Fitness App

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Introduction

For our final app project, we decided to make an app that tracks a user’s workout for them.

We chose this idea because we thought it would be fun to make something useful for us, as we all enjoy going to the gym.

Problem

- People are in need of a way to track their progress
- Many people either use their notes app or a notebook
    - Very unorganized, notes in different places
    - Inefficient UI for inputting workouts
    - Does not perform specific statistics about workouts

Solution

- An app that tracks the user’s workouts all in one place and keeps track of statistics to track their progress
  - UI is more workout friendly
  - Workouts are organized and displayed in a way that is easily readable by the user
  - List date of workout, as well as start and end times
  - App is user specific

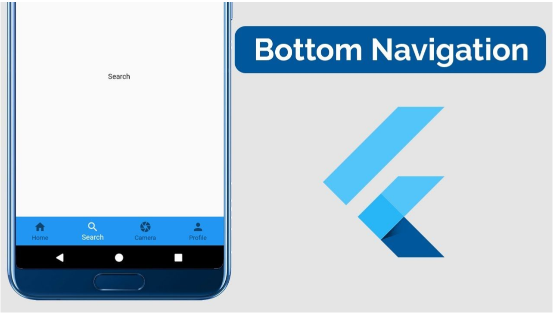
Technologies Used

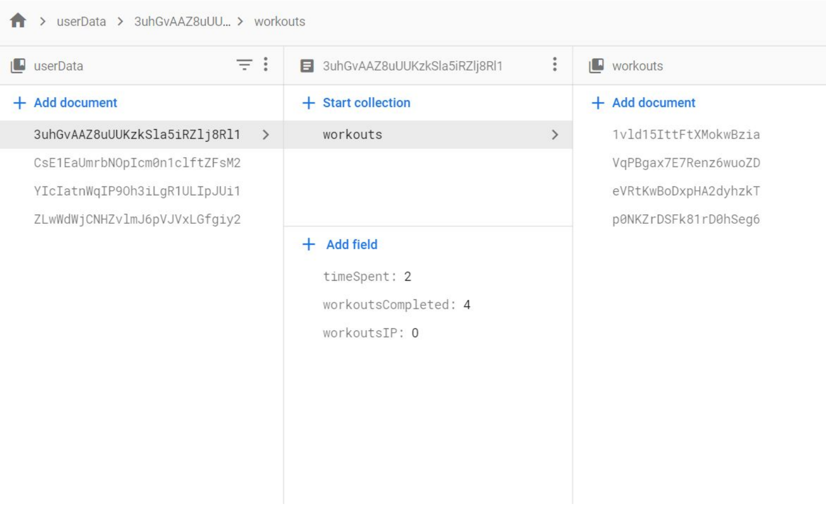
- Firebase for Google Sign-In
- Firestore cloud storage for user data
- Bottom Navigation Bar to Navigate between screens

Firebase

Cloud Firestore

Flutter





userData > 3uhGvAAZ8uUU... > workouts

userData

+ Add document

3uhGvAAZ8uUUKzkSla5iRZlj8Rl1 >
CsE1EaUmrbNOpIcm0n1clftZFsM2
YIcIatnWqIP9Oh3iLgR1ULIpJUi1
ZLwWdWjCNHZvlmJ6pVJVxLGfgiy2

3uhGvAAZ8uUUKzkSla5iRZlj8Rl1

+ Start collection

workouts >

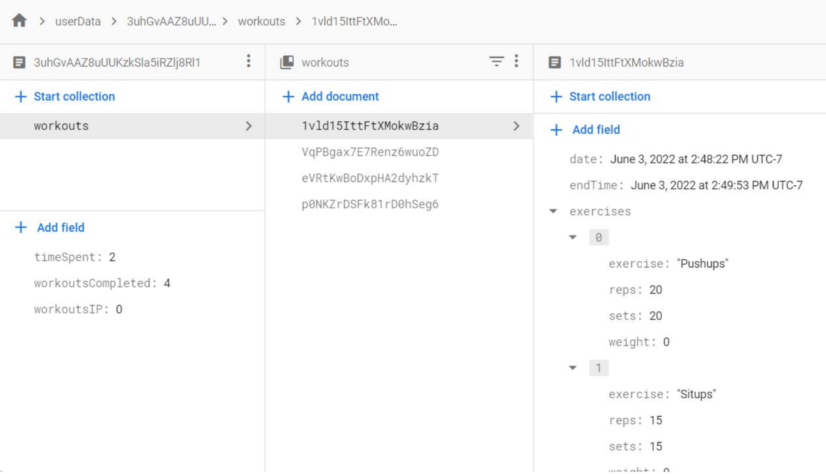
+ Add field

timeSpent: 2
workoutsCompleted: 4
workoutsIP: 0

workouts

+ Add document

1vld15IttFtXMokwBzia
VqPBgax7E7Renz6wuoZD
eVRtKwBoDxpHA2dyhzkT
p0NKZrDSFk81rD0hSeg6



userData > 3uhGvAAZ8uUU... > workouts > 1vld15IttFtXMo...

