

eatThis

Fall 2022 Final Presentation

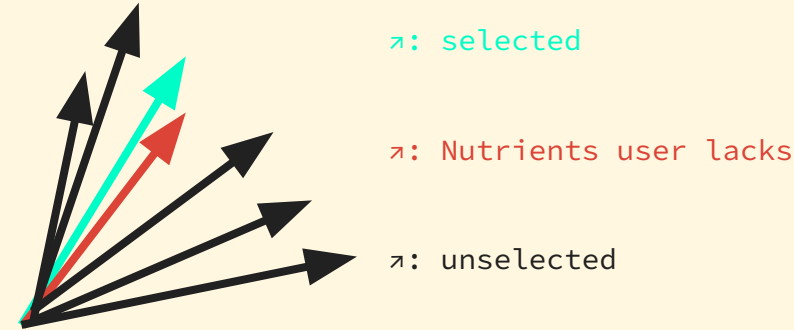
A food recommendation APP for those of you struggling
to choose what to eat

-Wenxin Liu

IDEA OF APP & MOTIVATION

- “WHAT TO EAT”
- “FOOOOOOOOOD”
- 71.6% of adults aged 20+ are overweight
(nutriently logical food)

Cosine Similarity:



```
57 void _displayResult(){
58     var rng = Random();
59     var ranlis = [for (var i=1;i<=5;i++) rng.nextInt(249)];
60     print(ranlis);
61     var recfoodlist = [for (var k in ranlis) completefoodlist[k]];
62     Navigator.of(context).push(
63         MaterialPageRoute(
```

Disclaimer: Due to lack of time, this app will be returning randomized food instead back to the user instead of using the cousin similarity algorithm

DATABASE WALK THRU

COMMON FOOD NUTRIENTS TABLE

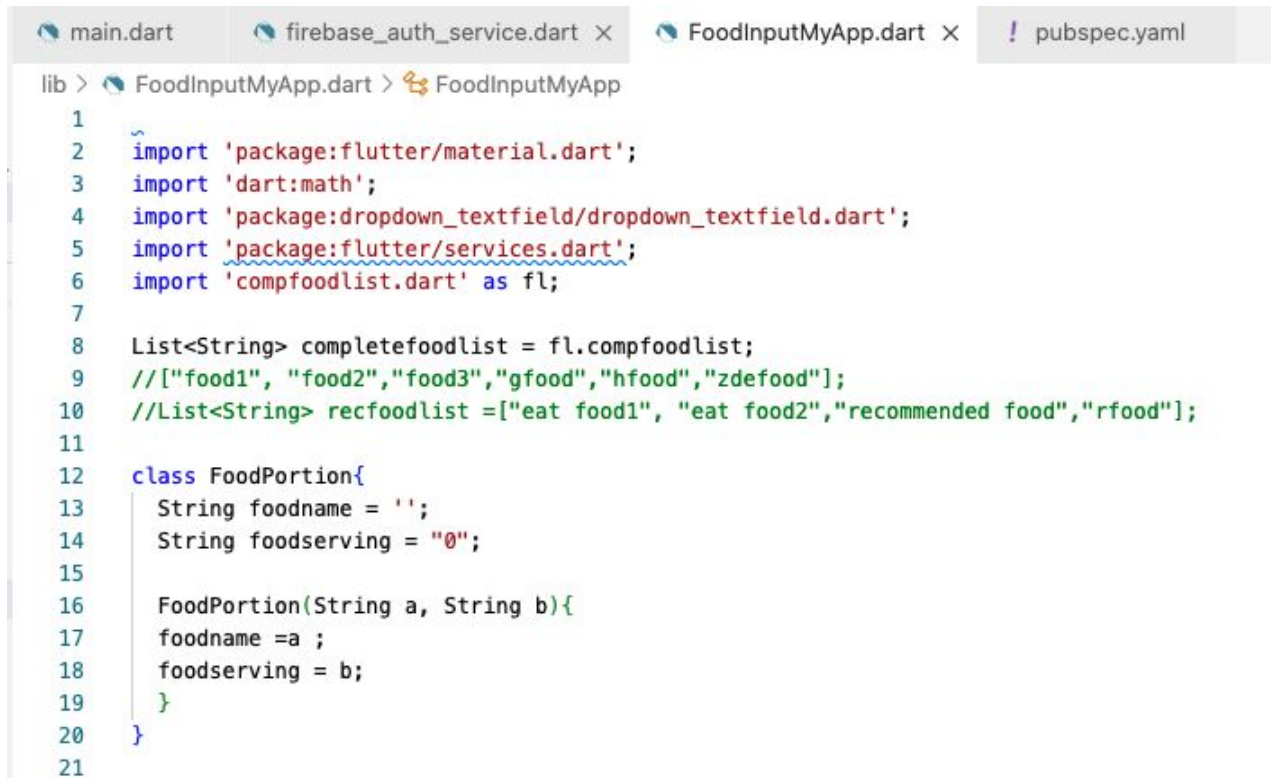
- 2888 rows of common food with micronutrients listed
- Per 100g servings

