

A photograph of five hikers from behind, walking away from the viewer up a dry, grassy hillside. They are carrying large backpacks. The hiker on the far left has a blue Gregory backpack. The hiker second from the left has a green backpack. The hiker third from the left has an orange backpack. The hiker fourth from the left has a yellow backpack. The hiker fifth from the left has a red backpack. In the background, a massive, layered rock formation rises against a clear sky.

# Wanderlust

community hiker guide

# Target users and the problem they are facing

- Hikers
  - beginners - experts
  - teenager - older people
- absence of hiking community
- no access to information about hiking
- takes as lot of time to plan by yourself



# The key solution idea to tackle the problem

## Hiking community application

- Map with crowdsourcing information.
- Overview of the routes with ratings and comments from users.



Create a Group

YOUR FRIENDS' GROUPS

Travel Companions around the world !

104,620 Members 45,437 Discussions

Last Activity 19 minutes ago

Family CouchSurfing Group

18,884 Members 10,730 Discussions

Last Activity about 1 hour ago

hSurfing SWITZERLAND

5,540 Members 3,341 posts

Last Activity 2 days ago

Music Festivals

26,923 Members 3,810 Discussions

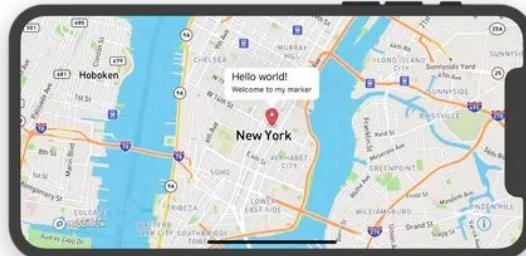
Last Activity 2 days ago

See More Groups ▶

My Groups

# The key solution idea to tackle the problem

- GPS location on top of google maps
- Easy overlay to record spots for...
  - Refilling water
  - Taking a picture
  - Places to rest
  - Other important information about the route
- User database to review routes taken and chat system for the community



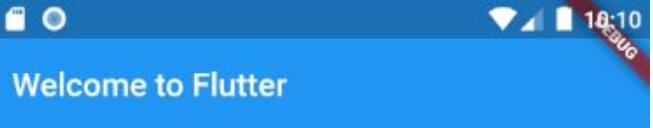
# System Architecture



# Flutter

- Open source, cross platform **app framework**
- In traditional Android programming you have to learn 3 concepts:
  - UI layout (XML tags)
  - UI design (XML attributes)
  - Interactivity (Java)
- Flutter: Everything is a “**widget**” (layout, design, interactivity)
- written in **Dart** (very **similar to java** in most cases, but with a few advantages)
- Easy to learn
- Allows “bridge” to Java code, if necessary
- widgets are just classes: reusable, adaptable

```
void main() => runApp(MyApp());  
  
class MyApp extends StatelessWidget {  
  @override  
  Widget build(BuildContext context) {  
    return MaterialApp(  
      title: 'Welcome to Flutter',  
      home: Scaffold(  
        appBar: AppBar(  
          title: Text('Welcome to Flutter'),  
        ), // AppBar  
        body: Center(  
          child: Text('Hello World'),  
        ), // Center  
      ), // Scaffold  
    ); // MaterialApp  
  }  
}
```



