eatThis

Fall 2022 Final Presentation

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

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IDEA OF APP & MOTIVATION

- “WHAT TO EAT”
- “FOOOOOOOOD”
- 71.6% of adults aged 20+ are overweight

(**nutriently logical** food)

Cosine Similarity:

↗: selected

↗: Nutrients user lacks

↗: unselected

```
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

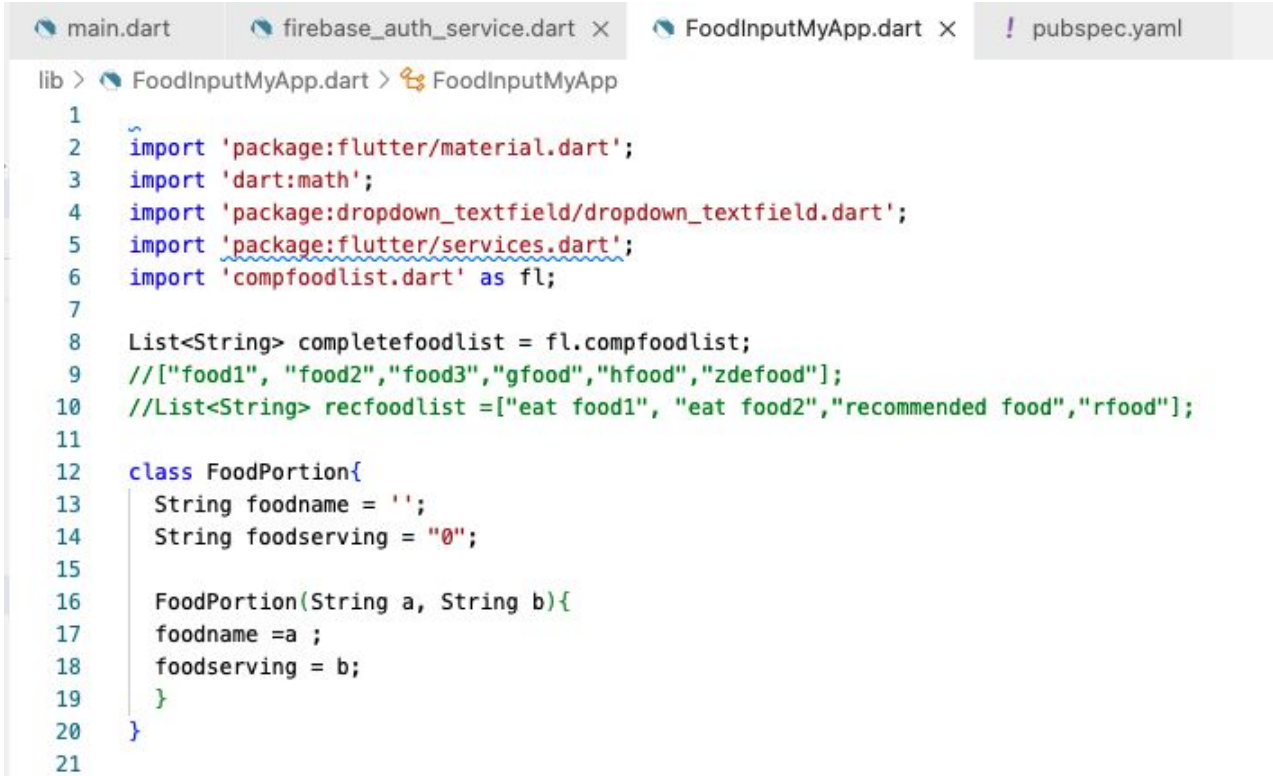
Food Name	KCALS	PROT	FAT	CHO	AOACFIB	NA	K	CA	MG