3uhGvAAZ8uUUKzkSla5iRZlj8Rl1

+ Start collection

workouts >

+ Add field

timeSpent: 2
workoutsCompleted: 4
workoutsIP: 0

workouts

+ Add document

1vld15IttFtXMokwBzia >
VqPBgax7E7Renz6wuoZD
eVRtKwBoDxpHA2dyhzkT
p0NKZrDSFk81rD0hSeg6

1vld15IttFtXMokwBzia

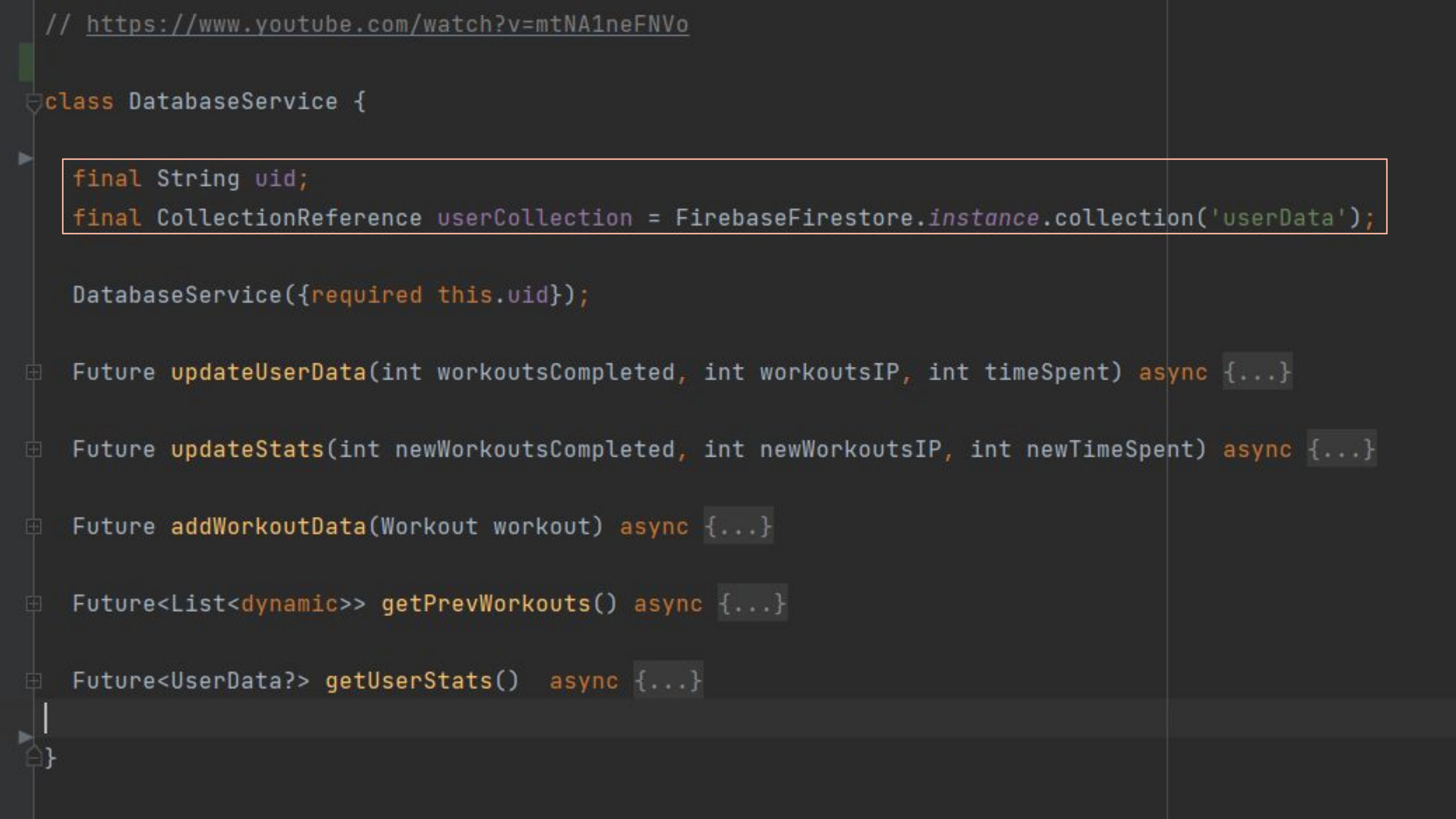
+ Start collection

+ Add field

```
date: June 3, 2022 at 2:48:22 PM UTC-7
endTime: June 3, 2022 at 2:49:53 PM UTC-7
▾ exercises
  ▾ 0
      exercise: "Pushups"
      reps: 20
      sets: 20
      weight: 0
  ▾ 1
      exercise: "Situps"
      reps: 15
      sets: 15
      weight: 0
```

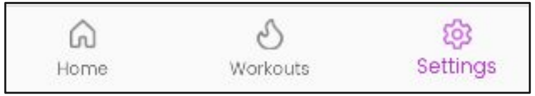
Firebase Storage

- Used firebase to store our data from each user
- Main collection: userData
  - Also has fields of specific statistic fields we want to keep track of
- Next collection: workouts
- Last collection: exercises

