

Milestone 1: High Fidelity Design Justification Report

Team Blue

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Introduction

This report details the design rationale behind the high-fidelity prototype for the meal planning app, *Byte Me*, a mobile application designed to simplify and visualize the process of meal planning, while minimizing food waste. Building upon the insights gained from user research and the development of a low-fidelity prototype, this high-fidelity design represents a significant step towards creating a user-centered solution for individuals to improve their meal management habits. Here we will explore how the high-fidelity design addresses the user needs and pain points identified during the initial research phase, highlighting the key improvements implemented since the low-fidelity prototype. Also, we will discuss the design choices made for each feature, providing a clear justification for their inclusions.

User Needs and Requirements

Recap of User Research

The design of *Byte Me*'s high fidelity prototype is rooted in a thorough understanding of user needs and pain points related to meal planning, grocery shopping, and food waste. Our research shows several challenges faced by the target audience:

- **Food Waste:** A significant portion of participants acknowledged wasting food due to poor meal planning. They often purchased ingredients they already had or failed to use before they expired.
- **Time Constraints:** Many users reported struggling to find the time to plan meals effectively, particularly during busy workweeks. They expressed a need for a quick and efficient way to create meal plans.

- Allergy based features: Participants that have allergies want ease of use on finding recipes that they can eat.
- Visual Goals: Participants want visual aid to track their progress toward healthier eating habits.
- Recipe Inspiration: Users often lacked inspiration for new meal ideas and found themselves preparing the same dishes repeatedly. They desired a way to discover new and exciting recipes.

How High-Fidelity Addresses Needs

The high-fidelity design of *Byte Me*, directly addresses these user needs in the following ways:

- Reduced Food Waste: The integrated pantry management feature allows users to track their existing ingredients. This helps them avoid purchasing duplicates and encourages them to use up ingredients before they expire, minimizing food waste. The app also suggests recipes based on pantry items.
- Efficient Grocery Shopping: The app automatically generates a comprehensive grocery list based on the user's selected meals. Users can access the list on their mobile devices while shopping, ensuring they don't forget any ingredients. This directly tackles the inefficiency of traditional list-making.
- Filters in recipe suggestions: Allowing a filter system where the user can get rid of a certain ingredient or allergy makes searching recipes easier and less worrisome.

- Adding goals: The high-fidelity design includes a progress tracker that visually represents the user's progress toward their calorie intake goals. Also, adding goals such as new recipes tried encourages users to discover more recipes they may enjoy.

Design Rationale and Improvements

Navigation

In the navigation bar, we currently have included five tabs the users may navigate to. Back in the low-fidelity design, we initially only had four tabs: Home, Calendar, Recipe and Grocery. Our pantry feature was tucked away in the grocery tab, but after feedback we made a separate tab for ease of access to the pantry. A pantry is one of the features for our app to stand out and to reduce food waste. Also, we removed the navigation bar when the user is on the profile and settings screens.

Home Page

The home page is an important part of the app experience. It is structured such that users will be able to quickly see their current meal plan and recipe suggestions. The recipe suggestions are there to remind users of the wide variety of different meals that can be prepared, even when their goal is to quickly check today's plan. That is why the suggestions are at the top of the screen. Beneath that is the meal plan of the day, which includes the scheduled time to eat, the meal, and how many calories it contains. The structure remains the same as the low fidelity design, though with an improved design.

Recipe Search and Display

The recipe page is now in the center. According to our research, users picking meals they find enjoyable are an important part of being consistent with meal planning. This version improves on the design of the low fidelity version by including filter options to look through

saved recipes, like calorie count or category type. We decided to remove the discovery section at the top of the screen which suggested recipes for the user to reduce repetitiveness as there is already a “discovery” page in the home page.

Meal Planner (Calendar)

The calendar page’s design is a bit different than that of our original design. It features the month in which the user can click on a day in order to see the meal plan that they have set up. However, the layout below the calendar has changed where rather than showing the whole week of the selected day, it only shows the meal plan for days that the user has made a meal plan for which includes selected recipes and a total number of calories. We added an add button in the bottom right that’ll take the user to another screen where they’ll be able to add a new meal plan for another day within the week.

Grocery List

This page has seen a significant design change, as the pantry was removed entirely so that it could become its own tab due to its significance in reducing food waste for our users. We also added search functionalities so that finding ingredients already in the list is easier. Of course, users will be able to add to the grocery list by pressing on the plus icon which has similar search functionality to the recipes tab.

Pantry Management

As stated before, the pantry has become its own tab and will hold ingredients that the user currently has in their possession. We believe this will help the user when it comes to finding recipes while also reducing food waste. One of the things the pantry section can do is automatically generate recipe suggestions to the user based on items currently held within it.

Visual Design and Branding

We decided to go with a design that is majorly accented by blue as our team is named “Team Blue”, and blue is one of the most liked colors by people in general. We included icons when possible to make it easier for users to recognize important information whether that be that the meal eaten at night has a moon icon, or the avocados in the grocery list have an image to accompany it. Our name, *Byte Me* is based on a combination of the word byte and bite as an allusion to our status as computer science students and our application assisting with meals.

Conclusion

The high fidelity prototype that we have completed of *Byte Me* is a significant improvement from our initial design, which has incorporated user feedback to create a more efficient meal planning experience. Our goal was to develop a design that is both visually appealing but functionally robust. Our decision to have a dedicated pantry management, more in-depth grocery lists, and a more appealing interface shows our commitment to user-centered design. This high fidelity prototype sets the foundation for further testing and refinement as we move into the development process of the application.