Updating to the latest Firebase Package Versions

In this module, we used `cloud_firestore: 0.13.5` etc.

If you want to use the latest versions, you can follow the official migration guide to update your code: https://firebase.flutter.dev/docs/migration

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Attached you find the updated project code!

Especially make sure, that you remove and re-add the Android and iOS App configuration files and file entries -
see: https://firebase.flutter.dev/docs/migration#3-platform-setup

Then, update your dependencies and code like this:

Add the following **NEW dependency** to the `pubspec.yaml` file:

```
1. firebase_core: "^0.5.0"
```

Update the Firebase Auth and Cloud Firestore dependencies in your `pubspec.yaml` file - e.g. to:

```
1. firebase_auth: "^0.18.0+1"
2. cloud_firestore: "^0.14.0+2"
```

Now, let's dive into the code.

First, you have to call `Firebase.initializeApp();` early in your app.

You can do this in `main.dart`:

```
1. import 'package:firebase_core/firebase_core.dart';
2.
3. ...
4.
5. final Future<FirebaseApp> _initialization = Firebase.initializeApp();
6.     return FutureBuilder(
7.         // Initialize FlutterFire:
```

```
 8.          future: _initialization,
 9.          builder: (context, appSnapshot) {
10.            return MaterialApp(
11.              ...
12.              home: appSnapshot.connectionState != ConnectionState.done ? SplashScreen(
      ) : StreamBuilder(stream: FirebaseAuth.instance.authStateChanges(), ...
```

`initializeApp()` returns a `Future`, hence we use a `FutureBuilder` to either show the `SplashScreen()` if we're still waiting for app initialization or to show or regular `StreamBuilder`-based output if the app was initialized.

Also note that - as an additional change - `onAuthStateChanged` was renamed to `authStateChanges` and is **called as a method** now!

That's it for the `main.dart` file.

In the `auth_screen.dart` file, note that the `AuthResult` type was renamed to `UserCredential`.

Hence

```
1.  AuthResult authResult;
```

becomes

```
1.  UserCredential authResult;
```

In addition - in this file and in all other files - `Firestore` (e.g. in `Firestore.instance`) should be renamed to `FirebaseFirestore` (i.e. we would use `FirebaseFirestore.instance`).

In addition, the `document()` method on a `collection(...)` was renamed to `doc()`, `setData(...)` was renamed to `set(...)`.

You can still use the old names but it's better if you update your code - e.g.

```
1.  await Firestore.instance
2.    .collection('users')
3.    .document(authResult.user.uid)
4.    .setData({
5.      'username': username,
6.      'email': email,
7.      'image_url': url,
8.  });
```

becomes

```
1.    await FirebaseFirestore.instance
2.    .collection('users')
3.    .doc(authResult.user.uid)
4.    .set({
5.      'username': username,
6.      'email': email,
7.      'image_url': url,
8.    });
```

In `messages.dart` and any other file where we rely on the `currentUser()`, `currentUser()` no longer returns a `Future` but instead acts as a property which immediately returns the current user object - synchronously!

Hence

```
1.  return FutureBuilder(
2.    future: FirebaseAuth.instance.currentUser(),
3.      builder: (ctx, futureSnapshot) {
4.        if (futureSnapshot.connectionState == ConnectionState.waiting) {
5.          return Center(
6.            child: CircularProgressIndicator(),
7.          );
8.        }
9.        return StreamBuilder(
10.         stream: Firestore.instance,
11.         builder: ...
```

becomes

```
1.  final user = FirebaseAuth.instance.currentUser;
2.  return StreamBuilder(
3.    stream: FirebaseFirestore.instance,
4.    builder: ...
```

In addition - since user is no longer a Future:

```
1.  chatDocs[index]['userId'] == futureSnapshot.data.uid
```

becomes

```
1.  chatDocs[index]['userId'] == user.uid;
```

Last but not least, when accessing the data provided by a Firebase query - like in `new_message.dart`, the syntax also changed.

Instead of

```
1.  'username': userData['username']
```

you would now use the extra `data()` method to extract the data:

```
1.   'username': userData.data()['username']
```

This means, that the code in `messages.dart` also needs an adjustment:

```
1.   final chatDocs = chatSnapshot.data.documents;
2.    return ListView.builder(
3.      reverse: true,
4.      itemCount: chatDocs.length,
5.      itemBuilder: (ctx, index) => MessageBubble(
6.        chatDocs[index]['text'],
7.        chatDocs[index]['username'],
8.        chatDocs[index]['userImage'],
9.        chatDocs[index]['userId'] == user.uid,
10.       key: ValueKey(chatDocs[index].documentID),
11.     ),
12.   );
```

becomes

```
1.    final chatDocs = chatSnapshot.data.docs;
2.      return ListView.builder(
3.        reverse: true,
4.        itemCount: chatDocs.length,
5.        itemBuilder: (ctx, index) => MessageBubble(
6.          chatDocs[index].data()['text'],
7.          chatDocs[index].data()['username'],
8.          chatDocs[index].data()['userImage'],
9.          chatDocs[index].data()['userId'] == user.uid,
10.         key: ValueKey(chatDocs[index].id),
11.       ),
12.     );
```

Note that `documents` was changed to `docs`, the `data()` method was added and `documentID` was renamed to just `id`.