Layout Content

Hello World

“new” keyword optional,

named parameter

# code easier integrated with UI

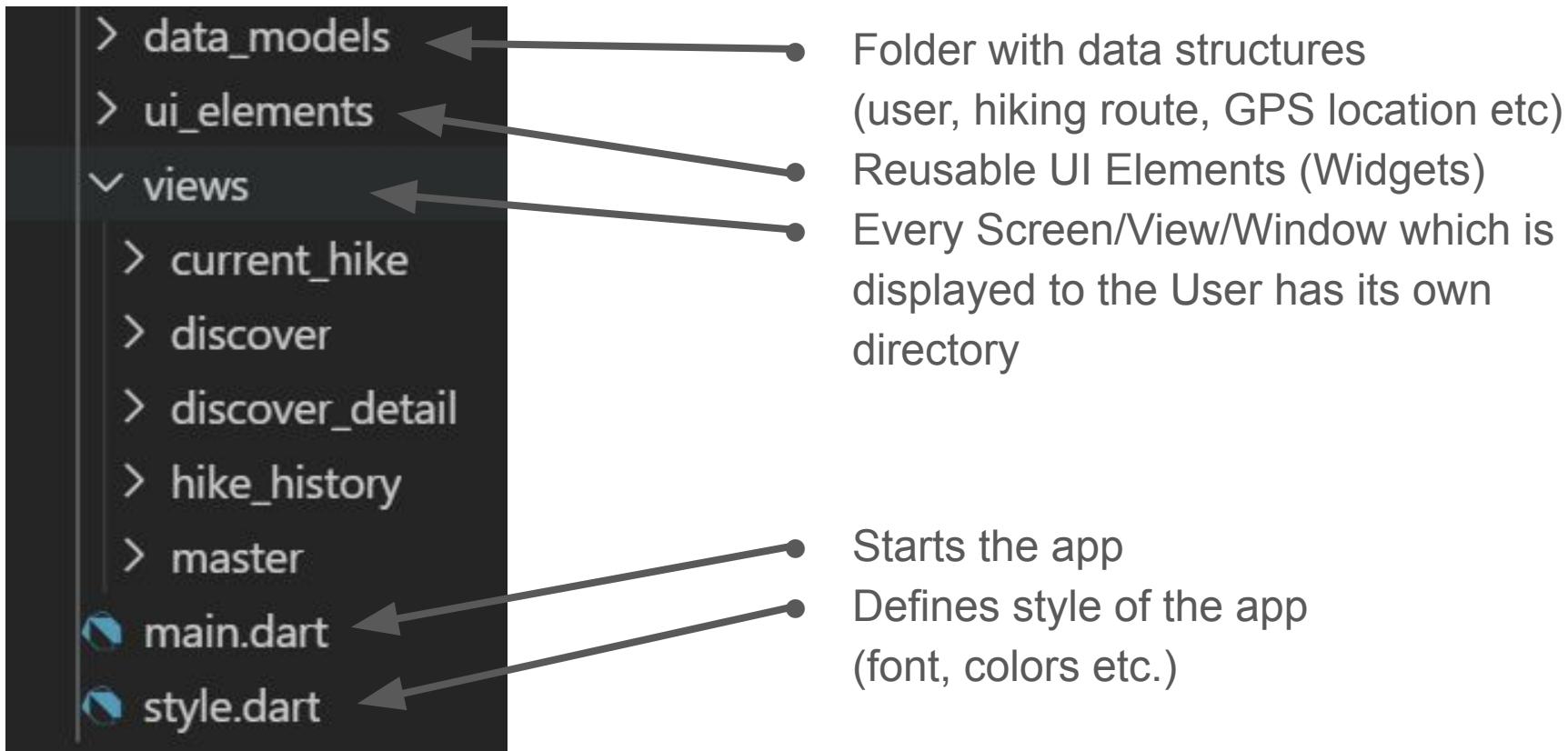
```
MaterialButton(  
    child: Text("I am a button"),  
    onPressed: () {  
        //Button pressed  
    },  
) // MaterialButton
```

# Everything is a “widget” in Flutter

- Every Screen,
- Every Button,
- Every layout instruction,
- Every text alignment,
- ...
- => structure of project in no way predetermined

**How is our project structured?**

# Project structure - code folder overview



# Project structure

## ui\_elements

- button\_navigation.dart
- custom\_button.dart
- image\_scroller.dart
- profile\_picture.dart
- rating.dart
- route\_info.dart
- route\_map.dart

## views

### current\_hike

### discover

- app\_bar.dart
  - discover.dart
  - filter\_drawer.dart
  - search\_result\_card.dart
  - search\_text\_input.dart
- > discover\_detail
- > bike\_history

