also need a simple meal planning calendar to remind her when to meal prep.

Motivations:

Jasmine is very organized and would like to prep 2-3 meals ahead of time each week and keep the meals simple. She would even like to start tracking how much she's spending on groceries each week.



Sarah Myers

Age: 23

Hometown: Florence, SC

Student: 1st year Graduate

Work: Teacher Assistant

Bio: Sarah is pursuing a masters degree in Culinary Sciences at Clemson. She is working towards refining her cooking skills and becoming a Chef. Sarah spends most of her time studying for her classes and preparing for classes that she teaches. Sarah has a smaller budget and little time to prepare her meals everyday.

Goals:

Be able to prepare healthy and cost-efficient meals that don't require lots of preparation

Needs:

An app to be able to create and see others recipes

An app to see the cost and ingredients needed for meals

An app to share her recipes locally

Motivations:

Sarah is busy student, so she wants to make meals in the short time that she has. Inspired to become Chef herself, she wants to be able to share her own recipes to the public.

Constraints

The Campus Kitchen project is open to several constraints that impact the design, development, and start of the application. These constraints are limitations on which the team must operate.

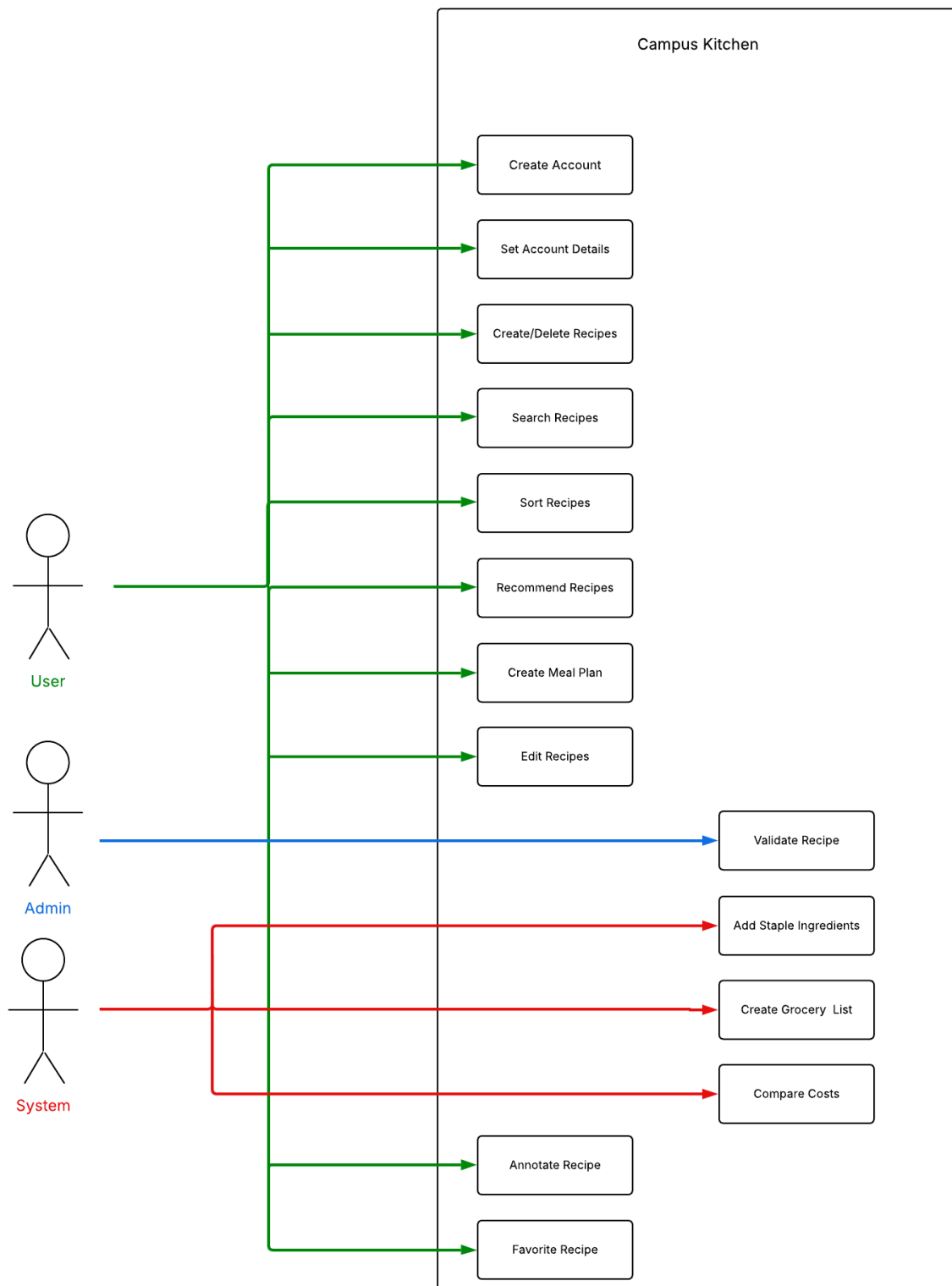
Types:

- Schedule/Time
 - 5 weeks
- Budget
 - Budget of \$0
- Technology
 - Must be completed in Java
 - Accessible on multiple devices
- Regulations
- Operations