Food Name	KCALS	PROT	FAT	CHO	AOACFIB	NA	K	CA	MG
Ackee, canned, drained	151	2.9	15.2	0.8	0.0	240	270	35	40
Agar, dried	16	1.3	1.2	0	0.0	110	110	760	620
Agar, dried, soaked and drained	2	0.2	0.1	0	0.0	10	20	110	75
Alfalfa sprouts, raw	24	4.0	0.7	0.4	0.0	6	79	32	27
Allspice, ground	0	6.1	8.7	0	0.0	77	1040	660	130
Almonds, flaked and ground	612	21.1	55.8	6.9	0	14	780	240	270
Almonds, toasted	579	21.0	52.5	5.9	10.9	3	713	268	279
Almonds, weighed with shells	205	7.8	18.5	1.9	4.6	0.00	271	100	100
Almonds, whole kernels	554	21.2	49.9	5.3	12.5	1	733	269	270
Amaranth leaves, boiled in unsalted water	16	3.0	0.3	0.3	0.0	11	540	220	110
Amaranth leaves, raw	18	3.5	0.3	0.3	0.0	13	620	270	130
Amla	58	0.5	0.1	13.7	0.0	5	230	50	0
Anchovies, canned in oil, drained	191	25.2	10.0	0.0	0.0	5870	230	300	56
Anise seeds	0	17.6	15.9	0	0.0	16	1440	650	170
Apple juice concentrate, unsweetened, commercial	223	0.5	0.6	57.6	0.0	11	640	35	29
Apple juice, clear, ambient and chilled	37	0.1	0	9.7	0	3	89	6	4
Apple sauce, homemade	79	0.3	0.2	20.2	1.4	2	75	5	3
Apples, cooking, baked with sugar, flesh only	69	0.2	0.4	17.1	1.9	1	100	5	3
Apples, cooking, baked with sugar, flesh only, weighed v	57	0.2	0.3	14.3	1.6	1	84	4	3
Apples, cooking, baked without sugar, flesh only	47	0.2	0.4	11.4	2.0	1	103	3	3

Due to the size of the database, my app demonstration was only using the first 250 rows (~10% of this dataset)


DATABASE INTEGRATION


- Food data saved as lists in “compfoodlist.dart” (converted through a short python file “tolist.py” that reads in csv file and prints out list version)
- “Fl.compfoodlist” contains list of food names



```
lib > FoodInputMyApp.dart > FoodInputMyApp
1
2 import 'package:flutter/material.dart';
3 import 'dart:math';
4 import 'package:dropdown_textfield/dropdown_textfield.dart';
5 import 'package:flutter/services.dart';
6 import 'compfoodlist.dart' as fl;
7
8 List<String> completefoodlist = fl.compfoodlist;
9 //["food1", "food2", "food3", "gfood", "hfood", "zdefood"];
10 //List<String> recfoodlist = ["eat food1", "eat food2", "recommended food", "rfood"];
11
12 class FoodPortion{
13   String foodname = '';
14   String foodserving = "0";
15
16   FoodPortion(String a, String b){
17     foodname =a ;
18     foodserving = b;
19   }
20 }
21
```

