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A U T O N O M O U S **Bengaluru**
Reaccredited A++ Grade by NAAC | Affiliated to Bengaluru North University

SAZÓN FOOD APP

Project Report

submitted in partial fulfillment of the requirements for
the award of the degree of

BACHELOR OF COMPUTER APPLICATIONS (BCA)



Submitted By

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Under the guidance of

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DEPARTMENT OF COMPUTER SCIENCE (UG)

CERTIFICATE OF COMPLETION

This is to certify that the project entitled "**SAZÓN FOOD APP**" has been satisfactorily completed by **DARREN IMMANUEL FERNANDES, 21BCAD18** in partial fulfillment of the award of the Bachelor of Computer Applications degree requirements prescribed by Kristu Jayanti College (Autonomous) Bengaluru (Affiliated to Bengaluru University) during the academic year 2023 - 24

Internal Guide

Head of the Department

Valued by Examiners

1: _____

Centre: Kristu Jayanti College

2: _____

Date:



DECLARATION

I, **DARREN IMMANUEL FERNANDES (21BCAD18)** hereby declare that the project work entitled **Sazón Food App** is an original project work carried out by me, under the guidance of Prof. Sherin Rappai.

This project work has not been submitted earlier either to any University / Institution or any other body for the fulfillment of the requirement of a course of study.

Signature

DARREN IMMANUEL FERNANDES
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Date:

ACKNOWLEDGEMENT

“The success is the result of preparation, hard work, and learning from failure.”

It's my duty to acknowledge and thank the individuals who has contributed to the successful completion of the project.

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1. Project Synopsis

I have developed a Food App in Android titled “Sazón Food App”. This app is completely based in Kotlin, and has been designed and developed in Android Studio. It aims to provide the user with a simple yet functional application with which they can explore the various dishes, accompanied by images, description, price and later they can add these items to their favorites and cart and order them. The app also comes with other features and modules that further enhance its functionality and general usability. This app uses Firebase for database and storage solutions.

1.1 Purpose:

I have developed this app with the primary aim of offering the users with a seamless platform for exploring and selecting their favorite foods. Its core functionality doesn't just revolve around exploring dishes, but it goes beyond just that. Users can easily search for the dishes they want, add them items to their cart or favorites and later place order for these dishes. Moreover, the app keeps track of their cart and favorites, enabling them to revisit the dishes that they loved. Another essential feature is the profile module, which allows users to access their account details with ease and update them.

1.2 Goals:

- Enhanced User Experience: Ensure a user-friendly interface that allows for intuitive navigation and interaction with the app's features, such as exploring items, searching, and profile management.
- Streamline Food Discovery: Implement a robust categorization system and search functionality to help users easily find their desired food items.
- Simplify Order Placement: Create a seamless process for adding items to the cart, managing favorites, and placing orders with minimal steps and clear instructions.
- Optimized Performance and Reliability: Focus on the app's performance, ensuring quick load times, smooth transitions, and reliable functionality across different devices and network conditions.

- User-Centric Profile Viewing: Offer users a personalized profile section where they can view their account details and preferences. Display relevant credentials such as the user's username, e-mail address, phone number, etc., in a clear and organized manner, allowing users to view and update their profile effortlessly and enhance their app experience

1.3 Intended Audience:

"The target audience for the Sazón Food App are the users regardless of age, cultural background, or culinary preference that shares a mutual love for food. This app boasts a user-friendly interface crafted with simplicity and aesthetics in mind, ensuring accessibility for individuals of all ages and tech-savvy levels. Its design philosophy centers on inclusivity, welcoming users from diverse backgrounds to explore their favorite dishes without encountering unnecessary complexity.

The app caters to a wide range of users, from seasoned gourmets with extensive culinary knowledge to casual diners seeking new taste experiences. Its intuitive interface eliminates the barriers commonly associated with technology, making it equally accessible to both tech-savvy individuals and those less familiar with digital platforms. This accessibility is essential, ensuring that everyone, regardless of their level of technological expertise, can enjoy the app's features without hesitation.

The app's features are thoughtfully curated to cater to the needs of food lovers who appreciate organization and convenience. For instance, the ability to mark favorite dishes offers a streamlined way for users to curate their food library, enabling them to easily access and savor their most beloved flavors. Similarly, the history functionality provides a valuable resource for users to revisit their dining journey, allowing them to rediscover previously enjoyed meals or track their evolving taste preferences over time.

While the Sazón Food App prioritizes simplicity and functionality, its features are purposefully designed to enhance the overall user experience without overwhelming users with unnecessary bells and whistles. By focusing on practicality and usability, the app aims to seamlessly integrate into users' lives, hopefully serving as a reliable companion for their culinary exploration and enjoyment."

1.4 Existing System

When you decide to explore and order food using your Android device, the standard procedure is to use a dedicated food ordering app. Typically, no specific requirements are necessary beyond owning a smartphone capable of executing this action. However, variations in the quality and features of these apps are to be expected across different devices. Nevertheless, regardless of these differences, these apps reliably facilitate the exploration and ordering of your chosen dishes, provided your phone is relatively recent and in good working condition.

The way the existing system works is simple, as stated before, upon selecting a food item for more details or to add to the cart, the system automatically invokes the chosen food ordering application installed on the device. These apps are designed to be compatible with the Android OS, ensuring ease of use across various devices.

Now, depending on the app you choose, the quality and general functionality will differ drastically. Consider the food-ordering solutions offered by these two apps for instance:

- **Grub Hub:** Interact with a food item and you will be greeted by the app. The main app displays your selected dish its image, description, and shows relevant controls like add to cart, add to favorites, a quantity selector, etc. Leaving the main app reduces it to a small “now ordering” fragment at the bottom of the screen and shows the app’s main screen consists of a list of all the categories and items. From the main screen, you can explore any item, search for specific dishes, and so on.
- **Door Dash:** Interact with a food item and it brings up the full interface of the ordering app. It displays your selected dish with its image, description, and a comprehensive set of controls including add to cart, add to favorites, customize order, and a detailed checkout process.

As seen here, two instances of applications designed for food exploration and ordering offer significantly different interfaces, core functionality, as well as use cases.

1.5 Proposed System

To address the disparities among existing food ordering apps, I've developed an application that ensures a consistent experience across all Android devices (version 8 and above). 'Sazón', as I've named it, boasts an aesthetically pleasing user interface with robust functionality for exploring and ordering food. Let's delve into its key features:

- User-Friendly Interface: Sazón's interface is designed for simplicity and aesthetics, making it accessible to users of all ages and tech backgrounds.
- Seamless Food Exploration: Users can effortlessly browse categories, view enticing dish images, and read detailed descriptions.
- Favorites and History: Sazón includes modules for creating favorites and tracking the user's food journey. Whether it's a beloved dish or a recent discovery, users can easily access their culinary history.
- Firebase Integration: Here's the game-changer—Sazón utilizes Firebase, an online database storage. This means that multiple users can maintain distinct favorites and listening histories, even on a shared device. However, it also implies that the app needs a constant online connection.

In summary, Sazón Food App prioritizes consistency, accessibility, and personalized experiences, revolutionizing the way users explore and savor their favorite dishes.

2. Project Objectives

2.1 Enhance User Experience and Accessibility

The primary goal of the Sazón Food App is to create an exceptional user experience for food enthusiasts. This involves ensuring that users can seamlessly navigate the app, discover dishes, and interact with its features. Accessibility is equally crucial; the app should be usable by a diverse audience, including those with varying levels of technological proficiency. The app's interface should be intuitive, allowing users to explore food categories, view detailed descriptions, and access features effortlessly. Clear navigation menus, well-organized content, and logical pathways contribute to a positive user experience.