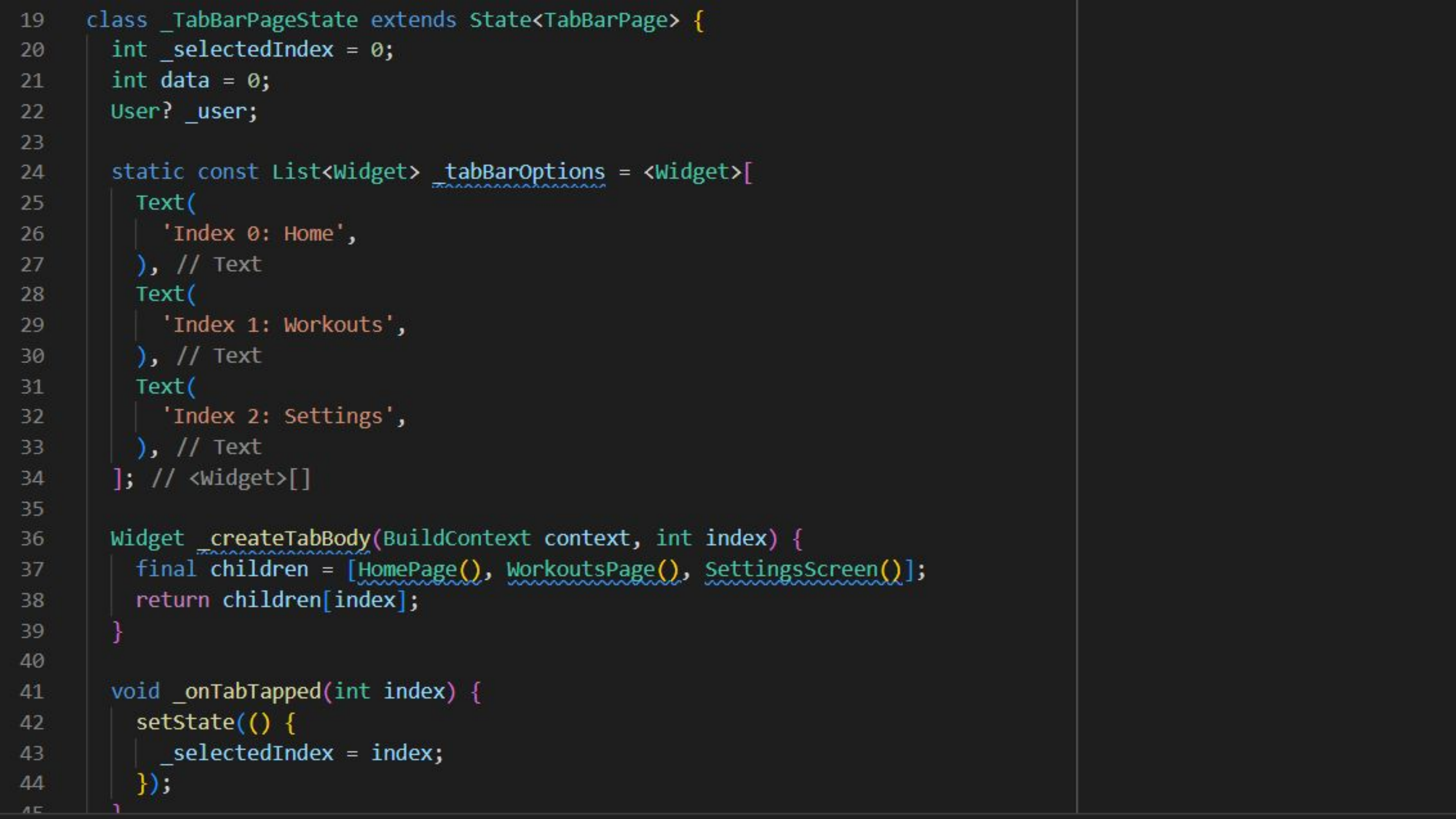


```dart
// https://www.youtube.com/watch?v=mtNA1neFNVo

class DatabaseService {

  final String uid;
  final CollectionReference userCollection = FirebaseFirestore.instance.collection('userData');

  DatabaseService({required this.uid});

  Future updateUserData(int workoutsCompleted, int workoutsIP, int timeSpent) async {...}

  Future updateStats(int newWorkoutsCompleted, int newWorkoutsIP, int newTimeSpent) async {...}

  Future addWorkoutData(Workout workout) async {...}

  Future<List<dynamic>> getPrevWorkouts() async {...}

  Future<UserData?> getUserStats()  async {...}

}
```