FIREBASE


 **Firebase**


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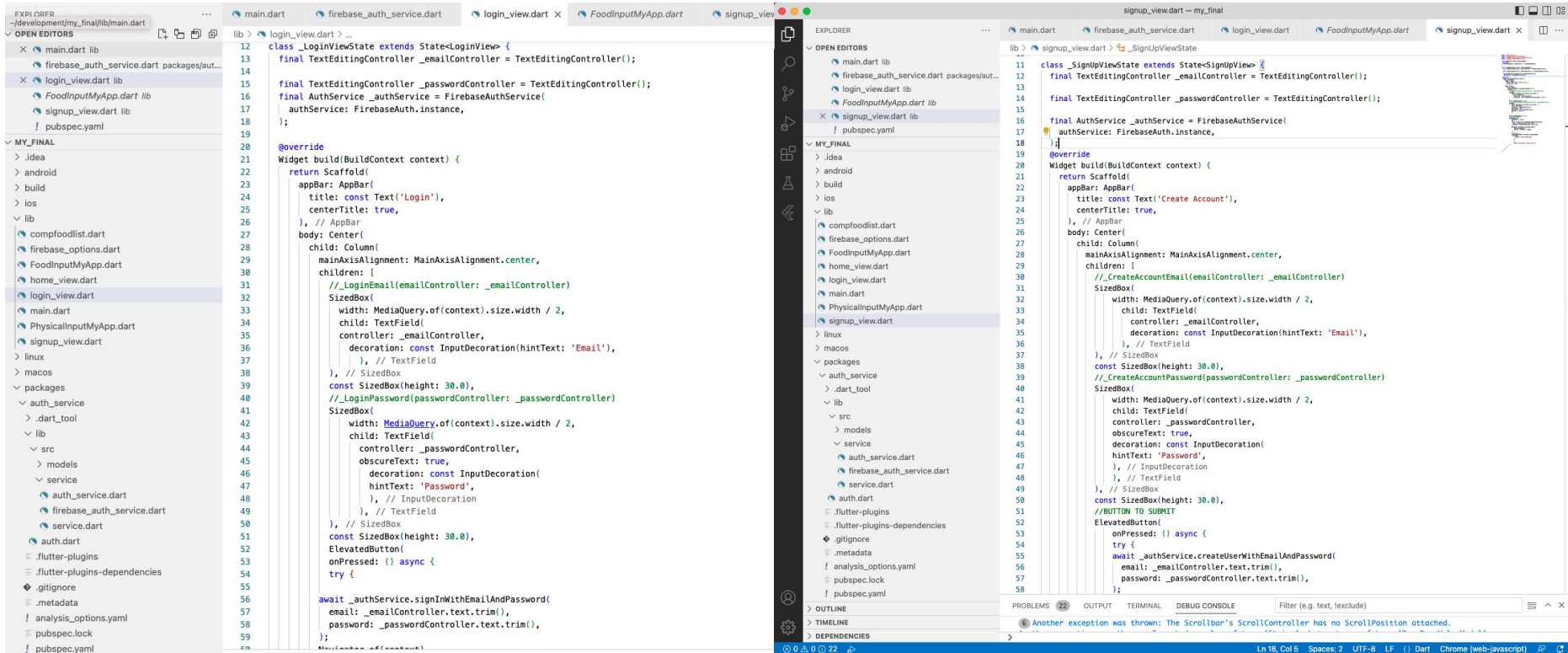
[Add user](#)  

Identifier	Providers	Created 	Signed in	User UID
grinch@gmail.com		Dec 17, 2022	Dec 17, 2022	n0e7JOxRTV5x1xf6mWZkRFYmPj...

Rows per page: 50  1 - 1 of 1  

```
main.dart  firebase_auth_service.dart x  auth_service.dart  FoodInputMyApp
~/development/my_final/packages
packages > auth_service > lib > src > service > firebase_auth_service.dart > FirebaseAuthService
1  import 'dart:math';
2
3  import 'package:auth_service/src/models/models.dart';
4  import 'package:auth_service/src/service/auth_service.dart';
5  import 'package:firebase_auth/firebase_auth.dart' as auth;
6
7  class FirebaseAuthService implements AuthService {
8    FirebaseAuthService({
9      required auth.FirebaseAuth authService,
10     }) : _firebaseAuth = authService;
11
12     final auth.FirebaseAuth _firebaseAuth;
13
14     UserEntity _mapFirebaseUser(auth.User? user) {
15       if (user == null) {
16         return UserEntity.empty();
17       }
18
19       var splittedName = ['Name ', 'LastName'];
20       if (user.displayName != null) {
21         splittedName = user.displayName!.split(' ');
22       }
23
24       final map = <String, dynamic>{
25         'id': user.uid,
26         'firstName': splittedName.first,
27         'lastName': splittedName.last,
28         'email': user.email ?? '',
29         'emailVerified': user.emailVerified,
30         'imageUrl': user.photoURL ?? '',
31         'isAnonymous': user.isAnonymous,
32         'age': 0,
33         'phoneNumber': '',
34         'address': '',
35       };
36       return UserEntity.fromJson(map);
37     }
38
39     @override
40     Future<UserEntity> signInWithEmailAndPassword({
41       required String email,
42       required String password,
43     }) async {
44       try {
45         print('$email as email received in signinwemailandpp');
46         print('$password as pp received in signinwemailandpp');
47         final userCredential = await _firebaseAuth.signInWithEmailAndPassword(
48           email: email,
```