Overall Description

Campus Kitchen is a student-focused mobile app designed to help college and graduate students plan affordable, nutritious meals with minimal time, equipment, and experience. Recognizing the unique challenges students face, the app provides a streamlined interface for discovering easy-to-make recipes, generating automated grocery lists, and organizing weekly meal plans. Recipes are created with dorm-friendly preparation in mind, often requiring just a microwave, mini-fridge, or a basic stovetop. Users can filter meals by dietary preferences, cooking time, ingredients on hand, or nutritional goals. Once recipes are selected, students can use the integrated meal planner to schedule meals by day and time, and then instantly generate a grocery list. Integrating with third-party APIs enables features like local grocery pricing, calendar syncing, and optional nutrition tracking. Campus Kitchen empowers students to take control of their meals without adding stress to their already demanding schedules, turning mealtime from a daily challenge into a manageable, even enjoyable, part of student life.

Business Use Cases



Functional Requirements

https://docs.google.com/spreadsheets/d/1InQYBKu0UupaLY-Z0qPxeBr2P_OB_Lv-AzELNjN4x7E/edit?gid=0#gid=0

Non-functional Requirements

1. Look and Feel Requirements
 - a. Visually clean and user-friendly interface
 - b. Appealing and engaging content
 - c. Student focused design with clear visuals
2. Usability Requirements
 - a. Filters for dietary needs, time, and available ingredients
 - b. Easy to use meal planning and automatic grocery list generation
3. Performance Requirements
 - a. Quick loading times
 - b. Scalability to support growing user base and large recipe database
4. Maintainability and Support Requirements
 - a. Future support for updates
 - b. Easy to update recipe database
5. Security Requirements
 - a. User data protection
6. Cultural Requirements
 - a. Culturally inclusive meal suggestions
 - b. Recipe and dietary filters that account for diverse cultural diets and restrictions
7. Legal Requirements
 - a. Must not collect personal data beyond app functionality
 - b. Compliance with dietary and nutrition labeling guidelines

Competitive Analysis

Product	Strengths	Weaknesses	Target Audience
Mealime	Mealime offers an efficient meal-planning experience. It allows users to build meal plans and automatically generates smart grocery lists, which can be categorized by aisle. The user interface is clean and optimized for both web and mobile devices. Recipes are relatively simple and nutrition-focused, which aligns well with student goals.	Many of the app's most useful features are locked behind a paywall, limiting access to budget-conscious users. It also lacks integration with local grocery pricing and doesn't offer extensive filtering for dorm-friendly equipment or dietary culture	Busy professionals and small households seeking quick, healthy meals
Tasty	Tasty provides highly engaging video content with a strong social media presence. Recipes are usually short, fun, and designed to be visually appealing. It also includes features for bookmarking and step-by-step instructions with clear visuals.	Tasty prioritizes entertainment and presentation over planning or nutrition. It doesn't offer smart grocery lists, calorie tracking, or integration with any meal calendar, making it less practical for students seeking structure.	Younger Users looking for visual guidance and recipe inspiration through social media-style content.
Yummly	Yummly boasts a massive recipe database and powerful filtering options for dietary needs, ingredients, and cuisines. It includes features like guided video recipes, personalized suggestions, and a sleek visual interface.	The sheer number of recipes and options can overwhelm users, especially those seeking fast, no-nonsense meal solutions. The app is also more geared toward food discovery than meal prep or planning.	Home cooks and food enthusiasts who enjoy exploring diverse meals.

Summary Table + More

Product	Strengths	Weaknesses	Target Audience
Mealime	<ul style="list-style-type: none">• Auto meal plan & shopping list• Easy UI	<ul style="list-style-type: none">• Limited free recipes• Few customization options	<ul style="list-style-type: none">• Busy home cooks
Yummly	<ul style="list-style-type: none">• Large recipe database• Many dietary filters	<ul style="list-style-type: none">• Too many options• Ads in the free tier	<ul style="list-style-type: none">• General Audience
Paprika	<ul style="list-style-type: none">• Offline recipe saving• Big grocery list management	<ul style="list-style-type: none">• No built-in nutrition tracking	<ul style="list-style-type: none">• Tech Savvy cooks or planners
Plan to Eat	<ul style="list-style-type: none">• Drag-drop meal planner• Shareable menus	<ul style="list-style-type: none">• Subscription only	<ul style="list-style-type: none">• Food Planners• Families
Tasty	<ul style="list-style-type: none">• High Visual content• Step-by-step videos	<ul style="list-style-type: none">• Limited customization s• Lacks meal planning	<ul style="list-style-type: none">• Visual learners• Social media users

Summary Analysis

After analyzing the above platforms, we conclude that Campus Kitchen must strike a balance between usability, affordability, and a student-focused structure. Mealime succeeds in planning and Yummly excels in filtering, both fall short of addressing the specific constraints students face like minimal kitchen tools, tight budgets, and packed schedules. Tasty's engaging design proves that students enjoy visual content, but it lacks planning depth.

To serve our users best, Campus Kitchen should combine the simplicity and planning tools of Mealime, the filtering of Yummly, and the visual clarity of Tasty. All while tailoring its features towards students living in dorms or shared apartments. Key differentiators like dorm-safe, batch-prep support, and cost-per-serving estimates will help it stand out as a true student-first solution.