Cookify: *Share Your Cooking Experience on iOS*

Jamie Hackney '24, Jake Gilbert '24, and Mihir Singh '24
CS701, Fall 2023 with Philip Caplan

Goal

The goal of this project was to create a **narrow-focus** social media iOS app to share a person's **cooking experience**. We wanted to focus our design and creation of this app on what we see as **healthy design patterns** and avoid common pitfalls of social media apps that lead to isolating and addictive software.

Background

Social media can help build **community** and spread valuable **information**. However, many apps are **addictive**,[1] and they can also further feelings of **loneliness**.[2] Many of these negative effects are the product of "**addictive software design**" which includes the implementation of features like infinite scrolling.[3] Meanwhile, food encourages **authenticity** and acts as a c**ultural unifier**, allowing us to share new experiences.[4]

Methods

The front-end side of the application was done in **Swift** with most of the UI done within the **SwiftUI** framework. This allows us to use many **iOS native features**, but also means the app only runs on iPhones. The back-end was also set up with Swift and a **Firebase** database storing user and post info. To preview and upload builds of our app, we worked in **Xcode**.

When first opening the app, users are prompted to sign up. Signing up allows us to automatically populate Firebase with a new user and some basic info into the user field (account name, password, and create an empty list that will eventually be populated with pointers to post fields).

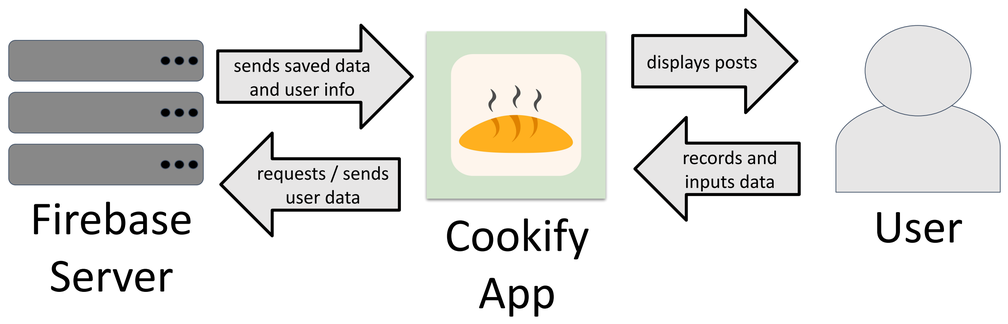


Figure 1: Cookify's High Level Architecture

In order to ensure that the user receives current information, we create "**models**" which act as lists of information about objects displayed in Cookify. A model listens and updates when its corresponding "**document**" in the Firebase changes. When loading something to display, we take the "**fields"** (individual items of data) from these models. Then, anytime the user interacts with what is displayed, we update our models, thus updating our display and the corresponding Firebase document. This saves the change for future references or displays. Post documents, user documents, and comment documents are organized into **"collections"** in Firebase. A post on Cookify will pull from a post document, comment document, and user document whenever it is loaded.