2.2 Implement Robust Data Management and Security

Efficiently manage data related to food items, user profiles, favorites, and cart contents. Additionally, prioritize data security to protect user information and maintain user trust. Continue leveraging Firebase's Realtime Database for storing food details, user preferences, and transactional data. Optimize database queries to retrieve information promptly. Implement secure user authentication mechanisms to safeguard user accounts. Ensure that only authorized users can access specific features. Encrypt sensitive data during transmission and storage. Use industry-standard encryption protocols to prevent unauthorized access.

2.3 Scalability and Performance Optimization

To ensure the Sazón Food App scales effectively, it's crucial to implement a scalable architecture that can handle increased loads and traffic without performance degradation. This involves optimizing app performance through efficient code, resource management, and data handling strategies. Utilizing cloud services for flexible resource allocation and autoscaling capabilities can help manage varying user demands. Additionally, incorporating performance monitoring tools to track key metrics and identify bottlenecks is essential for ongoing optimization. By planning for scalability from the start, employing best practices in app development, and continuously monitoring and improving performance, the app can maintain high efficiency as it grows.

2.4 Letting users view their credentials

Lastly users should be able to access a specialized profile view consisting of their credentials and other important details like their username, e-mail address, phone number and password and should be able to update them.

3. Project Outline

3.1 Splash Screen

The splash screen in the Sazón Food App serves as the initial visual interface that users encounter when they open the app for the first time. Its primary purpose is to provide a brief, visually appealing introduction to the app and guide users toward their next steps. Upon launching, users are presented with two distinct options: Sign-Up and Login. For new users who do not yet have an account, selecting the Sign-Up option allows them to create an account by providing relevant details. Existing users, on the other hand, can choose the Login option to access their account by providing their credentials (such as username and password). The design of the splash screen typically features a captivating visual element that aligns with the app's branding and theme, encouraging users to engage further with the app. Overall, the splash screen plays a crucial role in setting the tone for the user experience and facilitating seamless onboarding.

3.2 Sign-Up Module

The Sign-Up Module of the Sazón Food App is a streamlined process designed to facilitate new users in creating their personal accounts, which is the gateway to a personalized food experience. When a user decides to sign up, they are prompted to enter their name, which personalizes their account; a phone number, which serves as a verification and contact point; an email address, which becomes their unique identifier for the account; and a password, which ensures the security of their account. This information forms the cornerstone of their profile and allows for a secure and personalized experience within the app. Once the registration is complete, users can then log in to their account using their email address and password, which verifies their identity and grants them access to the app's features. This module not only simplifies the process of account creation but also lays the foundation for a secure and customized user experience, ensuring that users can confidently navigate the app and enjoy its offerings.

3.3 Login Module

The Login Module in the Sazón Food App is a critical component that ensures secure and authenticated access for users. When users enter the app, they are prompted to input the email address and password they registered with, which acts as a key to their personal account. This two-factor authentication method is a security measure that verifies the user's identity and prevents unauthorized access. Once the credentials are confirmed, users gain entry to the app where they can explore and interact with the app's features, from browsing menus to placing orders. This module not only reinforces the security of user data but also provides a smooth transition making it a seamless experience for users to continue where they left off.

3.4 Dashboard

Upon a successful login, the Dashboard of the Sazón Food App emerges as the central hub, a vibrant and interactive interface where users are immersed in the world of gastronomy. It's here that the culinary journey truly begins, with a diverse array of dishes and food categories elegantly displayed. Users can effortlessly navigate through this virtual food plaza, where every option is a temptation and every category an invitation to explore. Whether they crave local delicacies or international cuisine, the dashboard is designed to cater to their gastronomic desires, offering a personalized experience that adapts to their tastes and preferences. It's not just a feature of the app; it's the heart of the Sazón Food App, pulsating with choices that promise to satisfy the palate and enhance the dining experience.

3.5 Category Page

The Category Page within the Sazón Food App serves as a culinary gallery, enticing users with a visual feast of delectable options. Here, each category unfolds like a treasure trove, revealing an array of gastronomic delights. Whether it's appetizers, main courses, desserts, or beverages, users can explore the offerings within their chosen category. The page showcases vibrant images, tantalizing descriptions, and perhaps even customer reviews, all harmonizing to guide users toward their ultimate choice. As they scroll through this digital menu, their senses awaken—the aroma of spices, the textures of dishes, and the anticipation of flavors. With every tap, they delve deeper into the culinary labyrinth, making decisions that will shape their dining experience. It's a canvas where cravings meet creativity, and where the journey from hunger to satisfaction begins.

3.6 Description Page

On the Description Page, users can explore comprehensive details about their selected food items. The page showcases vivid images, enticing descriptions, and relevant information such as prices. Users have the convenience of adding items to their cart or marking them as favorites. Whether it's a delectable dessert, a savory main course, or a refreshing beverage, this page provides an immersive experience, enticing users to indulge in culinary delights.

3.7 Favorites

The Favorites module serves as a user's personal culinary collection, a digital pantry where they can revisit the flavors and dishes that have captured their hearts. It's a dynamic space where users can curate a list of their most cherished food items, each one a reminder of a delightful taste or a memorable meal. With the ability to add or remove items at will, it offers the ultimate flexibility, allowing users to tailor their favorites to their evolving palate. This module isn't just a list; it's a reflection of the user's gastronomic journey, a bookmarked compilation of their foodie adventures.

3.8 Cart

The Cart module is the virtual basket where users can review and manage their selections. It's a snapshot of their chosen delights, each item awaiting confirmation to transition from desire to reality. Here, users can tweak the quantities, ensuring each portion aligns with their appetite or occasion. They can also remove items, exercising control over their final selection. The module presents a clear breakdown of costs, displaying individual prices, the sum total, and all-inclusive charges with taxes and delivery, leaving no room for surprises. It's the final step before users commit to their choices, a gateway to gastronomic satisfaction, where a simple click transforms selections into an anticipated meal delivered to their doorstep.

