

# University of Plymouth

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## Recipe Finder: An Ingredients-Based

## Recipe Discovery Application

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# RECIPE FINDER: AN INGREDIENTS-BASED RECIPE DISCOVERY APPLICATION

## ABSTRACT

In today's fast-paced world, convenience and time-saving solutions are essential, particularly in the kitchen. Many home cooks and working individuals face daily challenges in deciding what meals to prepare based on the limited ingredients they have on hand (Almeida et al., 2021). This project report presents the development of "Recipe Finder: An Ingredient-Based Recipe Discovery Application"—a mobile application tailored to offer personalized recipe suggestions by utilizing users' available ingredients. The app is designed to address common cooking frustrations such as a lack of ideas, food wastage, and time constraints, which are frequently experienced in modern households (Turner & Lehane, 2020)

The mobile application integrates key features such as user authentication (login, registration, and logout), an administrative dashboard for managing recipe content and associated video tutorials, and a search function that allows users to discover recipes based on their ingredients. Users can also save their favourite recipes and explore different cuisines through built-in filtering options. These features not only encourage efficient meal planning but also promote sustainability by minimizing ingredient wastage (Kim & Lee, 2019).

Technologically, the system is built using Android Studio for the mobile interface, Visual Studio Code for code editing, and SQL for managing backend data storage. These tools collectively support a robust, user-friendly, and scalable solution that enhances the culinary experience for everyday users. This report covers the entire software development lifecycle of the application, starting with a detailed literature review to identify similar systems and their limitations, followed by methodology, system design (including UML diagrams), implementation details, and system testing. The final chapters evaluate the app's usability, reliability, and legal, social, ethical, and professional (LSEP) considerations. The results indicate that Recipe Finder meets its objective of simplifying the decision-making process for meal preparation while contributing to efficient resource use and reducing food waste.