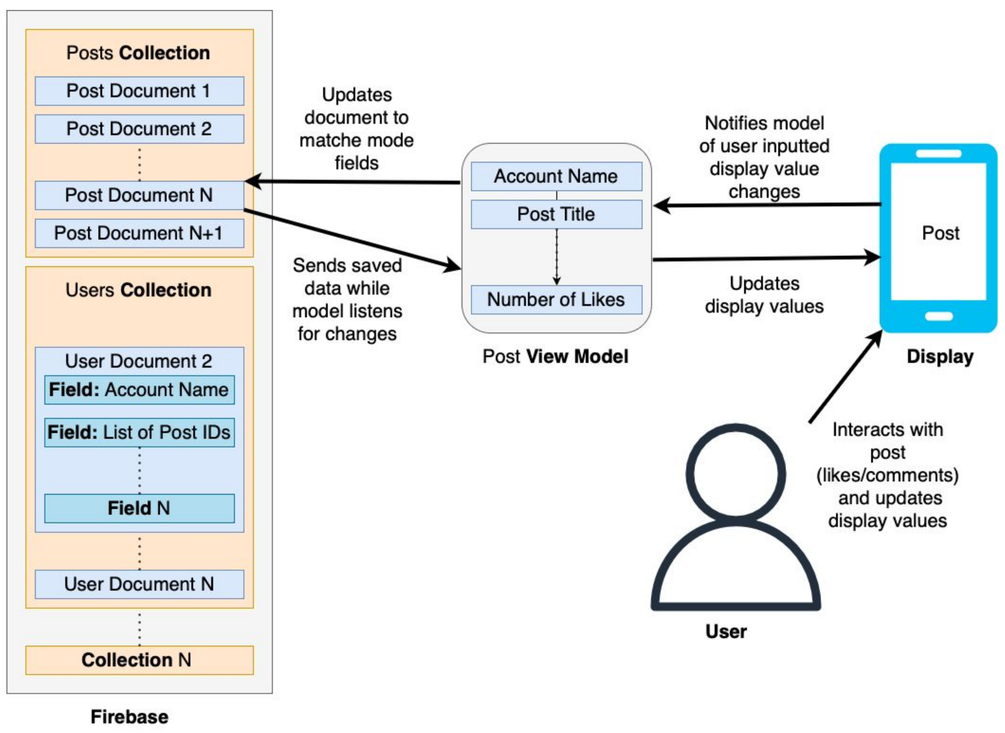


Figure 2: Cookify Backend Architecture

Our App

Cookify is split up into a login/signup screen, feed, record screen, and an account view. There is also a (not pictured) settings screen for logging out.