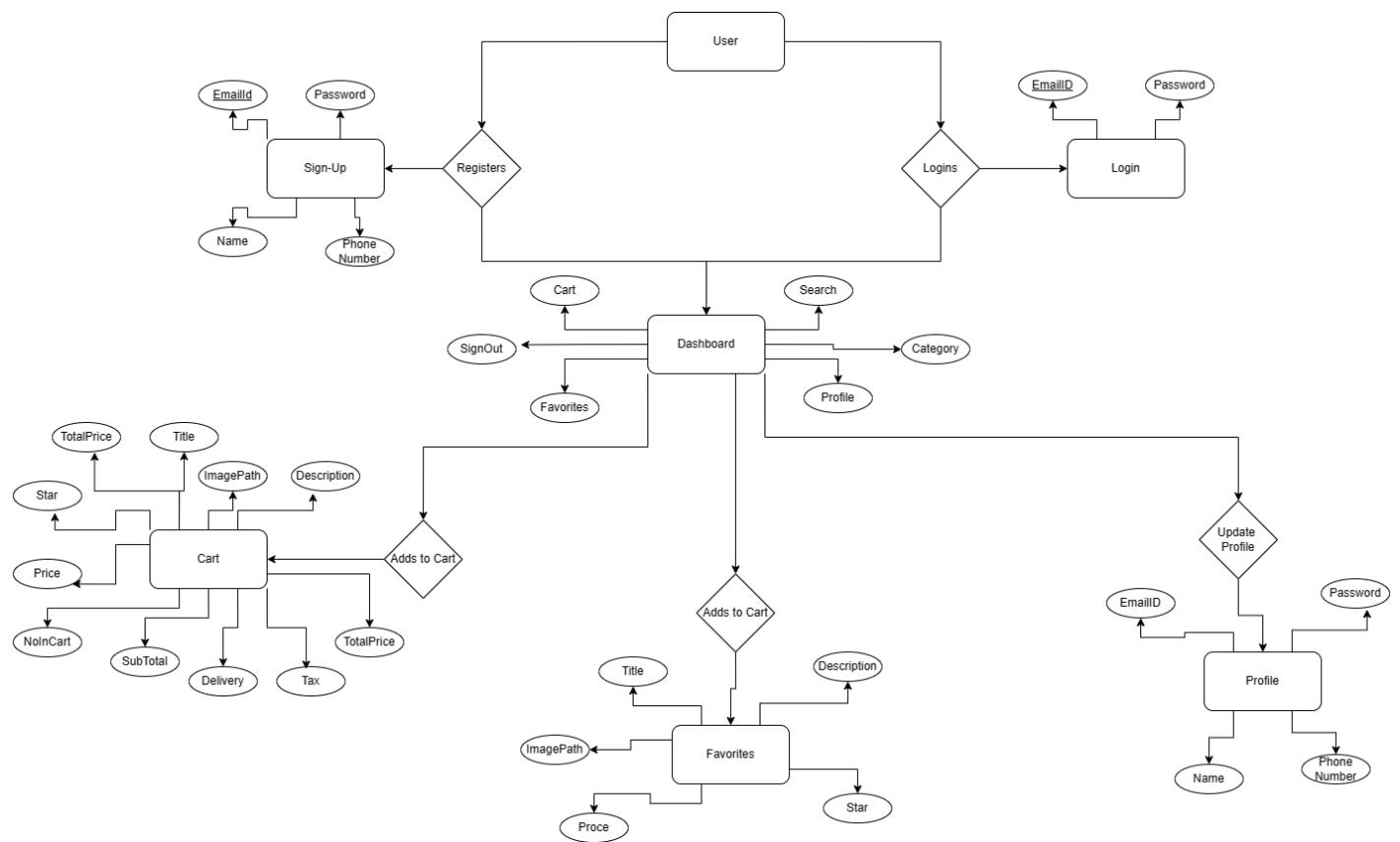
3.9 Search

The Search function is akin to a culinary compass, guiding users through a vast sea of gastronomic options with ease and precision. By simply entering the name of a dish, users can swiftly navigate to their desired delicacies, bypassing the need to scroll through menus or categories. This feature is not just a tool; it's a time-saver and a convenience enhancer, streamlining the selection process and bringing the user one step closer to satisfying their cravings. Whether it's a common favorite or a new venture, the search function ensures that no dish is more than a few keystrokes away.

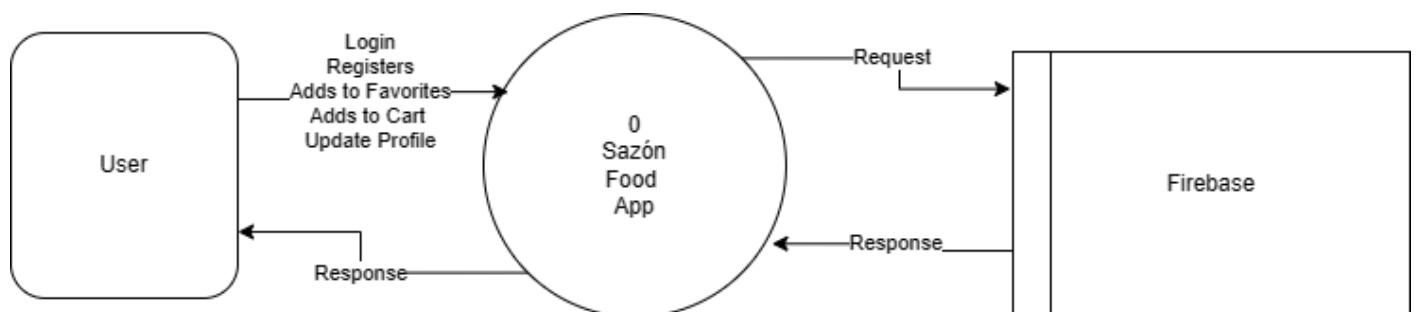
3.10 Profile

The Profile module is the cornerstone of personalization and security within the user's digital dining experience. It's a private dashboard where users can view and edit their personal credentials, ensuring that their identity and contact information remain up-to-date and secure. Whether updating a phone number, changing an email address, or resetting a password, this module empowers users to maintain control over their account details. It's not just about keeping information current; it's about safeguarding access and preserving the integrity of the user's personal data, all while providing a seamless interface for managing their culinary identity.

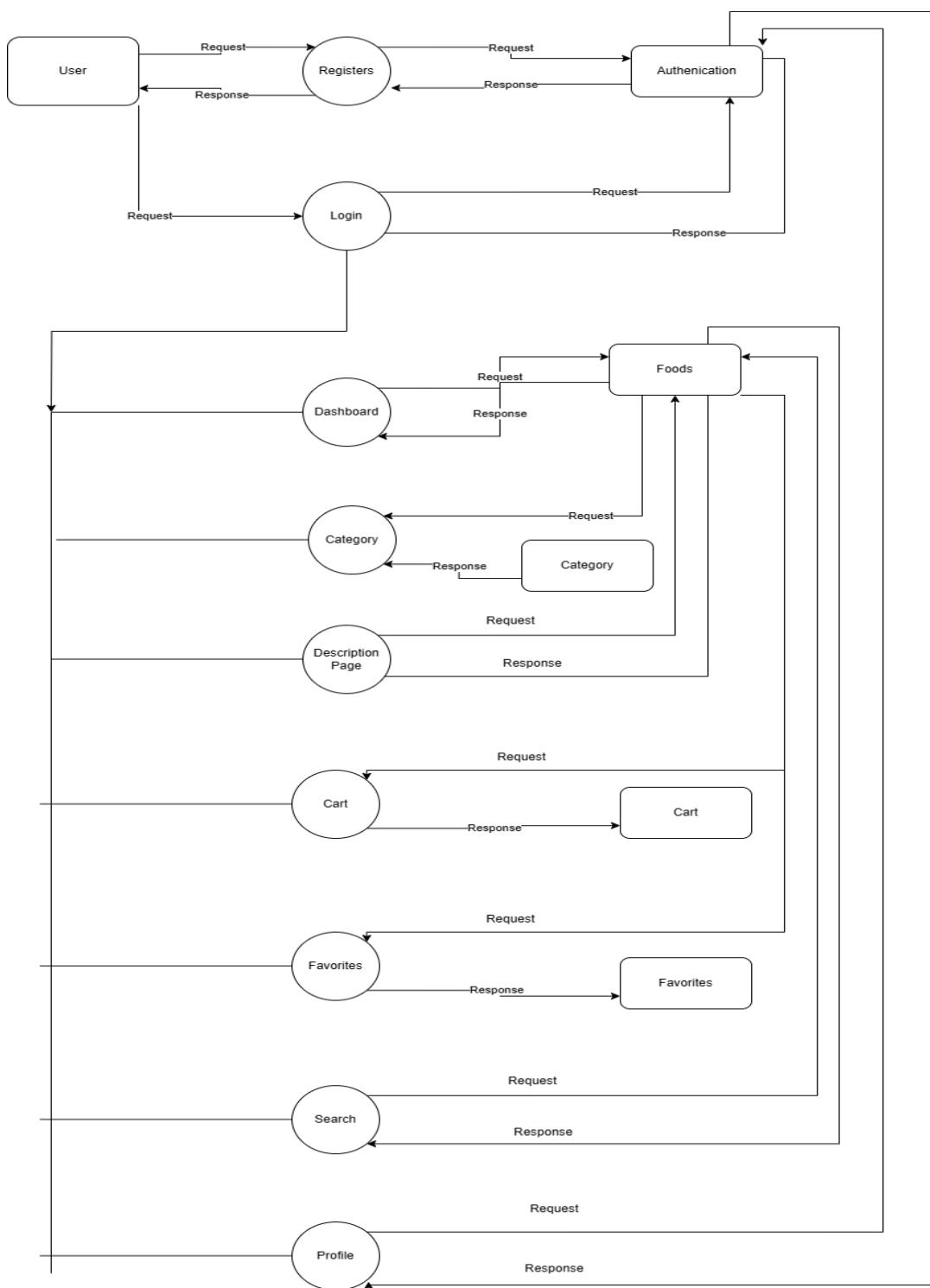
3.11 Entity Relationship Diagram:



3.12 Data Flow Diagram – Level 0:



3.13 Data Flow Diagram – Level 1:



4. Technologies Used

Programming Language: **Kotlin**

Development Platform: **Android Studio**

Database: **Firebase Realtime Database**

Other Tools: **Firebase Authentication**

Kotlin

Kotlin, a statically typed language running on the Java Virtual Machine (JVM). It emerged in 2011 through JetBrains. With its stable release in 2016, Kotlin quickly gained traction, praised for its brevity, expressiveness, and compatibility with Java. This makes it particularly suitable for Android development, server-side applications, and various other projects.