Basic Design



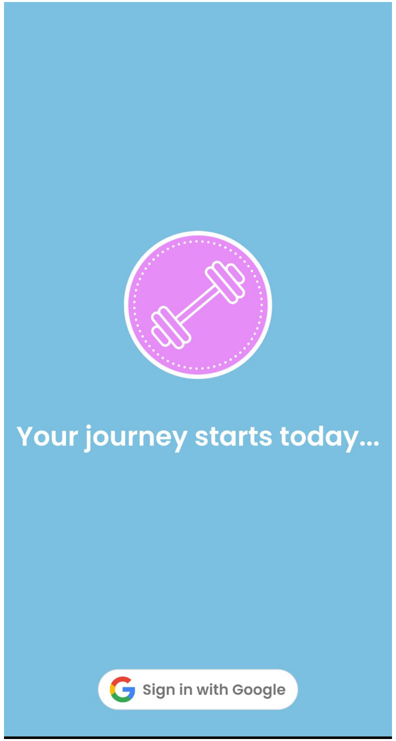
- Bottom Navigation Bar with 3 tabs: Home, Workouts, Settings
- Home:
  - User can see statistics about their workout progress
  - User can view previous workouts
- Workouts:
  - User can start a workout and finish a workout
  - User can input exercises into the workout
- Settings:
  - User can see their profile pic, name, email
  - User can sign out



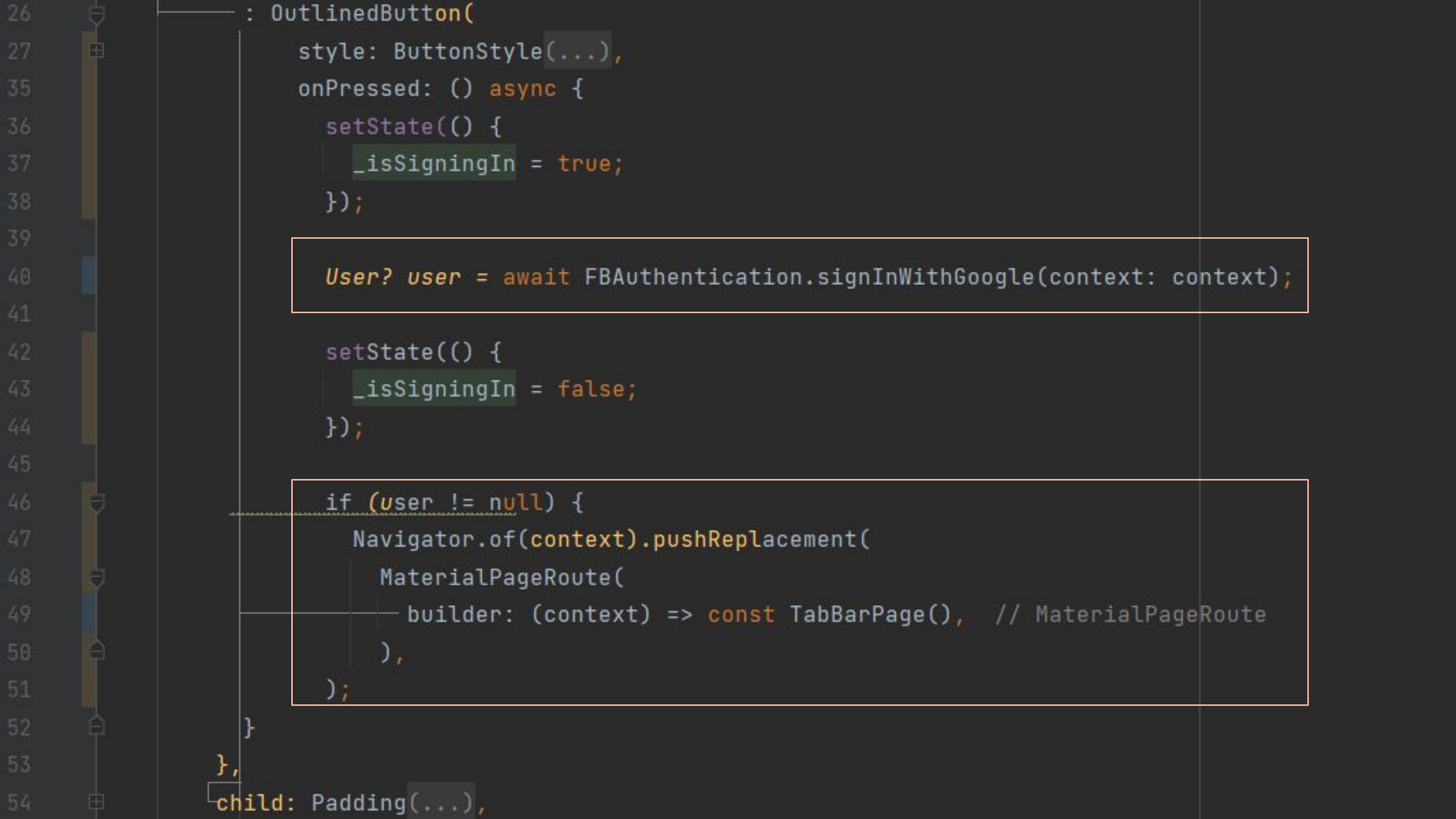
```dart
class _TabBarPageState extends State<TabBarPage> {
  int _selectedIndex = 0;
  int data = 0;
  User? _user;

  static const List<Widget> _tabBarOptions = <Widget>[
    Text(
      'Index 0: Home',
    ), // Text
    Text(
      'Index 1: Workouts',
    ), // Text
    Text(
      'Index 2: Settings',
    ), // Text
  ]; // <Widget>[]

  Widget _createTabBody(BuildContext context, int index) {
    final children = [HomePage(), WorkoutsPage(), SettingsScreen()];
    return children[index];
  }

  void _onTabTapped(int index) {
    setState(() {
      _selectedIndex = index;
    });
  }
```

