

# RecipeMate: A Better Way to Cook

RDADA Final Concept

Akhil Patel, Julia Buffinton, Kevin Pang, Sullivan Swift

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RecipeMate

## Abstract

Eating is an integral part of our daily routine to maintain a healthy lifestyle. However, according to a recent 2014 study, people spend almost 4 hours per week deciding what to eat<sup>5</sup>. As the average American gets busier, their time becomes more precious, and they seek ways to minimize meal planning time. Current products such as grocery delivery services, nascent “smart” fridges, and recipe recommendation applications address some aspects of this, but none provide a comprehensive solution. We propose a novel approach to streamline the process and give time back to consumers. Our solution is centered around RecipeMate, a real-time monitoring system with automated meal planning and ingredients management. When installed, the networked autonomous cameras will use state-of-the-art imaging techniques and machine learning algorithms to monitor inventory in the refrigerator, freezer, and pantry. It then offers recipe suggestions based on availability and expiration date. Once it learns a user’s diet preferences, it can also automatically create shopping lists to restock low inventory or missing ingredients. RecipeMate can be easily accessed and controlled from a mobile app that maintains a recipe catalog and shopping list. With this affordable solution, we can drastically reduce both time spent on meal planning and making lists for grocery shopping, allowing people to spend more time on things they really care about.

## Keywords

IoT, connected appliance, smart kitchen, assisted home cooking, kitchen management, recipe suggestions, machine learning, smart refrigerator, grocery shopping aid, meal planning, recipe management, food waste reduction, food ingredients tracking

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# Appendices

## A. Staff Memo

*Below is a staff memo to a major home appliance company's product development team from their CEO.*

Hello Product Development Team,

Recent market research suggests that Americans are busier than ever, and food preparation is one of the first things to go out of their busy schedules. We've also had dropping sales in our kitchen appliances segment over the past few years and our initial efforts to ameliorate this trend have not worked out.

What can we do to make our products more relevant in a fast-paced modern society? Are there any technological breakthroughs (including AI and Data Science) we can apply? How can we make kitchen appliances desirable again? Please think along these lines to make it easier for people to cook at home, reduce food waste, and cater to individual preferences.

Please review the competitive landscape if there have been other first movers. What have you learned from them? Explain how we can improve on their shortcomings. Your solution should seamlessly bring together at least a refrigerator, monitoring system, and mobile/computer application.

What data do we need to build a sensible solution? Where can the data be sourced from, and how you will address possible roadblocks? Include in your write-up a summary of methods and resources you will employ to achieve your solution. Outline your implementation plan, including any organizational considerations for completing this research.

Include your plan for communicating your solution and metrics for success to invested parties. Consider risks from operations, legal, regulatory, or consumer advocacy groups, and prepare your response to them. Be optimistic but realistic, and consider all potential stakeholders, including the end user. Focus on the impact to each party.

Lastly, discuss the roadmap on future products and/or service enhancements.

Please have your initial thoughts on the above on my desk within a week. Once I have time to review, let's take a deeper look.

Thanks,  
Brooks Ambrose  
*CEO and President, RDADA Appliances*

## B. Figures

Figure 1

*Food expenditure at home versus food expenditure away from home for 2000 through 2014 based on data from USDA ERS<sup>1</sup>.*

