

Institiúid Teicneolaíochta Cheatharlach



LifeReceitas

4th Year Project Final Report

Student Name: Fillipe Soares

Student ID: C00203202

Supervisor: Joseph Kehoe

Table of Content

Introduction	3
Project Description	4
Project Overview	4
Technical Project Overview	5
Technologies and Architecture	5
Knowledge Process	5
Technical Learning Outcomes	5
React	6
Bootstrap & MUI	6
Firebase	6
NoSQL	7
Deploying	7
Personal Learning Outcomes	7
Personal Interest	7
Self-Reflection and Time Management	8
Project Review	8
Achievements	8
Not Achieved	9
Possible Adaptations	9
Problems Faced	9
Time Management	9
Using an Unfamiliar Database Structure	9
Deviation from Initial Project Specification	9
Conclusion	10
Acknowledgements	10

Introduction

The aim of this project is to develop a multi-platform social media like application to allow people to discover food recipes of all types, from different nationalities and cultures.

The goal of this report is to offer an overview of the development process for the application LifeReceitas. This paper will reflect on the application development process, concentrating on the first experience of discovering new technologies, adjusting to using them, what may be better, and an overall assessment of the application generated.

The project description section will include an explanation of LifeReceitas' development methodology as well as the technology utilised to create the application. The part on the knowledge process will go into technical and personal learning outcomes. Finally, the project review part will go through what was accomplished and what was not during the development process, as well as the iterations, challenges encountered while creating the programme, and deviations from my original goal.

Project Description

The project description will cover an overview of the application LifeReceitas from the user's perspective, followed by an overview of the application's development. This will be followed by a list of the technologies employed in the creation of LifeReceitas.

Project Overview

As stated previously the application is targeted at any users that wish to discover new recipes no matter the cooking experience.

LifeReceitas consists of the following function on the main menu: Profile, Recipes, Discover, My Recipes, My Cookbooks, Messages.

Profile - this section of the app allows the users to see the profile and make changes to personal information. The user can see how many recipes he/she has created, can add a profile picture, change first and last name, request a password reset via a link sent to email and user can delete his/hers account if he/she wishes to do so.

Recipes - this section of the app is the main page as soon as the user logs into the app they are greeted with the recipes page. This page consists of all the user based recipes meaning that this page displays all recipes that were added by other users. This page is where a user can do the following:

- Search for recipes based on recipe names or ingredient names.
- Add a new recipe with information such as recipe name, calories, image, ingredients and cooking methods.
- Users can scroll through all the recipes in the database, each recipe card has all the recipe information and a section where everyone can see the rating and reviews left by other users.
- In each recipe card, users have an option to add that recipe to a specific cookbook if they wish.
- Each recipe card is displayed with the author's image on the top of the card and other users can click to display an option to send that user a private message.

Discover - this section of the app displays recipes from a recipe database called Edmam. The only difference between this section and Recipes is that users cannot leave a rating or reviews. Users can still search and add recipes to the desired cookbook.

My Recipes - in this section of the app users can see all the recipes that belong to them, they can also perform CRUD operations on each recipe card and search for their recipes.

My Cookbooks - in this section of the app users can create new cookbooks and they can see all the cookbooks they have created and within those cookbooks they can see all the recipes that they have added to each cookbook.

Messages - here the user can see and message all the users that whom they have started a private chat. They can also search for users in the app to start a private chat.

Technical Project Overview

This part will provide a technical overview of LifeReceitas, looking into the specifics of each feature.

Technologies and Architecture

LifeReceitas uses the following technologies:

- Frontend: React, Bootstrap and MUI
- Database: Firebase
- Server: Firebase

Tools

- Github
- Visual Studio Code
- NodeJs
- Firebase
- Fluid UI

Knowledge Process

The knowledge process will cover both the technical and human learning results of this application's development. The learning procedures included the steps of conception through application completion, exposing fourth-year students to all areas of development.

This approach supplemented the information received through a Software Development degree by providing a first-hand experience. Personal involvement aided in the motivation and growth of LifeReceitas. This application enabled more in-depth research into the creation of an application from beginning to end, as well as the culinary sector.