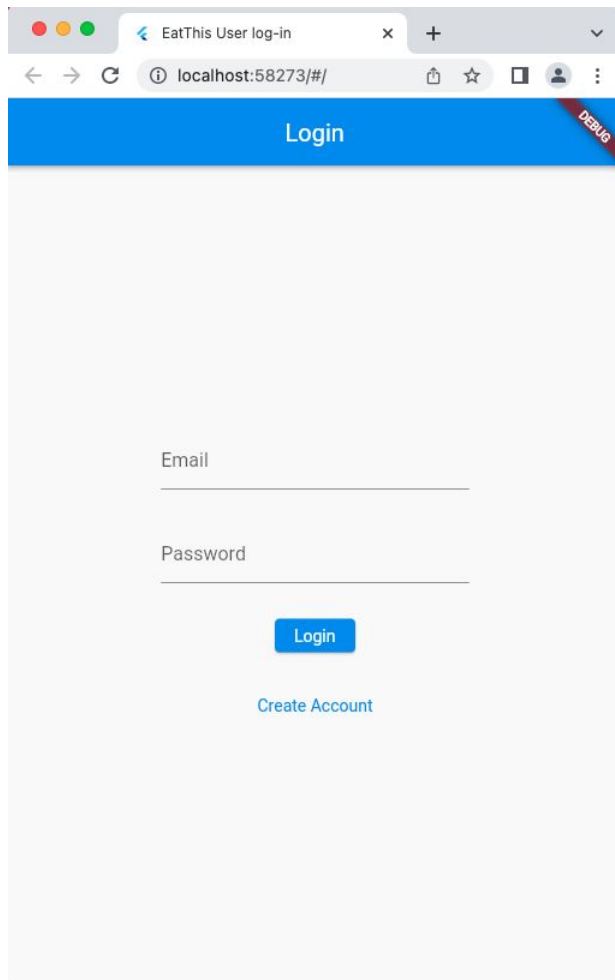
FIREBASE IMPLEMENTATION



Log in screen

Sign up screen

FIREBASE UI WALK THRU



A screenshot of a web browser displaying the Firebase UI Login page. The browser's address bar shows "localhost:58273/#/". The page has a blue header with the word "Login" in white. Below the header, there are two input fields labeled "Email" and "Password". A blue "Login" button is positioned below the password field, and a blue "Create Account" link is located further down the page. A red "DEBUG" banner is visible in the top right corner of the page content area.