Ackee, canned, drained	151	2.9	15.2	0.8	0.0	240	270	35	40
Agar, dried	16	1.3	1.2	0	0.0	110	110	760	620
Agar, dried, soaked and drained	2	0.2	0.1	0	0.0	10	20	110	75
Alfalfa sprouts, raw	24	4.0	0.7	0.4	0.0	6	79	32	27
Allspice, ground	0	6.1	8.7	0	0.0	77	1040	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, commerical	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

https://ods.od.nih.gov/HealthInformation/nutrientrecommendations.aspx#dri

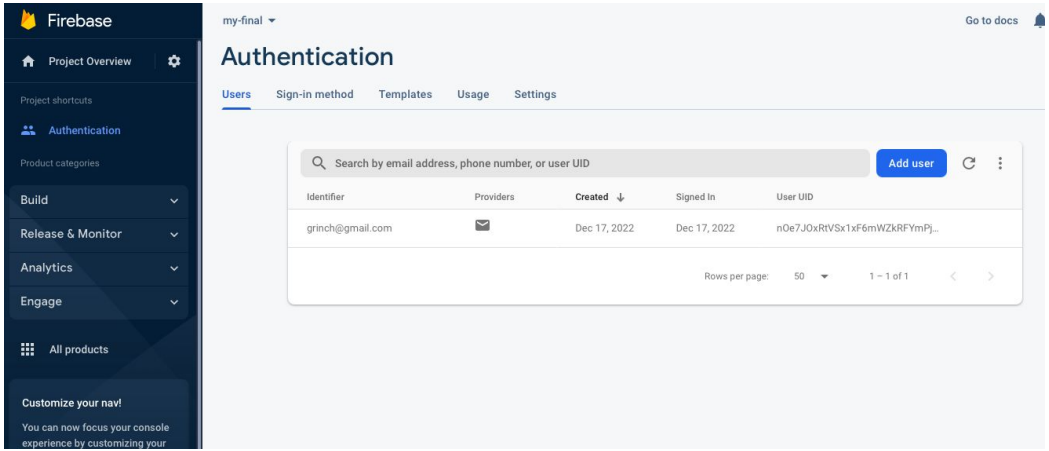