Technical Learning Outcomes

This project exposed me to a variety of different languages and platforms. The project gave me a chance to obtain hands-on experience with React, Bootstrap, and MUI. These languages were difficult for me since they were unfamiliar to me, but one advantage was the excellent documentation accessible, which helped to decrease the time required to master the language skills. The project also allowed me to experiment with and gain experience with Firebase and NoSQL systems. These

platforms were difficult to learn since they were new to me, but the benefits of utilising them included the opportunity to build a well-structured backend and utilize React functionalities. Deploying the application enabled fresh experience and information to be obtained during the application's development lifetime.

Throughout this project, new technologies were employed in conjunction with technologies that I was already familiar with, such as Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript. The capacity to use available resources to obtain knowledge in new domains of technology was one of the learning outcomes of the usage of new technologies. This enhanced the ability to examine and critique a problem in order to create a more functional solution.

React

LifeReceitas' front-end was built with React. Because React is built on CSS, HTML, and Javascript, it was not a whole new language to learn. However, I was unfamiliar with the entire language. React was chosen for this project because it is a cross-platform language that can be utilised on both Android and iOS devices. Because React is made up of a huge number of plugins, it enables users to create a wide range of apps and functionalities. The initial learning curve of learning a new language was the most difficult issue encountered when designing this application. This project provided me with the opportunity to hone my React abilities. Overall, I found this language to be great for my project.

Bootstrap & MUI

bootstrap and MUI were used in LifeReceitas to help with the responsiveness of the app. Both frameworks are great in aiding in the development of responsive apps. Both come with a variety of templates that helped me get started building a web app much faster. Initially, I started using mainly Bootstrap and everything worked fine then I came across MUI and saw that the templates looked better and more modern and decided to incorporate them into the app. Both frameworks are similar so using Incorporating MUI was not difficult.

Firebase

LifeReceitas' back-end server was built with Firebase. As part of the deployment procedure, Firebase was also employed. LifeReceitas' database was built using Firestore. Firebase was an altogether new platform to me because we had not encountered it throughout our degree, but a large array of materials were publicly available online, which tremendously aided me.

Firebase was very important for this project since it allowed for the creation of a Google sign-in, cloud security, and the development of a real-time messaging system.

Working with Firebase and Firestore presented challenges when it came to providing UIDs to users because it was an entirely new manner of arranging data. Another difficulty was the dated nature of the information accessible for this specific topic. Overall, Firebase and Firestore were useful for my project. Furthermore, because React is so well linked with Firebase, the utilisation of Firebase aided my project.

NoSQL

The back-end database was constructed using NoSQL while working with Firebase and Firestore. For the first time, I was able to experiment with NoSQL in this project. The database's absence of regularly structured fields proved difficult to overcome. The capacity to easily construct and remove tables dynamically was one of the advantages of NoSQL. Again, a large array of available materials aided in the rapid development of knowledge in the platform.

Deploying

The deploying stage of the project involved the deployment of a Progressive Web App(PWA). The Progressive Web App was deployed using Firebase because it was already integrated into the application's backend, making the deployment process go easily. Initial configuration difficulties caused by a lack of knowledge of the process posed a hurdle in the usage of Firebase, nevertheless, this challenge was overcome since a wide range of resources were accessible to help.

Personal Learning Outcomes

This project provided an opportunity to learn a variety of new personal skills and information. This part will discuss personal interest development as well as time management skills.

Because the application's subject was culinary, extensive research could be conducted. The project provided an opportunity for me to reflect on and discover aspects of development that are personally appealing to me. Finally, self-reflection, adaptability, and time management were important personal learning outcomes of the creation of LifeReceitas.

Personal Interest

This project exposed me to the whole development lifecycle, allowing for personal reflection on the amount of interest at each phase. The discovery and exposure to various elements of development culminated in my own discovery that the user interface stage of development piqued my attention. This finding will lead to and allow for more personal research and career considerations in the field. Personal interests are vital because they may boost enjoyment, motivation, and success. This learning result will be incorporated into my future plans.

Self-Reflection and Time Management

This project's personal learning outcomes included self-reflection, time management, and planning. Planning the progress that would be necessary each week in order to meet the project deadline was a crucial skill to master, and it entailed a lot of self-reflection into both the pace at which I could work and the time I would spend on the project each week. Self-reflection had a significant role in my choice to make certain adjustments to my project midway through the process. Self-evaluation and realistic expectations led me to the conclusion that I would not achieve the necessary improvement and that small changes were required. Managing documentation and technical tasks required time management and progress evaluation. Planning well allows for self-assurance, enthusiasm, and accomplishment. This personal learning result will be useful as I begin and advance in my career.