- Firstly, Kotlin stands out for its concise syntax, reducing unnecessary code and enhancing readability. Type inference eliminates the need for explicit type declarations in many cases, streamlining the coding process.
- Secondly, Kotlin introduces null safety as a core feature, addressing common runtime errors associated with null pointers. By default, variables are non-null, minimizing the risk of unexpected crashes and improving program reliability.
- Thirdly, Kotlin embraces functional programming principles, offering support for first-class functions, lambda expressions, and higher-order functions. This enables developers to write more compact and expressive code, often leveraging functional constructs like map and filter for collection operations.

Kotlin maintains robust object-oriented capabilities akin to Java, with additional features like data classes for streamlined handling of immutable data structures. Kotlin seamlessly integrates with existing Java codebases, facilitating a smooth transition for developers. Extension functions and properties enable the augmentation of class functionality without altering their original source code, fostering code reuse and flexibility.

Furthermore, Kotlin introduces powerful asynchronous programming tools, notably coroutines, simplifying the management of concurrency and asynchronous operations.

Kotlin offers a modern, pragmatic approach to software development, empowering developers with concise syntax, null safety, functional and object-oriented programming support, seamless interoperability with Java, extension functions, and coroutines. These features collectively contribute to enhanced productivity and code quality across various application domains.

Android Studio

Android Studio, the official integrated development environment (IDE) for Android app development, was launched by Google in 2013. Built on the robust IntelliJ IDEA platform, Android Studio quickly emerged as the go-to toolkit for developers venturing into the dynamic realm of Android app creation. Boasting a comprehensive suite of features and tools, Android Studio empowers developers to navigate the intricacies of app development with confidence and efficiency.

At the heart of Android Studio lies its code editor, known for its advanced functionality and flexibility. Offering a rich array of features such as code completion, syntax highlighting, and refactoring capabilities, the code editor serves as the cornerstone of the development experience. It is highly customizable and developers can tailor their coding environment to their preferences with themes, keymaps, and plugins. Moreover, Android Studio provides robust support for Kotlin, Java, and C++ programming languages, allowing developers to wield their language of choice with ease and precision.

The layout editor in Android Studio stands as another pivotal feature, simplifying the creation of captivating user interfaces for Android apps. With its intuitive drag-and-drop interface and real-time preview pane, the layout editor enables developers to craft visually stunning layouts that adapt seamlessly to various screen sizes and orientations. Leveraging the power of ConstraintLayout, developers can effortlessly design intricate UIs that captivate and engage users.

Central to the Android Studio ecosystem is its Android Emulator, a versatile tool that facilitates comprehensive app testing on virtual Android devices. Offering plenty of device configurations, including diverse Android versions, screen sizes, and hardware specifications, the emulator empowers developers to simulate real-world scenarios and optimize their apps for a broad spectrum of devices.

Android Studio seamlessly integrates with the Android Software Development Kit (SDK) and Google Play services, simplifying the development process and enhancing productivity. By automatically managing SDK components and offering built-in support for Google Play services, Android Studio equips developers with the resources they need to integrate essential features like Google Maps, Firebase, and AdMob seamlessly into their apps.

The IDE also offers robust debugging and profiling tools, enabling developers to identify and rectify issues with precision. From setting breakpoints and inspecting variables to gaining insights into app performance and memory usage, Android Studio empowers developers to deliver polished and optimized apps that resonate with users.

Android Studio boasts seamless version control integration with Git and GitHub, facilitating collaborative development and project management. Developers can effortlessly manage their projects, collaborate with team members, and track changes using version control tools directly within the IDE.

Android Studio also simplifies the app deployment process with support for building and deploying apps to various platforms, including Android devices, emulators, and the Google Play Store. With tools for generating signed APKs, managing app signing certificates, and publishing apps to the Google Play Store, Android Studio streamlines the app distribution process, empowering developers to reach their target audience with ease.

Firebase Realtime Database

Firebase's Realtime Database is an integral component of the Firebase platform, offering developers a cloud-hosted NoSQL solution that trumps traditional data storage methods. Developed by Google, Firebase Realtime Database provides a seamless solution for real-time data synchronization across multiple clients and devices.

At its core, Firebase Realtime Database revolutionizes the data storage landscape with its real-time synchronization capability. Changes made to the database propagate instantaneously across all connected clients, ensuring users are always presented with the latest data without the need for manual intervention. This real-time synchronization imbues applications with dynamic features such as live updates, real-time collaboration, and instantaneous messaging, fostering engaging user experiences that transcend conventional boundaries.

Central to Firebase Realtime Database's allure is its elegant JSON data model, which empowers developers to structure data hierarchically in a manner tailored to their application's unique requirements. Leveraging a flexible JSON structure, developers can effortlessly organize and retrieve data, even amidst the complexities of modern application architectures. Each data object is represented by a distinct URL-like path, facilitating seamless navigation and manipulation of data elements with unparalleled ease.

Moreover, Firebase Realtime Database offers robust offline support, a cornerstone feature that ensures uninterrupted functionality even in the absence of network connectivity. By seamlessly persisting data locally on devices, Firebase Realtime Database ensures applications remain operational regardless of network conditions. Upon reestablishing connectivity, the SDK orchestrates automatic synchronization of pending data changes with the server, ensuring data integrity and continuity.

Security is paramount in Firebase Realtime Database, with powerful security rules empowering developers to exert granular control over data access. Through Firebase Security Rules, developers can enforce authentication-based access controls, data validation, and user role-based permissions, safeguarding sensitive data against unauthorized access and tampering. These rules, enforced server-side, fortify applications with robust security mechanisms that instill confidence in users and stakeholders alike.

Furthermore, Firebase Realtime Database seamlessly integrates with an array of Firebase services, amplifying its utility and versatility. By leveraging services such as Firebase Authentication, Firebase Cloud Messaging, and Firebase Analytics, developers can augment their applications with advanced features like user authentication, push notifications, and comprehensive analytics tracking, all within the cohesive Firebase ecosystem.

Underpinning Firebase Realtime Database is a resilient and scalable infrastructure, engineered to deliver unparalleled reliability and performance. Automatic data replication and failover mechanisms ensure high availability and data durability, mitigating the impact of infrastructure failures and surges in demand. This resilient infrastructure provides a robust foundation upon which developers can build scalable and mission-critical applications with confidence.

Firebase Authentication

Firebase Authentication, a pivotal service within the Firebase platform, represents a cornerstone solution for user authentication and identity management across web and mobile applications. Developed by Google, Firebase Authentication empowers developers to seamlessly integrate robust authentication mechanisms into their applications, thereby ensuring secure access and personalized experiences for users.

At its core, Firebase Authentication boasts a rich array of authentication methods, providing developers with unparalleled flexibility in catering to diverse user preferences and needs. From traditional email/password authentication to innovative phone number authentication leveraging SMS verification, Firebase Authentication offers a plethora of options. Additionally, developers can harness the power of social media authentication through providers like Google, Facebook, Twitter, and GitHub, fostering frictionless sign-in experiences that resonate with modern users. Furthermore, custom authentication via OAuth providers offers developers unparalleled versatility in accommodating specialized authentication requirements.