Due to the size of the database, my app demonstration was only using the first 250 rows (~10% of this dataset)

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



FIREBASE



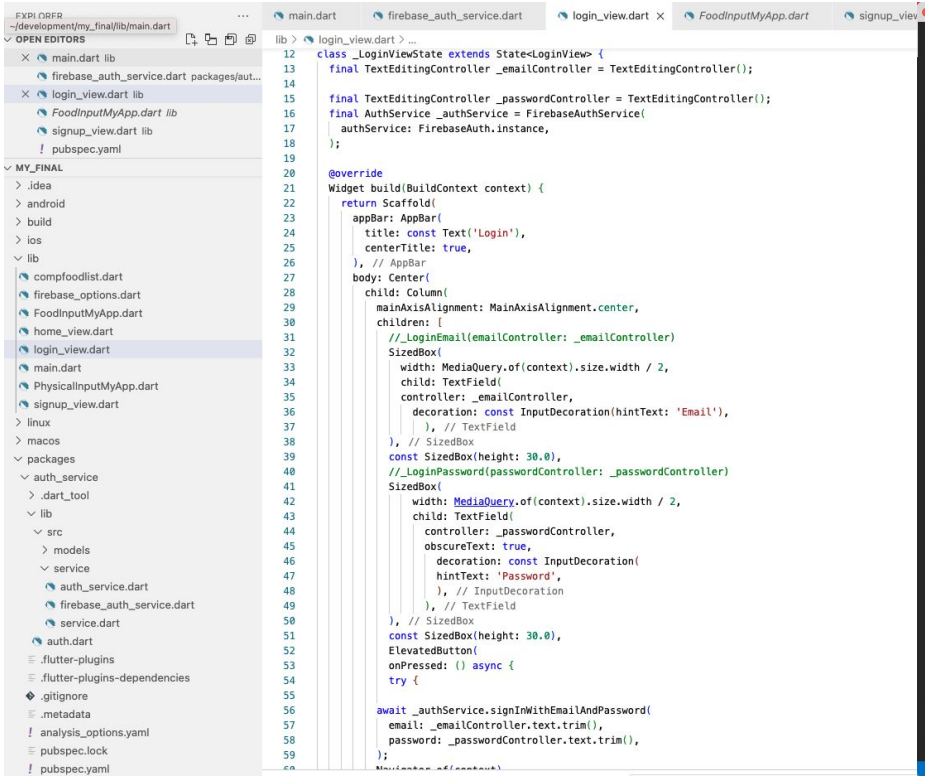
main.dart | firebase_auth_service.dart | auth_service.dart | FoodInputMyApp

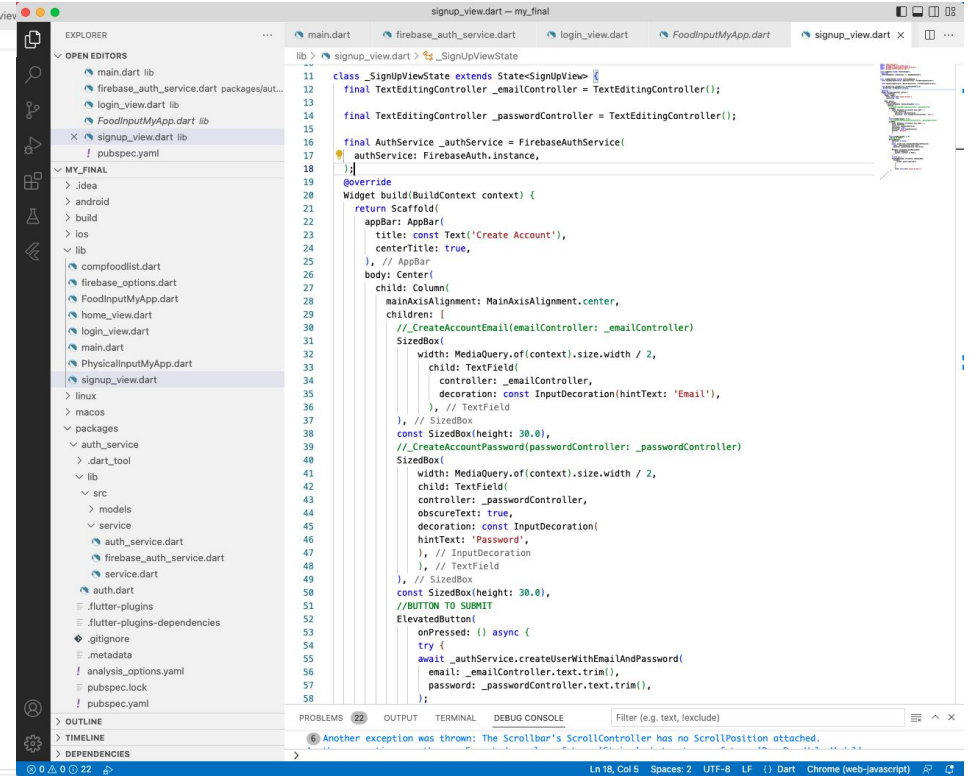
~/development/my_final/packages

packages > auth_service > lib > src > service > firebase_auth_service.dart > FirebaseAuthServic