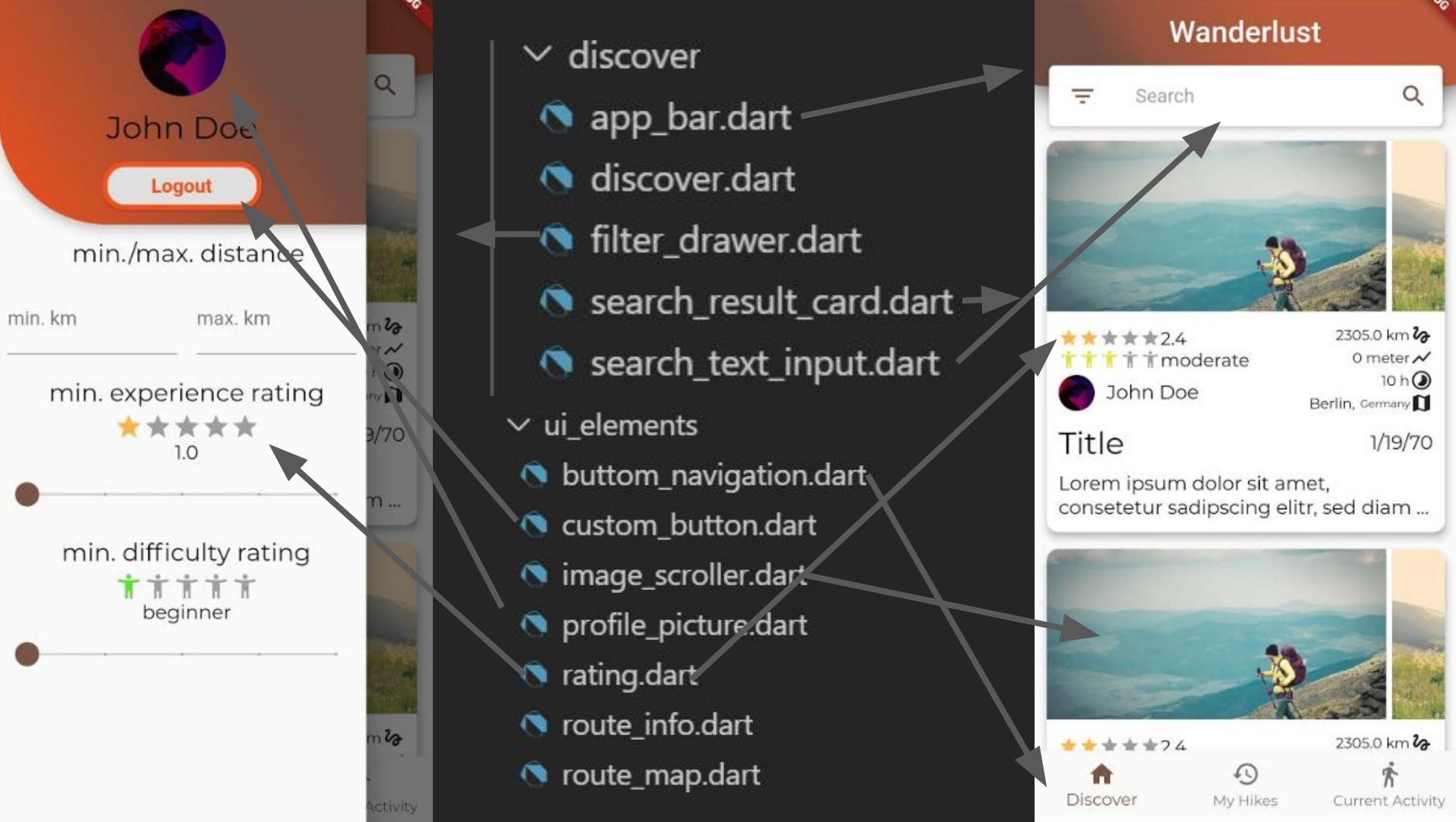


**UI Elements that are reused in multiple views**

Actual View, named exactly like folder, all other widgets defined in this folder are children



**UI Elements that are only used in the View named discover**



# Google Maps



What we did:

- Setup developer account online and verify identity with credit card information
- Create Google Maps API key in developer console
- Installed Google Maps plugin for Flutter

Problems we encountered:

- No sufficient documentation of API (because its in beta version)
- API key should not be uploaded publicly
  - -> But our repository is public
  - Rewrote gradle build script: API key is being read from a file GOOGLE\_MAPS\_API.txt
  - created .gitignore file: GOOGLE\_MAPS\_API.txt is ignored by git and not uploaded
  - -> every team member puts this file manually in his local clone of the repository

# Database

We are using Cloud Firestore:

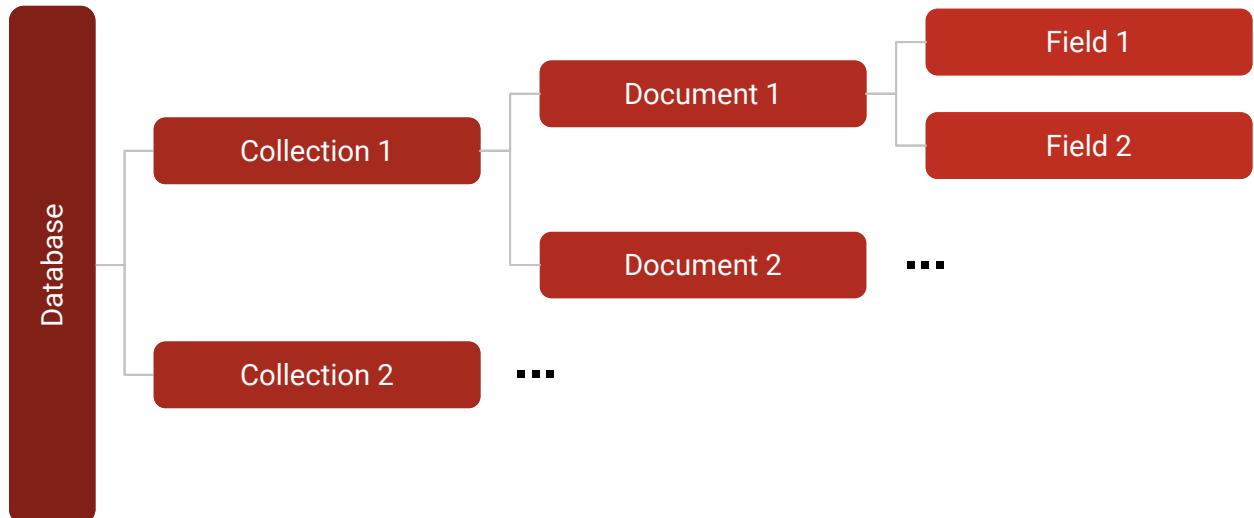
- free (as long as you don't have too many users)
- NoSQL cloud database
- document-oriented