Sign-In with Google

- User must sign in with google to gain access to the app
- Once signed in, user can start workouts, view workout statistics, etc



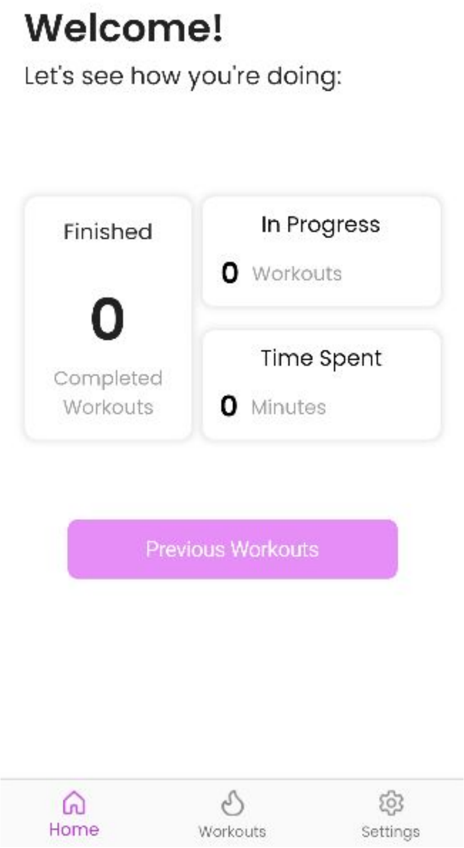
Your journey starts today...



```
  : OutlinedButton(
      style: ButtonStyle(...),
      onPressed: () async {
        setState(() {
          _isSigningIn = true;
        });

        User? user = await FBAuthentication.signInWithGoogle(context: context);

        setState(() {
          _isSigningIn = false;
        });

        if (user != null) {
          Navigator.of(context).pushReplacement(
            MaterialPageRoute(
              builder: (context) => const TabBarPage(),  // MaterialPageRoute
            ),
          );
        }
      },
child: Padding(...),
```

Home Page

- Display statistics about user's workout profile
- Able to go and see previous workouts completed



Welcome!

Let's see how you're doing:

Finished

0

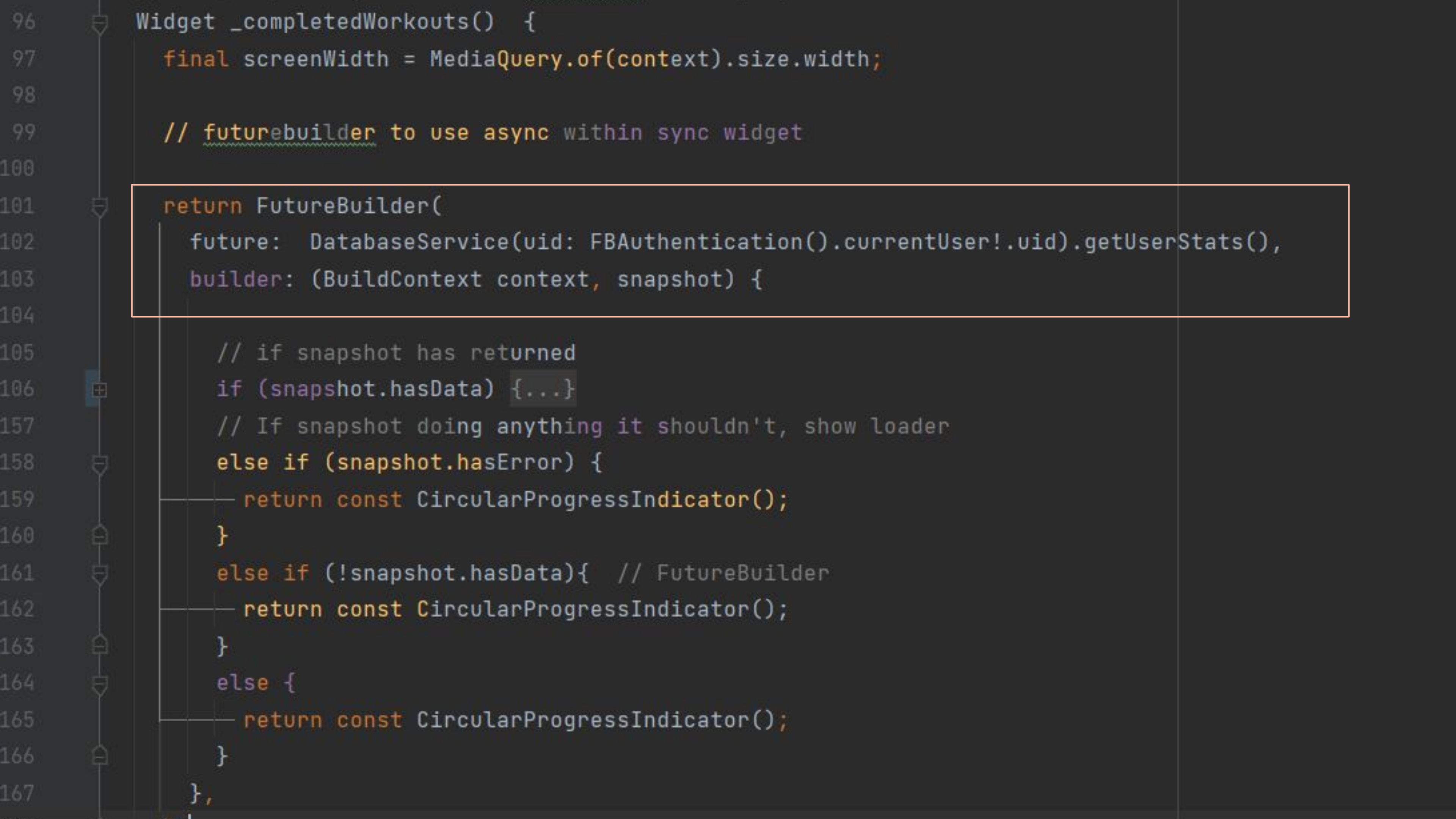
Completed Workouts

In Progress

0 Workouts

Time Spent

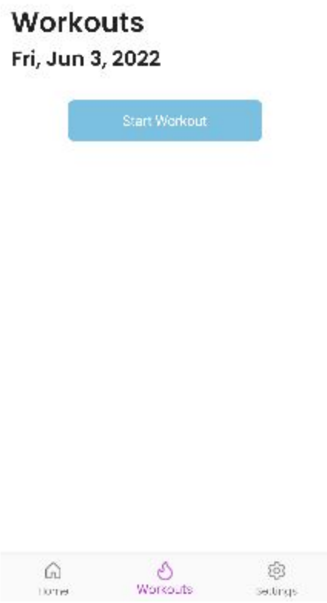
0 Minutes



```
Widget _completedWorkouts()  {
  final screenWidth = MediaQuery.of(context).size.width;

  // futurebuilder to use async within sync widget

  return FutureBuilder(
    future:  DatabaseService(uid: FBAuthentication().currentUser!.uid).getUserStats(),
    builder: (BuildContext context, snapshot) {

      // if snapshot has returned
      if (snapshot.hasData) {...}
      // If snapshot doing anything it shouldn't, show loader
      else if (snapshot.hasError) {
        return const CircularProgressIndicator();
      }
      else if (!snapshot.hasData){  // FutureBuilder
        return const CircularProgressIndicator();
      }
      else {
        return const CircularProgressIndicator();
      }
    },
```

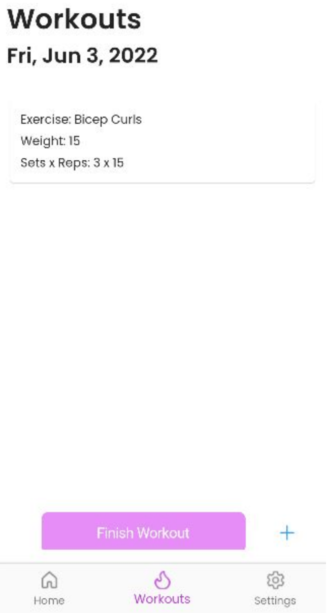
Workout Creation

- User can choose to start a workout
- Then they are able to add exercises to a list displayed on the screen
- The user can then finish the workout and the workout gets posted to the database