EatThis User log-in

localhost:58273/#/

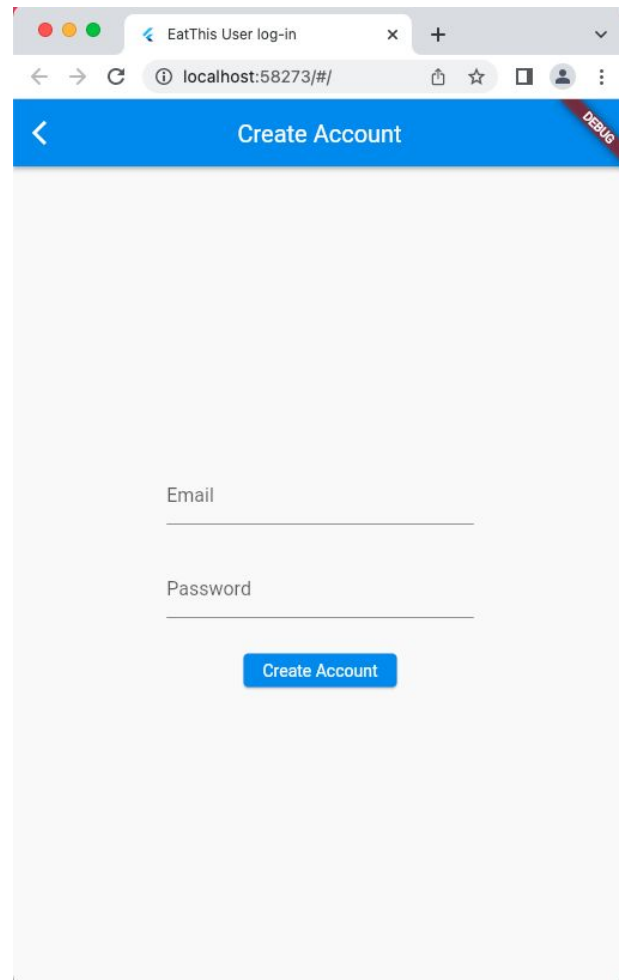
Login

Email

Password

Login

Create Account



A screenshot of a web browser displaying the Firebase UI Create Account page. The browser's address bar shows "localhost:58273/#/". The page has a blue header with a back arrow and the text "Create Account" in white. Below the header, there are two input fields labeled "Email" and "Password". A blue "Create Account" button is positioned below the password field. A red "DEBUG" banner is visible in the top right corner of the page content area.

EatThis User log-in

localhost:58273/#/

Create Account

Email

Password

Create Account

UI WALK THRU

Icon to get to next screen

eatThis

localhost:58085/#/

User physical input

Gender: female

Age: 46

Screen 1: User input physical info

eatThis

localhost:58273/#/

beef

Beef steak pudding, homemade

Beef Stroganoff, homemade

Beef Wellington, homemade

Beef, braising steak, braised, lean and fat

Beef, braising steak, braised, lean only

Beef, braising steak, raw, lean

Delete

Please enter food & servings

Apple juice, clear, ambient and chilled

1

Delete

Screen 2: User input food they've eaten in the day w/ Dropdown Textfield & user able to add & delete entries

Icon to get to next screen

eatThis

localhost:58273/#/

Recommended food

Beef, flank, raw, lean and fat

Beans, chick peas, Kabuli, whole, dried, boiled in unsalted water

Bacon rashers, middle, fried in corn oil

Beef, sirloin steak, fried in corn oil, lean

Bacon rashers, streaky, raw

Screen 3: Displays recommended food

DROPDOWN TEXTFIELD

The screenshot shows a mobile application interface. At the top, there is a search bar with the text 'food' and a blue 'X' icon on the right. Below the search bar is a list of food items: 'food1', 'food2', 'food3', 'gfood', 'hfood', and 'zdefood'. Below the list, there is a text input field with the placeholder text 'Please enter food & servings'. Below the text input field, there is a dropdown menu showing 'food1' and a 'Delete' button.

- User is able to search for desired entry to select from list provided

```
child: Column(  
  mainAxisAlignment: MainAxisAlignment.center,  
  children: <Widget>[  
  
    for (FoodPortion i in stomach)...[  
      const Text('Please enter food & servings'),  
    ],  
  
    //mainAxisAlignment: MainAxisAlignment.center,  
    //children: [  
      //for foodname  
      DropDownTextField(  
        enableSearch: true,  
        initialValue: completefoodlist[0],  
        searchDecoration: const InputDecoration(  
          hintText: "Please select",  
        ), // InputDecoration  
  
        dropDownList: completefoodlist.map<DropDownValueModel>((String value) {  
          return DropDownValueModel(  
            value: value,  
            name: value,  
          ); // DropDownValueModel  
        }).toList(),  
  
        onChanged: (newValue){  
          i.foodname = newValue!;  
          refresh();  
        },  
        //selectedItem: selectedf,  
      ), // DropDownTextField  
      //fod food serving  
      DropdownButton<String>(
```

```
class FoodPortion{  
  String foodname = '';  
  String foodserving = "0";  
  
  FoodPortion(String a, String b){  
    foodname =a ;  
    foodserving = b;  
  }  
}
```

DEMO

See attachments
if this doesn't
work

Demonstrating general app in
“finaldemo1”

Demonstrating login remembers
created accounts in “finaldemo2”

REFERENCES:

- https://pub.dev/packages/dropdown_textfield/example
- <https://docs.flutter.dev/cookbook/navigation/navigation-basics>
- <https://ods.od.nih.gov/HealthInformation/nutrientrecommendations.aspx#dri>
- <https://www.nap.edu/read/13050/chapter/24>
- <https://somniaoftware.com/post/email-authentication-with-firebase-flutter>
- <https://blog.codemagic.io/flutter-web-firebase-authentication-and-google-sign-in/>