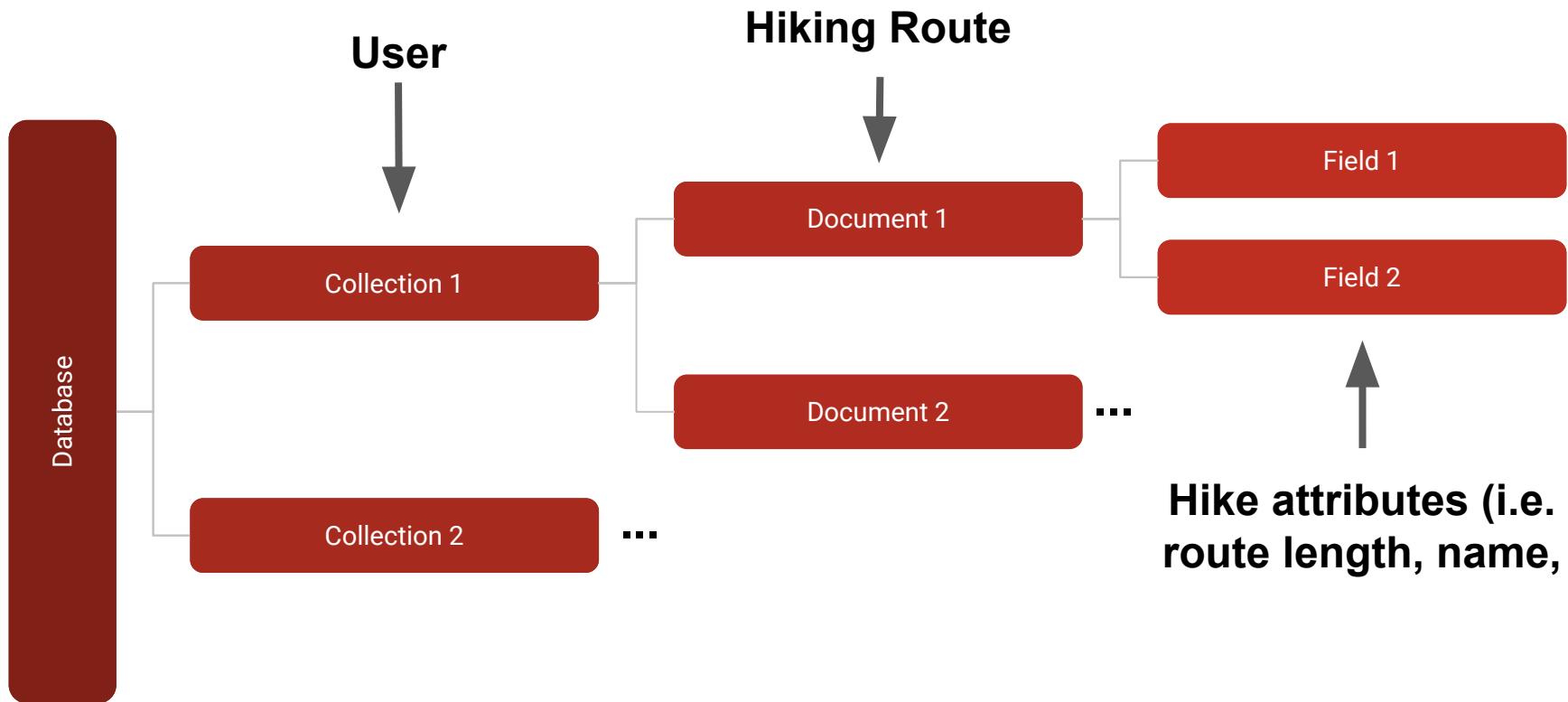
Cloud  
Firestore

# What does document-oriented mean?

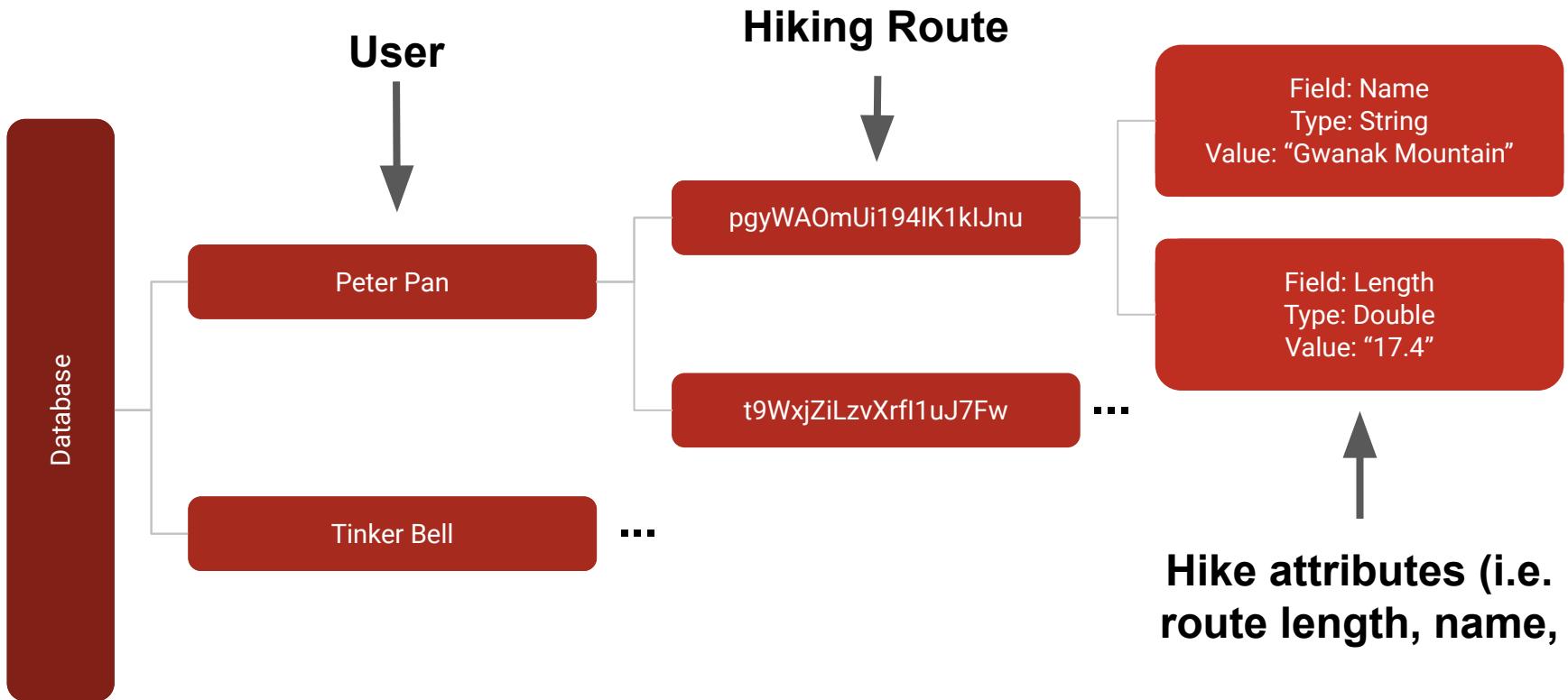
- a lot like JSON
- collections store documents and documents store fields
- fields store the actual data
- document = key
- field = value
- fields can be of any type (e.g. String, Array, Int)
- further nesting possible