```dart
import 'dart:math';

import 'package:auth_service/src/models/models.dart';
import 'package:auth_service/src/service/auth_service.dart';
import 'package:firebase_auth/firebase_auth.dart' as auth;

class FirebaseAuthService implements AuthService {
  FirebaseAuthService({
    required auth.FirebaseAuth authService,
  }) : _firebaseAuth = authService;

  final auth.FirebaseAuth _firebaseAuth;

  UserEntity _mapFirebaseUser(auth.User? user) {
    if (user == null) {
      return UserEntity.empty();
    }

    var splittedName = ['Name ', 'LastName'];
    if (user.displayName != null) {
      splittedName = user.displayName!.split(' ');
    }

    final map = <String, dynamic>{
      'id': user.uid,
      'firstName': splittedName.first,
      'lastName': splittedName.last,
      'email': user.email ?? '',
      'emailVerified': user.emailVerified,
      'imageUrl': user.photoURL ?? '',
      'isAnonymous': user.isAnonymous,
      'age': 0,
      'phoneNumber': '',
      'address': '',
    };
    return UserEntity.fromJson(map);
  }

  @override
  Future<UserEntity> signInWithEmailAndPassword({
    required String email,
    required String password,
  }) async {
    try {
      print('$email as email received in signinwemailandpp');