Spearheading Firebase Authentication's appeal is its seamless integration with other Firebase services, facilitating cohesive user experiences that transcend individual authentication events. Once authenticated, users seamlessly navigate across Firebase services, accessing and managing their data with unparalleled ease and security. This seamless integration underscores Firebase Authentication's role as a linchpin in fostering holistic and cohesive application ecosystems.

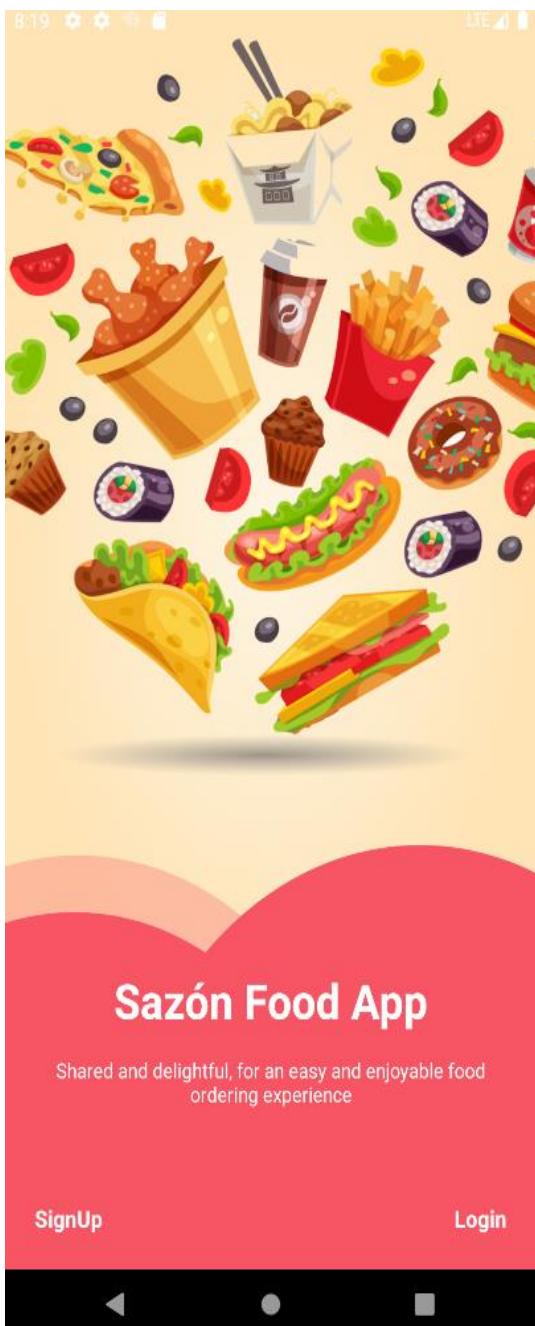
A hallmark feature of Firebase Authentication is its steadfast commitment to security, safeguarding user accounts and sensitive data with robust encryption and authentication mechanisms. Leveraging token-based authentication with JSON Web Tokens (JWTs), Firebase Authentication ensures secure user authentication and authorization, mitigating the risk of unauthorized access and data breaches. Moreover, support for user roles and custom claims empowers developers to implement nuanced access control and authorization rules, thereby fortifying applications against potential security vulnerabilities.

Firebase Authentication streamlines account management processes with built-in support for essential features such as email verification, password reset, and account linking. Developers can effortlessly customize email templates and workflows to align with the branding and user experience of their applications, fostering cohesive and intuitive user interactions.

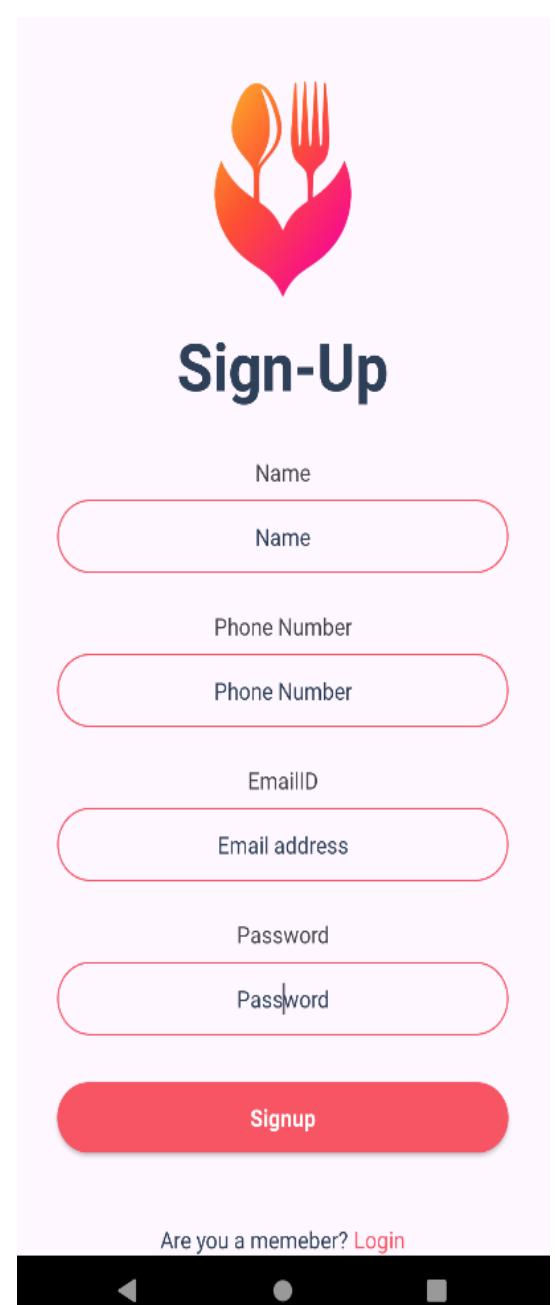
Underpinning Firebase Authentication is a scalable and reliable infrastructure engineered to deliver unparalleled performance and resilience. Automatic handling of user authentication requests, coupled with secure token generation and validation mechanisms, ensures swift and seamless authentication experiences for users across diverse platforms and scenarios. Additionally, monitoring and reporting tools empower developers to track user sign-in events, identify suspicious activity, and monitor system health and performance, thereby safeguarding the integrity and reliability of the authentication system.