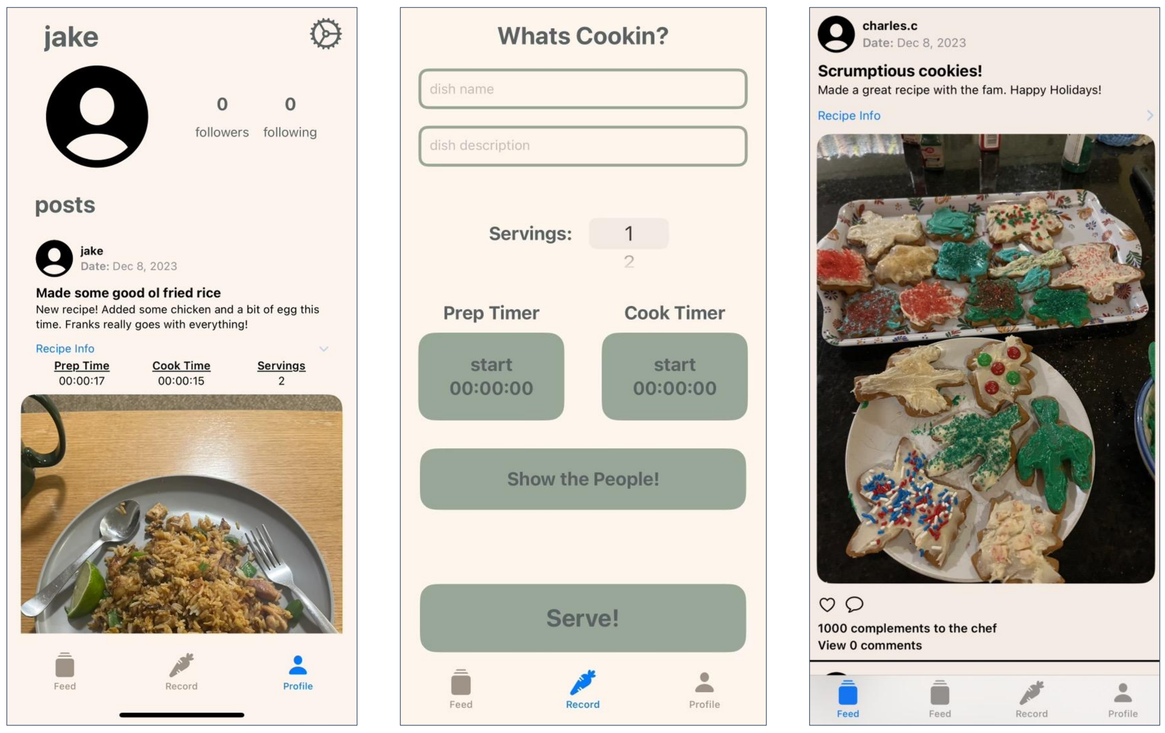


Figure 3: Account, Record, and Feed Tab of Cookify App

The account, record, and feed screens also all utilize hidden SwiftUI elements to display additional information when toggled. Before, using Cookify, users are first prompted to sign up. This allows us to populate Firebase with their account info and handle authentication with Firebase's built-in function.

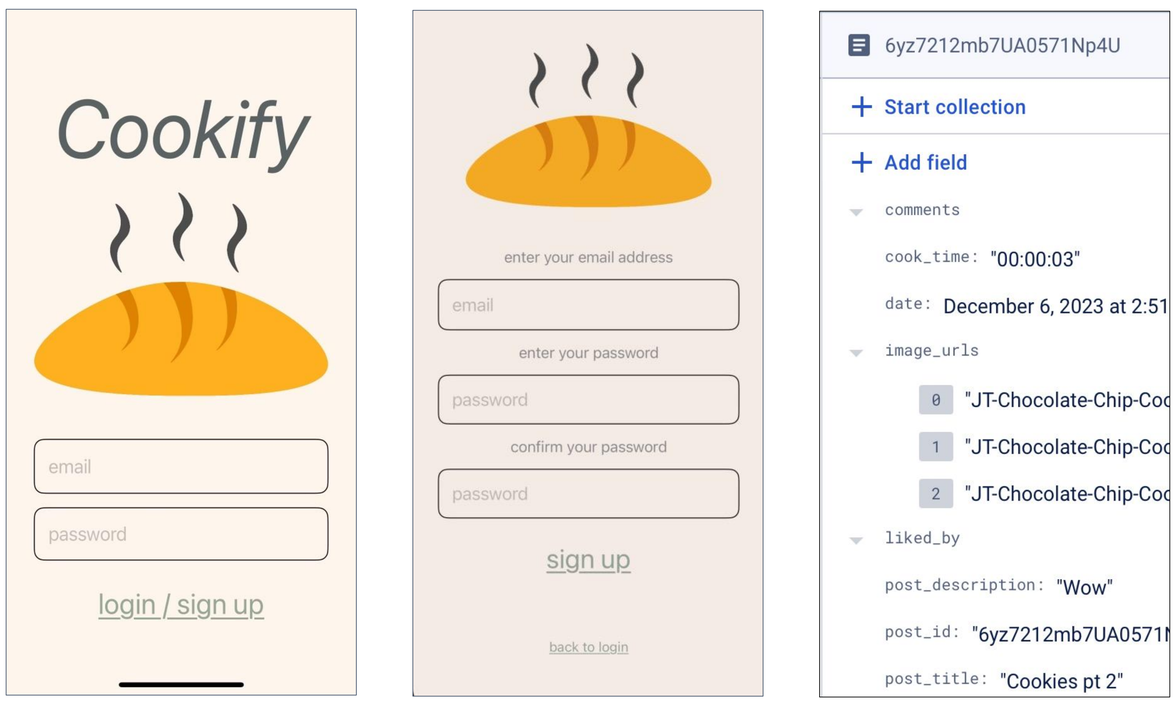


Figure 4: Login Screen, Sign Up Screen, and Firebase Post Collection

Future Work

While we were able to get many of the core functionalities of the application done, there are still several features that we did not get too but had nonetheless planned, including:

- **Connectivity:** ability to tag users and an app store download
- **Security:** block/remove malicious users & posts
- **User Interface:** streamlining UI and adding ability to see other user profiles

References/Acknowledgements

Acknowledgements:
We thank Professor Philip Caplan for his guidance throughout our project.