      print('$password as pp received in signinwemailandpp');
      final userCredential = await _firebaseAuth.signInWithEmailAndPassword(
        email: email,
```

Firebase implementation

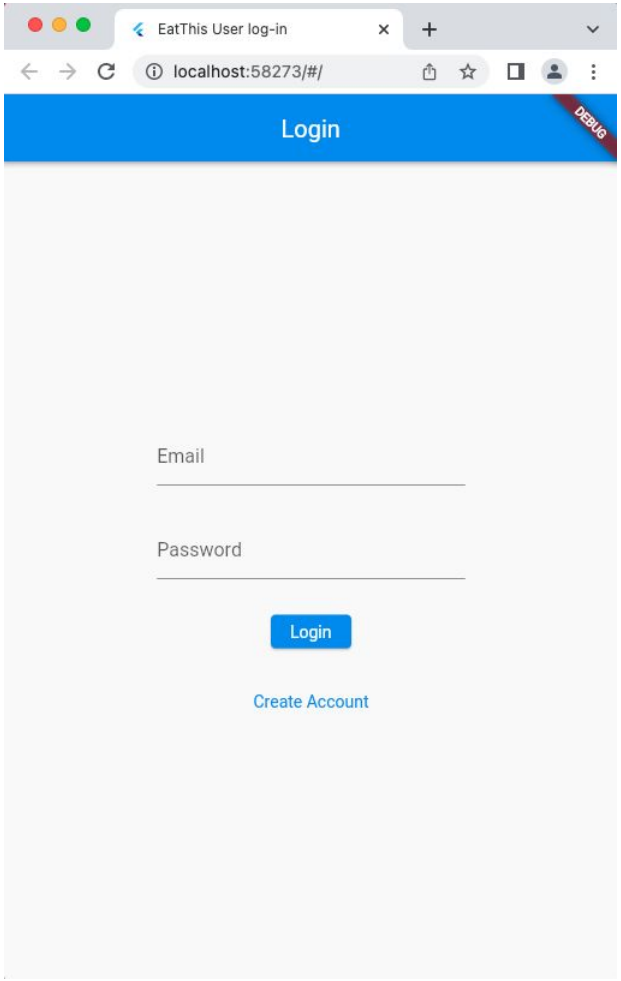


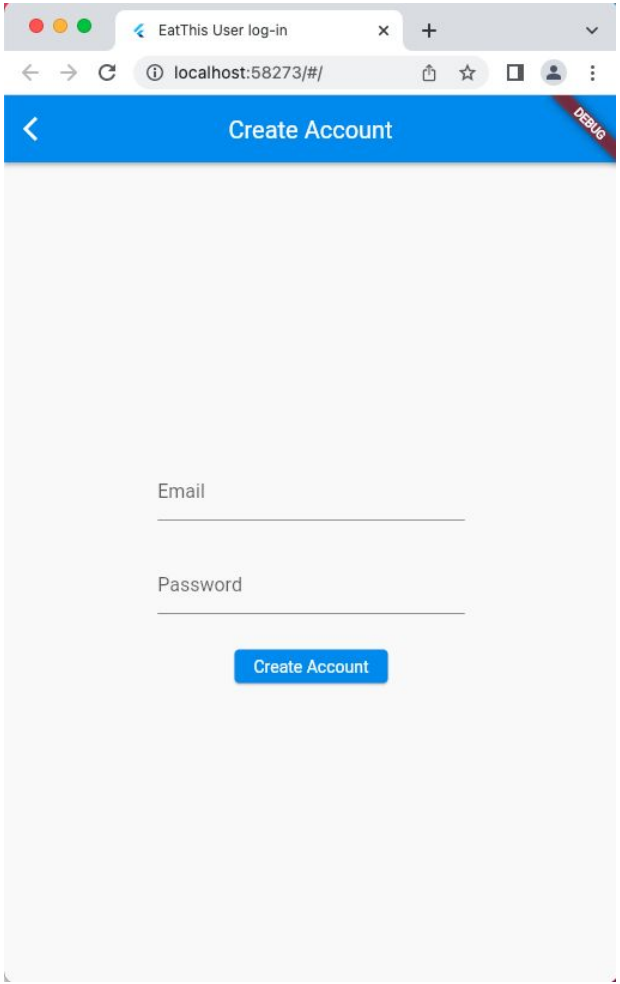


Log in screen

Sign up screen

Firebase UI Walk Thru

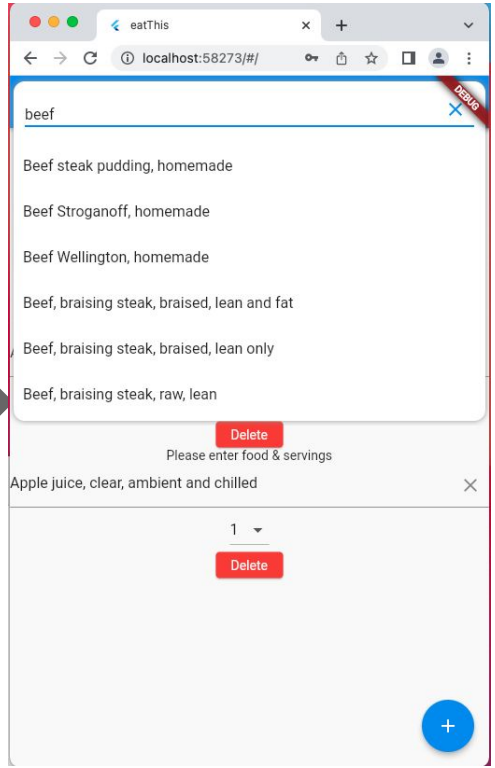




UI WALK THRU

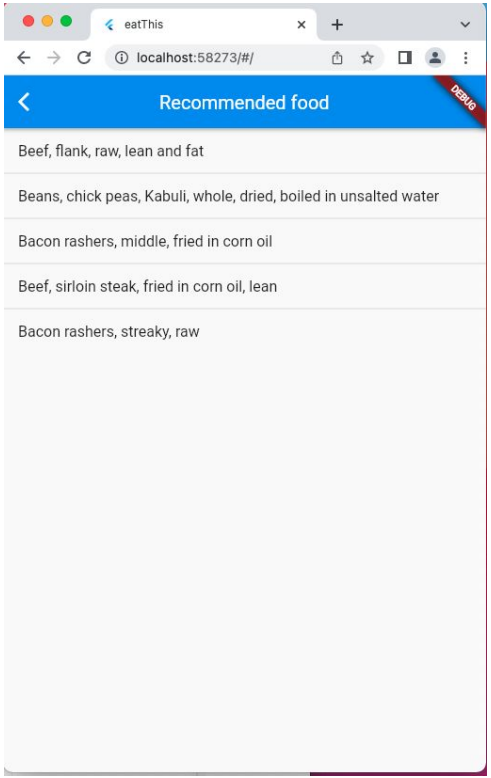
Icon to get to next screen

Screen 1: User input physical info



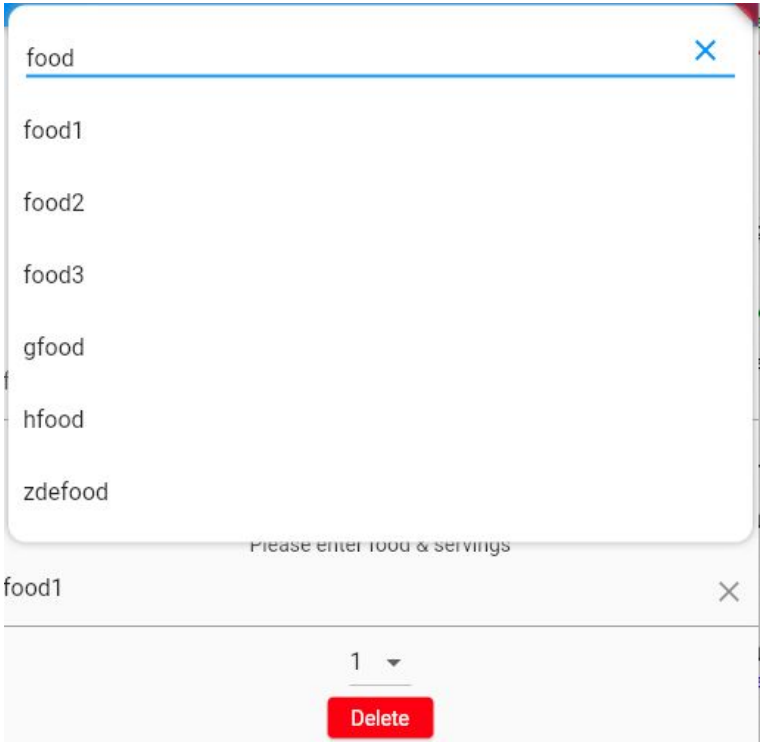
Screen 2: User input food they've eaten in the day w/ Dropdown Textfield & user able to add & delete entries

Icon to get to next screen



Screen 3: Displays recommended food

Dropdown Textfield



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

```
class FoodPortion{
  String foodname = '';
  String foodserving = "0";

  FoodPortion(String a, String b){
  foodname =a ;
  foodserving = b;
  }
}
```

```
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>(
```

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://somniosoftware.com/post/email-authentication-with-firebase-flutter
- https://blog.codemagic.io/flutter-web-firebase-authentication-and-google-sign-in/