5. Screenshots

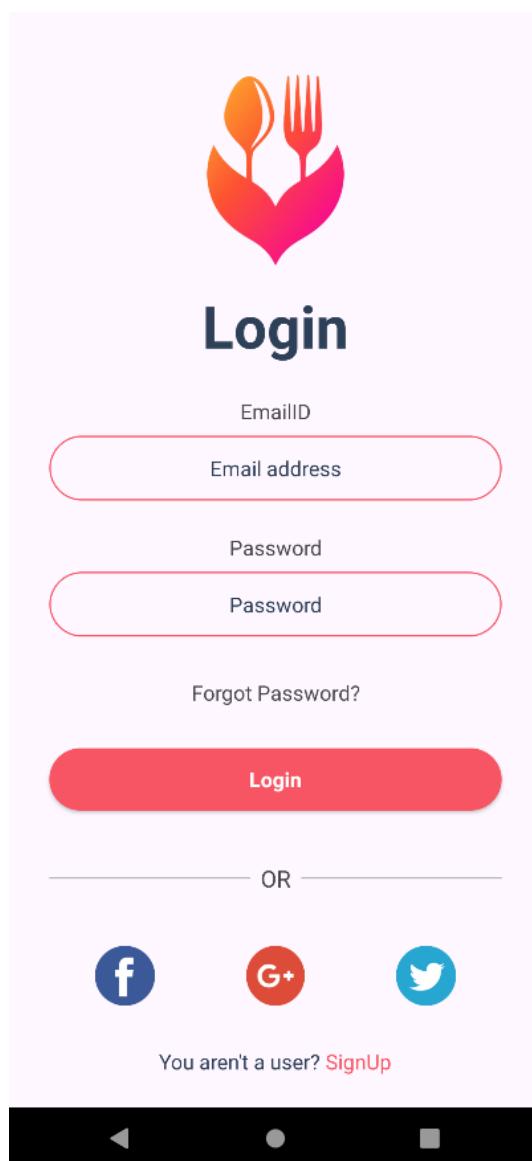
1) Splash Screen



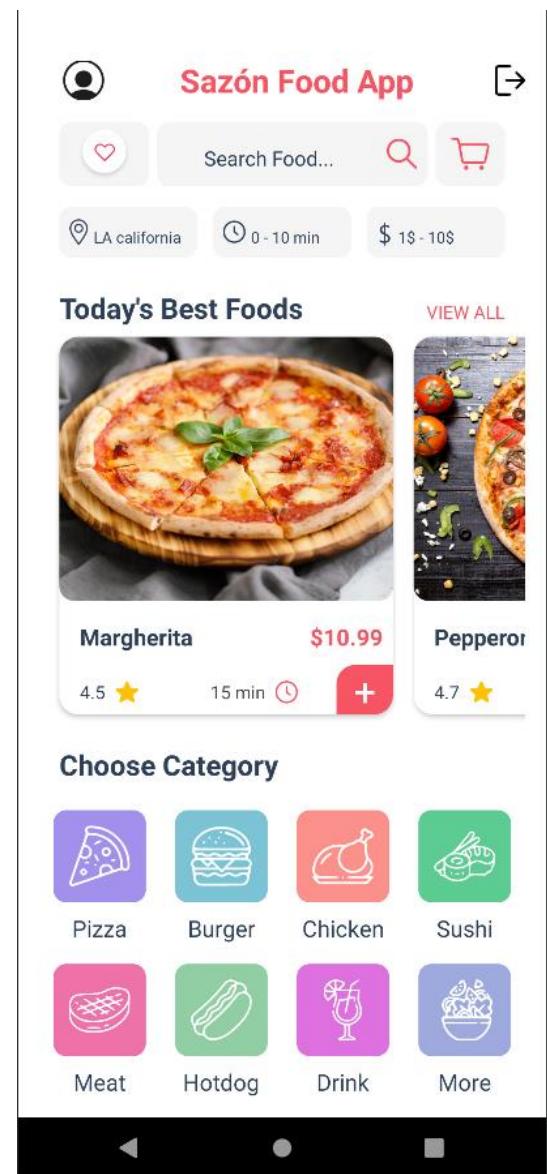
2) Sign-Up Screen



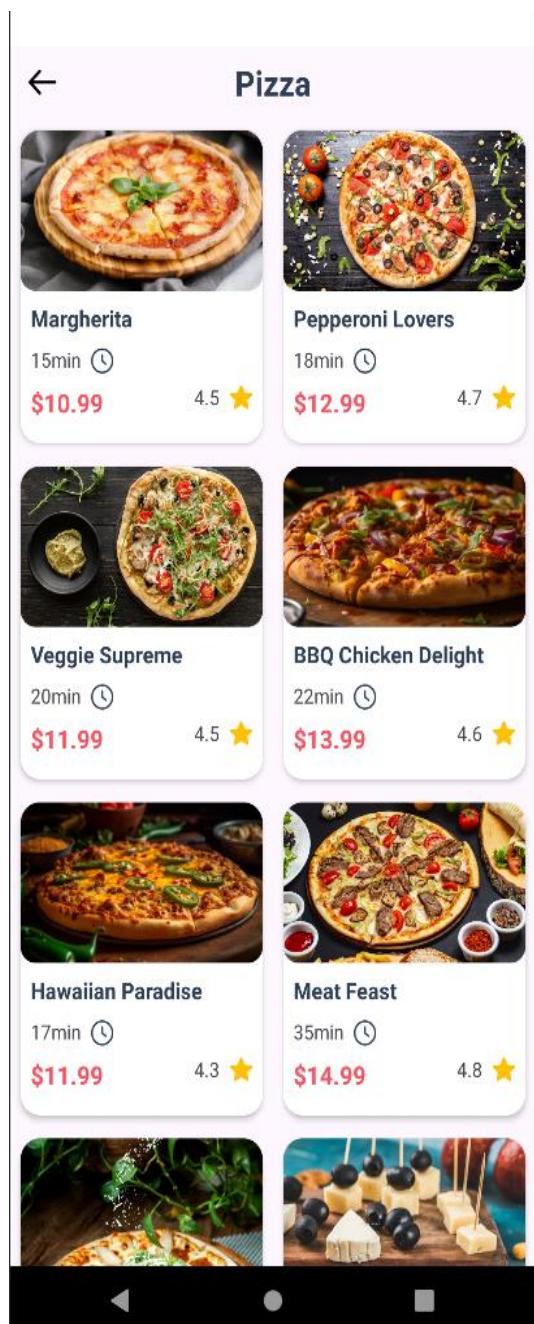
3) Login Screen



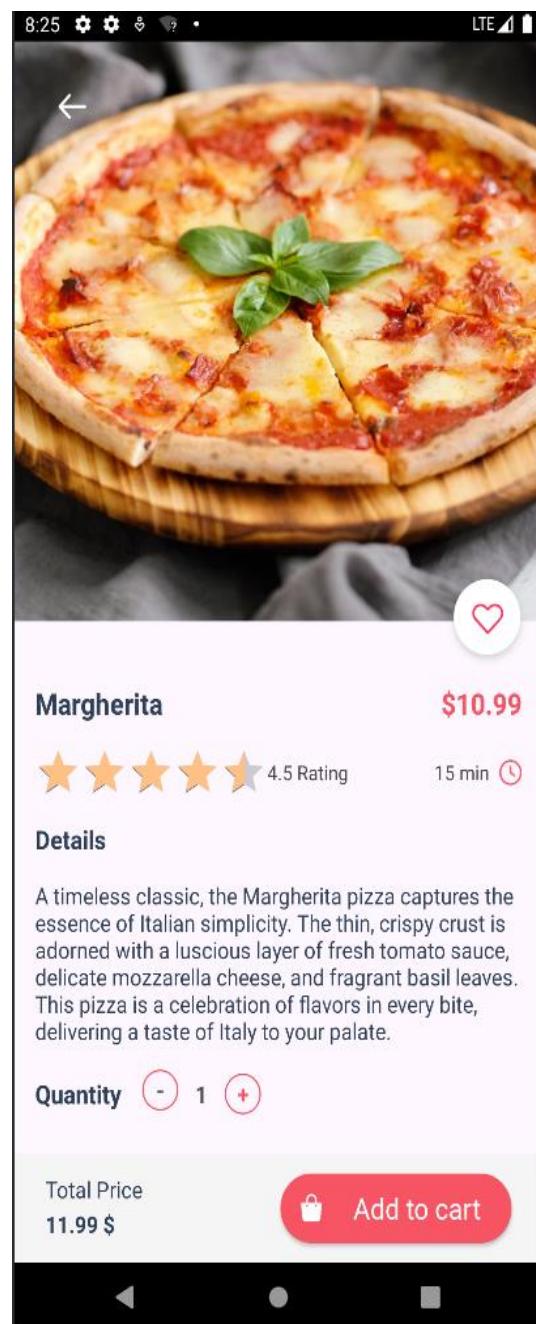
4) Dashboard



5) Category Screen



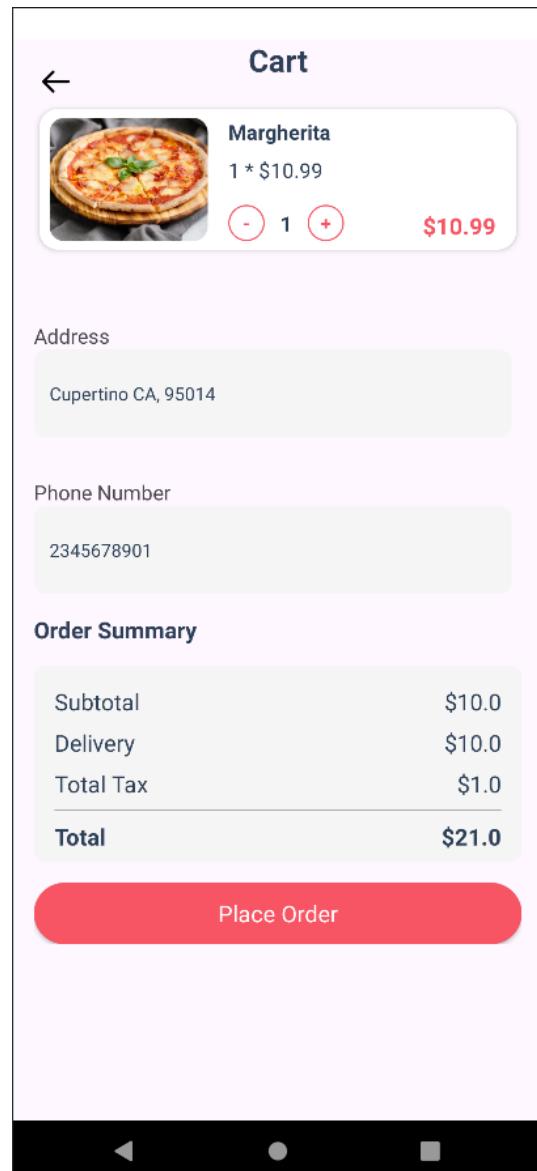
6) Description Screen



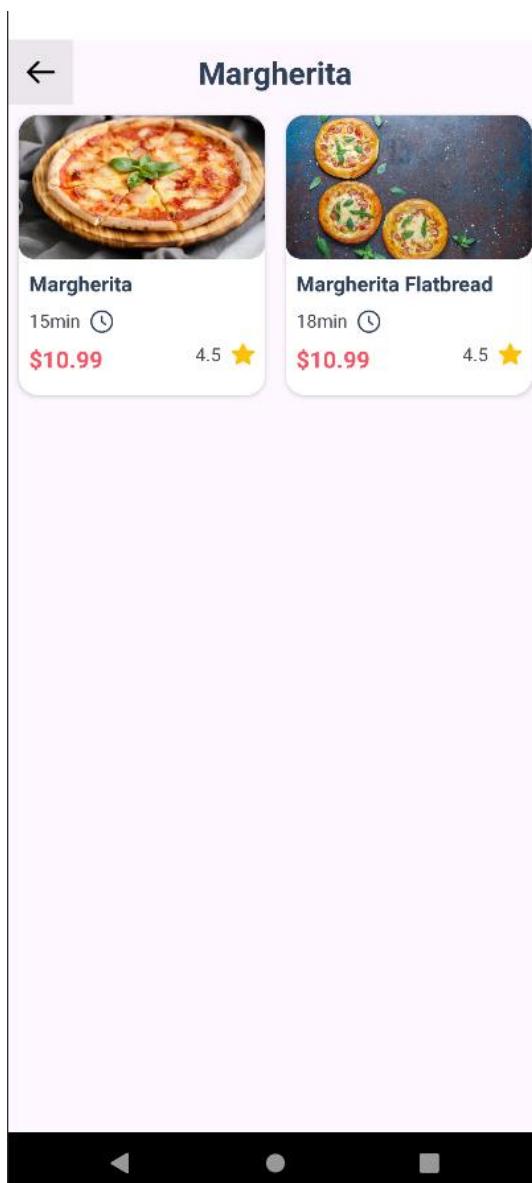
7) Favorites



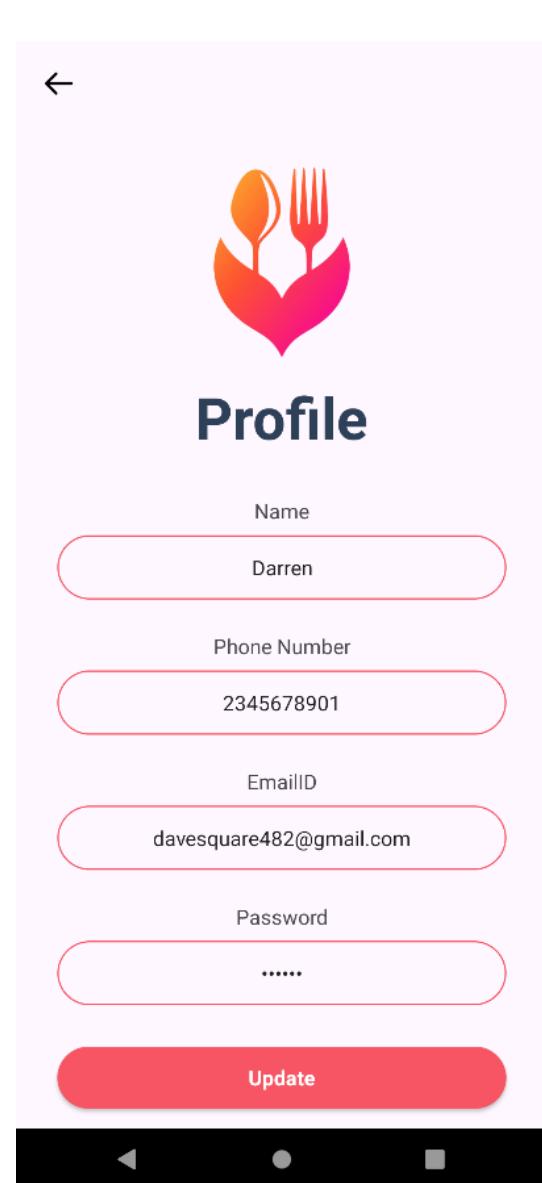
8) Cart



9) Search



10) Profile



6. Project Features

6.1 User Registration and Authentication

Within the User Registration and Authentication process, the app extends a digital handshake to new users, inviting them into its culinary realm. As prospective members, users provide essential credentials—names, phone numbers, email addresses, and passwords—forming the foundation of their personalized journey. Upon successful registration, the app securely stores this information, creating a unique identity for each user. The act of authentication becomes their virtual key, unlocking access to a world of flavors, menus, and preferences. It's more than a mere login; it's a promise of data privacy, a gateway to curated experiences, and the first step toward savoring culinary delights.

6.2 Interactive Food Dashboard

Within the Interactive Food Dashboard, users embark on a gastronomic journey—a canvas adorned with delectable masterpieces. Here, culinary diversity unfolds: from aromatic curries to delicate pastries, each item meticulously categorized by cuisine, type, or dietary nuances. The dashboard doesn't merely display static images; it breathes life into flavors. Vivid visuals beckon, inviting users to explore beyond pixels—to savor the crunch of a spring roll, the creaminess of a tiramisu, or the zest of a citrus salad. Descriptions weave tales of ingredients sourced from distant lands, cooking techniques passed down generations, and flavor profiles that dance on taste buds. Prices, discreetly nestled, whisper affordability or indulgence. It's more than a dashboard; it's a sensory symphony, where every click resonates with anticipation, making food discovery an artful delight.

6.3 Favorites and Cart Management

The Favorites and Cart Management feature is a testament to the app's commitment to a tailored and hassle-free user experience. Within this realm, users can lovingly compile a list of their favorite dishes, creating a personalized menu of tastes and memories. The cart, on the other hand, is a dynamic reflection of their current cravings, displaying each chosen item with the option to adjust quantities to match their needs or whims. As users modify their selections, the cart responds in real-time, recalculating costs to include taxes and delivery fees, ensuring transparency and control over the final bill. This seamless integration of favorites and cart management not only simplifies the ordering process but also elevates it, transforming a simple act of purchase into a curated journey from the first hunger pang to the satisfaction of a meal well chosen.