Workouts

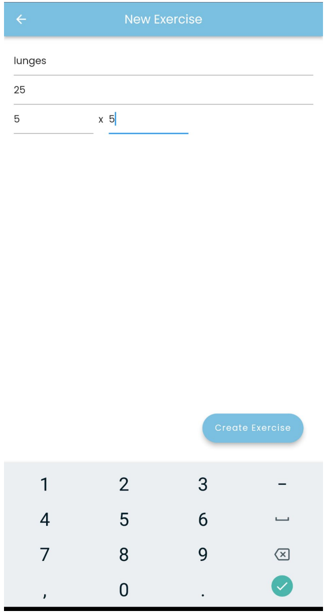
Fri, Jun 3, 2022



Workouts

Fri, Jun 3, 2022

Exercise: Bicep Curls
Weight: 15
Sets x Reps: 3 x 15

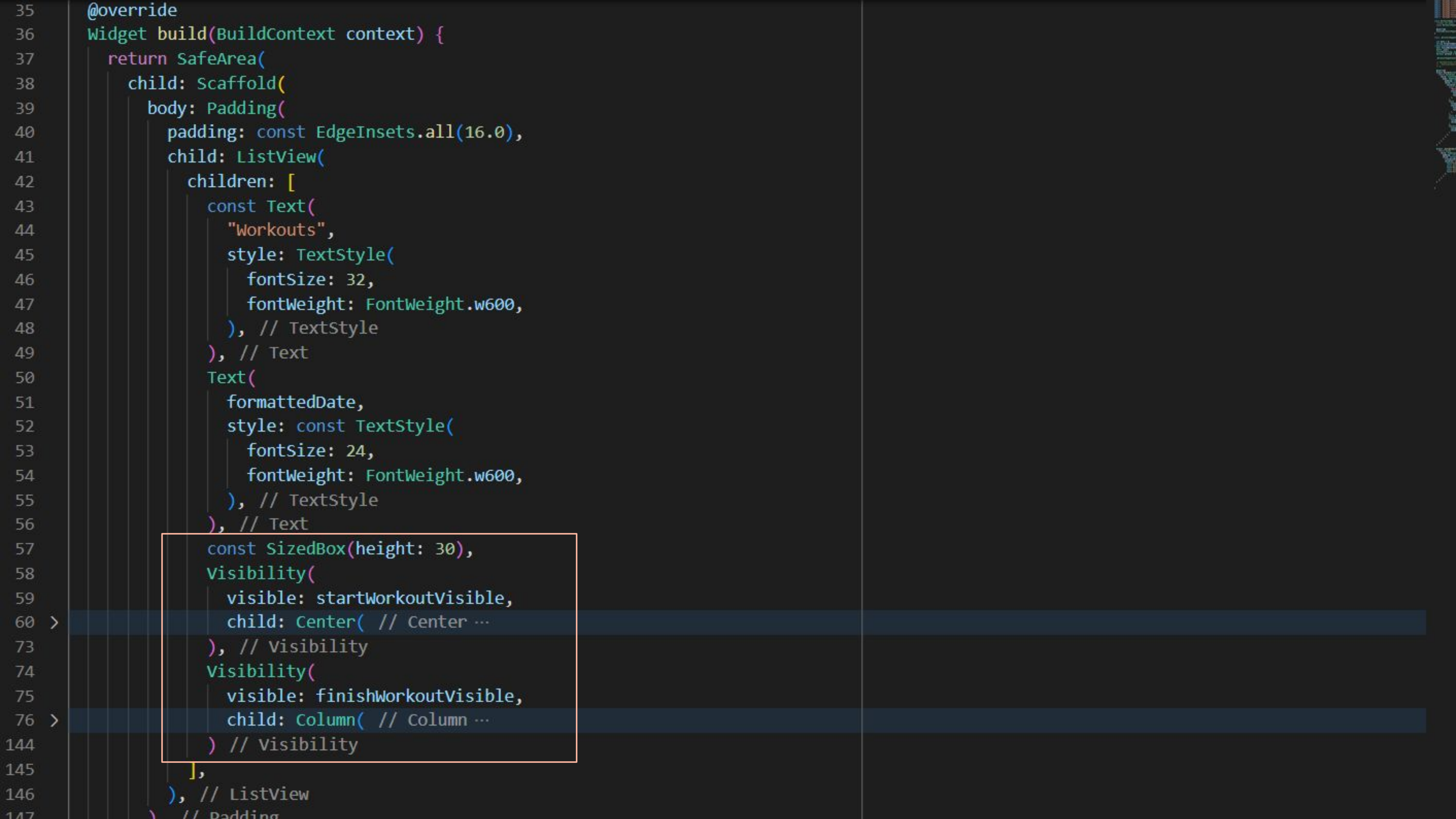


New Exercise

lunges

25

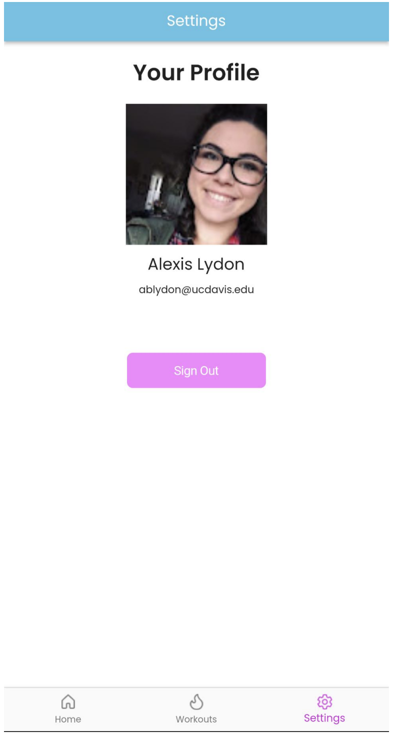
5 x 5



```
  @override
  Widget build(BuildContext context) {
    return SafeArea(
      child: Scaffold(
        body: Padding(
          padding: const EdgeInsets.all(16.0),
          child: ListView(
            children: [
              const Text(
                "Workouts",
                style: TextStyle(
                  fontSize: 32,
                  fontWeight: FontWeight.w600,
                ), // TextStyle
              ), // Text
              Text(
                formattedDate,
                style: const TextStyle(
                  fontSize: 24,
                  fontWeight: FontWeight.w600,
                ), // TextStyle
              ), // Text
              const SizedBox(height: 30),
              Visibility(
                visible: startWorkoutVisible,
                child: Center( // Center ···
              ), // Visibility
              Visibility(
                visible: finishWorkoutVisible,
                child: Column( // Column ···
              ) // Visibility
            ],
          ), // ListView
        ), // Padding
```

Settings Page

- Displays user information
- Allows user to log out
- Once logged out, the app no longer displays the bottom navigation bar