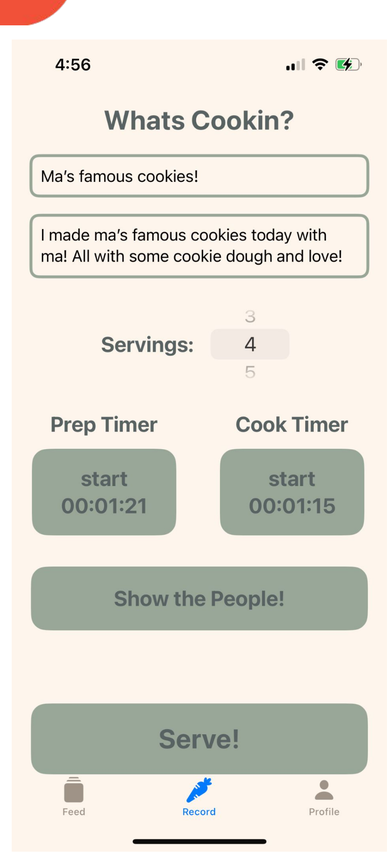
References:

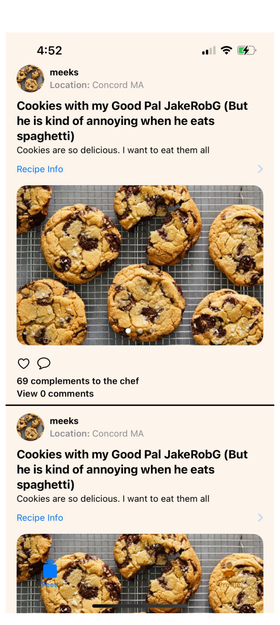
1. "America's Social-Media Addiction Is Getting Worse." *The Economist*, The Economist Newspaper, 8 Aug. 2019, www.economist.com/graphic-detail/2019/08/08/americas-social-media-addiction-is-getting-worse.
2. Akram, W., and R. Kumar. "A study on positive and negative effects of social media on Society." *International Journal of Computer Sciences and Engineering*, vol. 5, no. 10, 2017, pp. 351–354, https://doi.org/10.26438/ijcse/v5i10.351354.
3. Neyman, Chauncey. . "A Survey of Addictive Software Design." California Polytechnic State University, 2017.
4. Davis, Stephanie. "Food: The Great Unifier by Sam Stollenwerck." *Vanderbilt University*, Vanderbilt University, 12 June 2020, www.vanderbilt.edu/curbcenter/food-the-great-unifier-by-sam-stollenwerck/.
5. The Stack Overflow Communities for the following tools: Swift, SwiftUI, Xcode, and Firebase

pics / assets

Firebase

Middlebury





We found these tools to be **robust and powerful**, but do note that there was a non-trivial **learning curve**, especially with Swift and SwiftUI. Luckily, there is a large number of **online resources** and **communities** like Stack OverFlow and which made this curve easier to overcome.

TEXT BOXES

Background:

Social media can help build **community** and spread valuable **information**. However, many apps are **addictive**,[1] and they can also further feelings of **loneliness**.[2] Many of these negative effects are the product of "**addictive software design**" which includes the implementation of features like infinite scrolling.[3]
Food encourages **authenticity** and acts as a c**ultural unifier**, allowing us to share new experiences.[4]

Social media apps can help build **community** and spread valuable **information**. However, many apps are addictive and can further feelings of loneliness. We took conscious steps throughout the **design cycle** of this app to avoid adding features that could cause these feelings. Some of the choices we made include:

- no content pushing (you only see content you actively follow)
- food and cooking related content only
- cooking experience centered
- not designed to promote influencers

Social media can help build **community** and spread valuable **information**. However, many apps are **addictive**,[1] and they can also further feelings of **loneliness**.[2] Many of these negative effects are the product of "**addictive software design**" which includes the implementation of features like infinite scrolling.[3]
Food encourages authenticity and acts as a cultural unifier, allowing us to share new experiences.[4]
Throughout the design cycle we made several conscious choices to avoid this addictive software design, including:

- no content pushing (you only see content you actively follow)
- cooking experience centered
- not designed to promote influencers

We ad