6.4 Smart Food Search:

The Smart Food Search feature is the culinary navigator of the Sazón Food App, a beacon that swiftly guides users to their gastronomic targets. It's a digital sommelier that understands the user's palate, responding instantly as they type in the name of a dish, whisking them away to the page where their sought-after meal awaits. This isn't just a search bar—it's a shortcut to satisfaction, a quicksilver path to the perfect plate. It eliminates the need for tedious scrolling, bringing the kitchen's best directly to the user's fingertips. By offering such swift and precise access, the app not only caters to the user's immediate cravings but also fosters a habit of return visits, ensuring that their next culinary exploration is just a few taps away.

6.5 Profile Customization and Updates

The Profile Customization and Updates feature is the personal atelier of the Sazon Food App, where users can sculpt and refine their digital identity. Here, in this private alcove, users can peruse and polish their credentials—email, password, name, and phone number—like an artist ensuring every detail is just right. This module is more than a static page; it's a living canvas that adapts to the user's evolving narrative. By keeping their information current, users not only secure their account against the digital tide but also tailor their experience to reflect their individual tastes and preferences. It's a place of empowerment, where the ability to update personal details at a moment's notice reinforces the bond between user and app, weaving threads of trust and loyalty into a tapestry of continued engagement.

7. User Guide

Installation:

I personally recommend using a physical Android 11+ phone to use the app rather than Android Studio's Android Virtual Device or AVD, simply because it is not possible to create folders or move files in the AVD from your PC, and the process of getting hands on some .mp3 files from the within the AVD can be slightly tedious depending on well your PC can handle the emulation. The following are the steps to install my app from Android Studio onto a physical Android 11+ device:

1. Connect your phone to your PC via a USB-C cable and enable “USB Tethering” from your phone’s developer settings
(OR)
1. Make sure your phone and your PC are connected to the same WiFi network and enable “Wireless Tethering” in your phone’s developer settings
2. Now, you should be able to see the phone in place of the usual AVD’s name. You can now click the play titled “Run” next like you would normally do to test the app on the AVD, except here you’re testing it on your phone.
3. The gradle build will start running, after which the app will have finished being installed on your phone.

Usage:

Upon Launch:

- Welcome Screen: As soon as the app is launched, users are greeted with a vibrant display featuring the Sazon Food app logo.
- Navigation Options: Two prominent options are presented: “Sign Up” for new users and “Log In” for returning users.

Getting Started:

- Sign Up Process: New users can tap on “Sign Up” to access a registration form. Here, they’ll be asked to enter personal details such as their name, phone number, and email address. Once the information is submitted and the account is created, the app transitions to the dashboard.
- Log In Process: Existing users can select “Log In” and enter their email address and password to access their personalized dashboard.

Dashboard Overview:

- Search Bar: At the top of the dashboard, a search bar allows users to find specific dishes or categories quickly.
- Profile Access: Users can tap on their profile to update personal information or preferences.
- Food Categories: A selection of food categories is available for exploration.
- Featured Dishes: Highlighted dishes showcase the best offerings, complete with images and ratings.
- Favorites and Cart: Quick access to “Favorites” and “Cart” allows users to manage their preferred dishes and review their order summary.
- Sign Out: A sign-out option is available for users to exit their account securely.

Interacting with Dishes:

- Dish Selection: Tapping on a dish from the dashboard or categories brings up a detailed description page. This page includes a high-resolution image, a savory description, the price, and customer ratings.
- Adding to Favorites/Cart: Users can add dishes to their favorites for later reference or directly to their cart for purchase.

Cart Functionality:

- Reviewing Orders: The cart page displays all selected items, where users can adjust quantities or remove dishes.
- Checkout Process: Users can review the total price, input their delivery address and contact information, and proceed to place their order.
- Navigating Back: Selecting a dish within the cart will redirect users to its description page for further review.

Favorites Management:

- Curating Preferences: The favorites page lists all dishes marked as favorites, with the option to add or remove items based on changing preferences.

Signing Off:

- Exiting the App: When users are ready to leave, they can sign out, which takes them back to the initial welcome screen, completing the app experience loop.

8. Conclusion

Embarking on the creation of my first Android application, ‘Sazón,’ was a transformative journey that introduced me to the world of Kotlin and mobile app development. As a novice developer, I faced the daunting task of learning a new programming language and grappling with the intricacies of Android Studio.

The initial challenge was to familiarize myself with Kotlin. Transitioning from theoretical knowledge to practical application required patience and persistence. I dedicated myself to understanding Kotlin’s syntax and features, which was a significant departure from my previous experience. The more I practiced, the more confident I became in my coding abilities, allowing me to navigate through Android Studio’s complexities with increasing ease.

Integrating Firebase’s database services into my app presented a steep learning curve. Accustomed to traditional databases like MySQL and SQLite, adapting to Firebase’s NoSQL Realtime Database was initially overwhelming. The task of storing a simple string in the database seemed Herculean, but with perseverance, it finally clicked. This breakthrough was pivotal, enabling me to harness Firebase’s capabilities and integrate them successfully into my app.

Designing and implementing the app’s features was another significant hurdle. I aimed to balance functionality with usability, ensuring an intuitive user experience. This involved developing features such as user authentication, account management, playback functionalities, and data storage. Each aspect demanded meticulous attention to detail and thoughtful planning.

Throughout the development process, I encountered numerous roadblocks and setbacks. Technical bugs and conceptual hurdles were frequent, but each challenge served as an opportunity for growth. These experiences honed my problem-solving skills and deepened my understanding of mobile development principles.

The journey of developing the Sazón Food App was incredibly rewarding. It provided me with invaluable hands-on experience and equipped me with a diverse set of skills. Witnessing my app come to life and function as intended was immensely gratifying and the best reward for my efforts.

Developing my first mobile project in Kotlin pushed me out of my comfort zone and facilitated personal and professional growth. I overcame various technical hurdles and honed my problem-solving abilities. The journey, filled with valuable lessons, shaped me into a more capable and confident developer.

Embracing the Digital Culinary World: The Sazón Food App represents a leap into the digital culinary space, offering food enthusiasts a platform to explore a myriad of dishes from the comfort of their smartphones. With a few taps, users can traverse through a virtual gastronomic journey, discovering new flavors and cuisines. The app's sleek design and user-friendly interface make it easy for even the most technologically adverse individuals to navigate through the rich tapestry of food categories, detailed descriptions, and vivid imagery. It's not just an app; it's a companion for the curious palate, a guide for the hungry soul, and a haven for the culinary adventurer.

A Personalized Gastronomic Experience: At the heart of Sazón lies the commitment to providing a personalized experience for each user. The app's intelligent recommendation system curates a selection of dishes based on individual preferences, dietary restrictions, and past selections. Whether it's a craving for comfort food or a desire to experiment with exotic ingredients, Sazón ensures that every user's taste is catered to. The addition of a favorites list and a seamless cart integration means that users can save their beloved dishes for quick access and enjoy a hassle-free checkout process, transforming the daunting task of meal planning into a delightful and effortless endeavor.

Despite the challenges, the journey of developing and working on my mobile project was incredibly rewarding. It provided me with invaluable hands-on experience and equipped me with a diverse set of skills that will undoubtedly benefit me in future projects. Just seeing my app come to life and witnessing its functionality in action was immensely gratifying and was the best reward I could ever ask for.

To conclude, I would say that developing my first mobile project in Kotlin was a challenging yet immensely fulfilling experience. It definitely pushed me out of my comfort zone, but at the same time, it allowed me to grow both personally and professionally. I overcome various technical hurdles and honed my problem-solving abilities, yet in the end the journey that was filled with valuable lessons was what undoubtedly shaped me into a more capable and confident developer."

9. References

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