Project Review

The project requirements evolved and altered throughout the development of LifeReceitas.

Those developments have resulted in several accomplishments and problems. This part will go through what was accomplished, what was not accomplished, suggested adjustments, challenges encountered, and variations from the original idea.

Achievements

The following are some of the accomplishments made during the creation of LifeReceitas:

- Cross-platform application.
- UI design and navigation developed.
- Deployment of the database and application using Firebase.
- Registering accounts with Google Firebase authentication.
- Log in and sign out accounts with Google Firebase authentication.
- The app is installable.
- CRUD profile
- All functionalities in the Recipes tab such as search, rate, review recipes, add recipes to favourite cookbooks and start a private chat with another user.
- All functionalities in the Discover tab such as the search for recipes and add recipes to favourite cookbooks.
- All functionalities in the My Recipes tab such as search through own recipes, CRUD recipe card and view reviews and ratings of recipes.
- All functionalities in the My Cookbooks tab such as CRUD operations and view all saved recipes.
- All functionalities in the messaging system such as message users and search for other users.

Not Achieved

I was able to complete all of the features I set out to perform but due to time constraints, I had to simplify the UI in order to get it all done in time. In the future, I intend to update the UI to make the app seem nicer.

Possible Adaptations

This section will go over the changes that would have benefited LifeReceitas if the project could have been restarted. Further user testing and automated testing would have benefited the project's functionality and would have possibly generated new ideas and adjustments to the app as a whole. Testing is a critical component of development and should always be done to a high degree. Also if I were to start the project over I would have started earlier in December instead of February to allow for more development time.

Problems Faced

Time Management

Some small issues arose as a result of researching and developing skills in a new language and platform in a short period of time. The decision to study a new language practically rather than theoretically solves the difficulty of learning a new language in a short period of time. In this scenario, 'on-the-job learning' was more effective. Due to increased time constraints, it was necessary to stick to a rigid plan. Although I had a strict plan to follow, due to the lack of time the UI had to be simplified in order to complete the app.

Using an Unfamiliar Database Structure

As previously said, Firebase was a platform with which I was unfamiliar. LifeReceitas' server and backend were both powered by Firebase. The unstructured nature of Firebase's NoSQL, a real-time database, was unfamiliar and took some time to adjust to. This new database required the practice of building, obtaining, adding, modifying, and deleting both tables and columns inside the database. This additional time may have been reduced if a database known to me, such as SQL, had been utilised. Because Firebase worked well with React, it was chosen as the framework to use.

Deviation from Initial Project Specification

Due to lack of time the only deviation from the initial project specification was that the app UI had to be simplified in order to finish the project. MUI also got incorporated midway through the project in order to help with the UI.

Conclusion

The goal of this project was to develop a user-friendly application to help users discover and learn new dish recipes. The app aimed to allow users to search for new recipes and to add and share new recipes with other users. Additionally, the Messaging system was also planned to offer useful features to a broader target audience.

In Conclusion, this project featured both problems and accomplishments. Despite the problems, the project specification was entirely met in terms of functionality. Challenges encountered throughout the application's development have resulted in learning opportunities. Among the accomplishments made while developing LifeReceitas are the acquisition of new language and platform skills, as well as personal and technical learning experiences and the creation of a fully functional application. The app successfully retrieves recipes from the Edmam recipe database and also from the database created in Firebase, messages are successfully sent between users also.

This project considerably increased personal knowledge in the disciplines of app development, gastronomy, and other technologies by exposing students to the complete development lifecycle, from concept to completion. The project was a great experience that resulted in the development of personal learning outcomes such as problem-solving and time management skills.

Finally, working on the creation of an app like LifeReceitas, which may assist users to grow their knowledge of cooking skills, has shown me why development is so essential and can improve people's lives.

Acknowledgements

I'd like to acknowledge my project supervisor, Dr. Joseph Kehoe, for his continual assistance and guidance throughout the project. Our weekly meetings were quite beneficial to me, and I felt properly informed and guided throughout the process. Joseph did an excellent job of instructing me on the steps I needed to take each week. Joseph struck me as personable and efficient. This project would not have been as smooth or effective without this support. Thank you so much, Joseph.