Settings

Your Profile

Alexis Lydon

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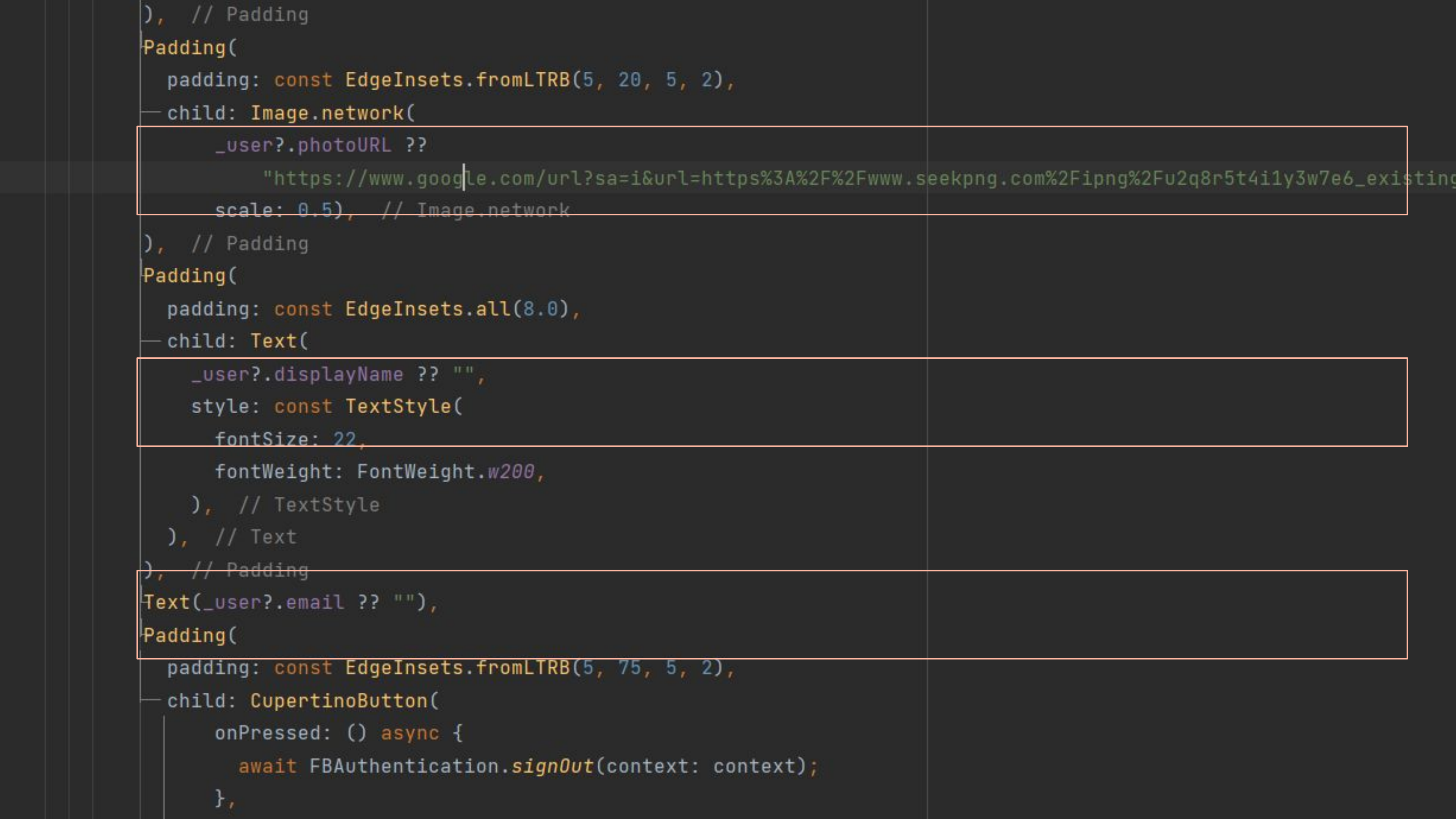

```
), // Padding
Padding(
  padding: const EdgeInsets.fromLTRB(5, 20, 5, 2),
  child: Image.network(
      _user?.photoURL ??
          "https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.seekpng.com%2Fipng%2Fu2q8r5t4i1y3w7e6_existing
      scale: 0.5), // Image.network
), // Padding
Padding(
  padding: const EdgeInsets.all(8.0),
  child: Text(
    _user?.displayName ?? "",
    style: const TextStyle(
      fontSize: 22,
      fontWeight: FontWeight.w200,
    ), // TextStyle
  ), // Text
), // Padding
Text(_user?.email ?? ""),
Padding(
  padding: const EdgeInsets.fromLTRB(5, 75, 5, 2),
  child: CupertinoButton(
      onPressed: () async {
        await FBAuthentication.signOut(context: context);
      },
```

Conclusion

- We made a workable and usable app!
- Goals Accomplished
  - Using google sign in and firestore with firebase
  - Showing a history of previous workouts completed
  - Keeping nice aesthetics and color consistency throughout app
- Future plans for app
  - Implementing user notifications
  - Allowing the user to view the previous exercises from a given previous workout
  - Showing a timer for current workout