# Our hierarchy:



# Example



# project plan

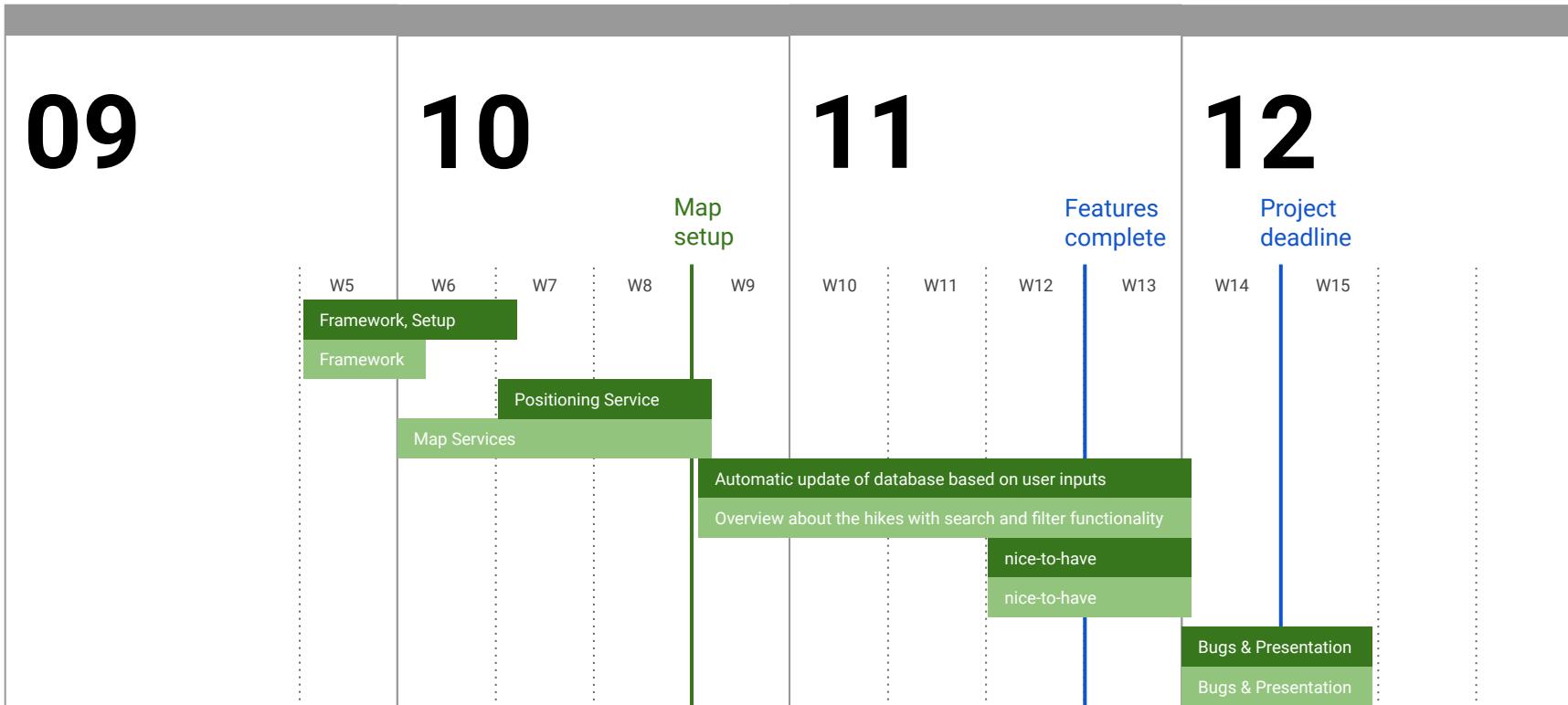


Team 1

Andre, Dimitri, Downon

Team 2

Emil, Jonas

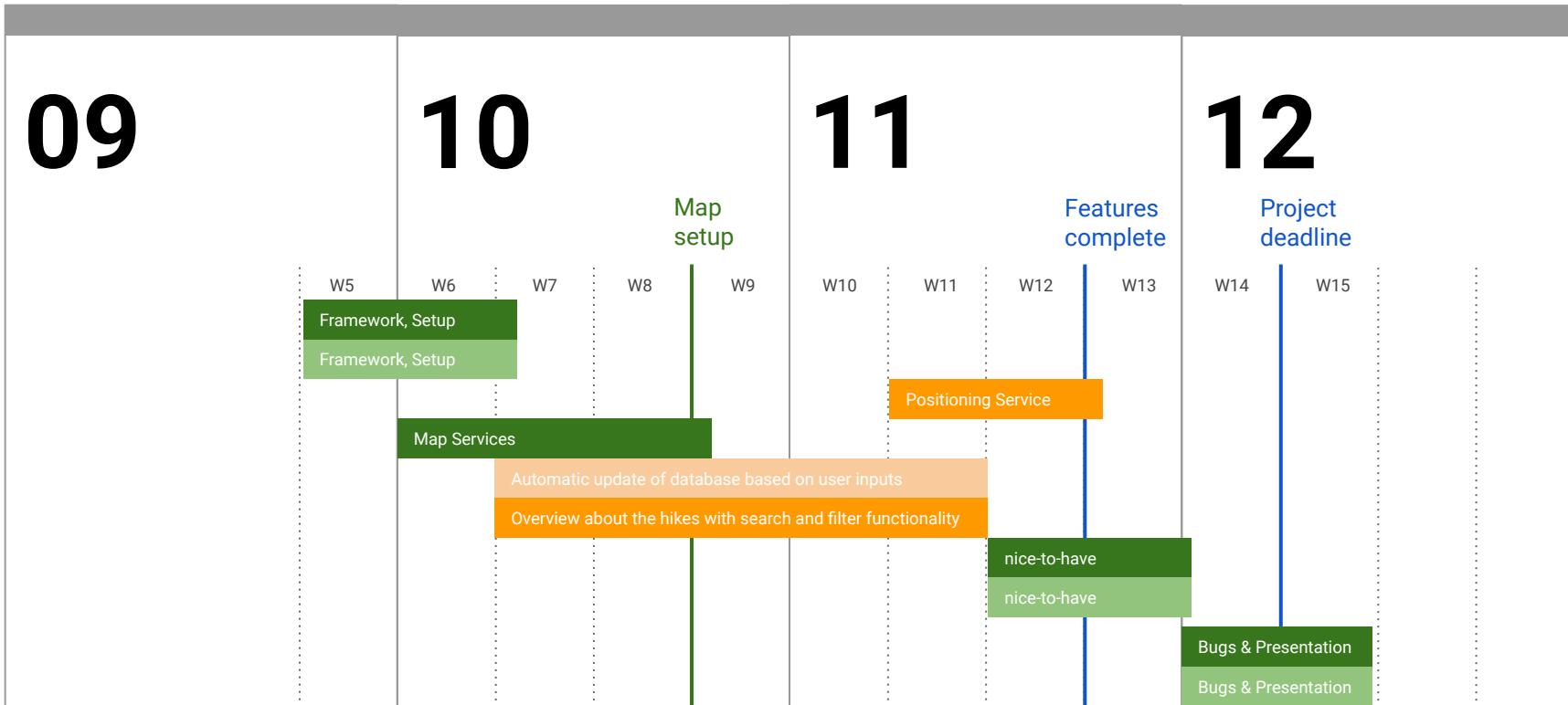


Team 1

Andre, Dimitri

Team 2

Dowon, Emil, Jonas



A silhouette of a person standing on a mountain peak under a starry night sky.

# final deliverables

# final deliverable and success criteria

## finished app or advanced prototype

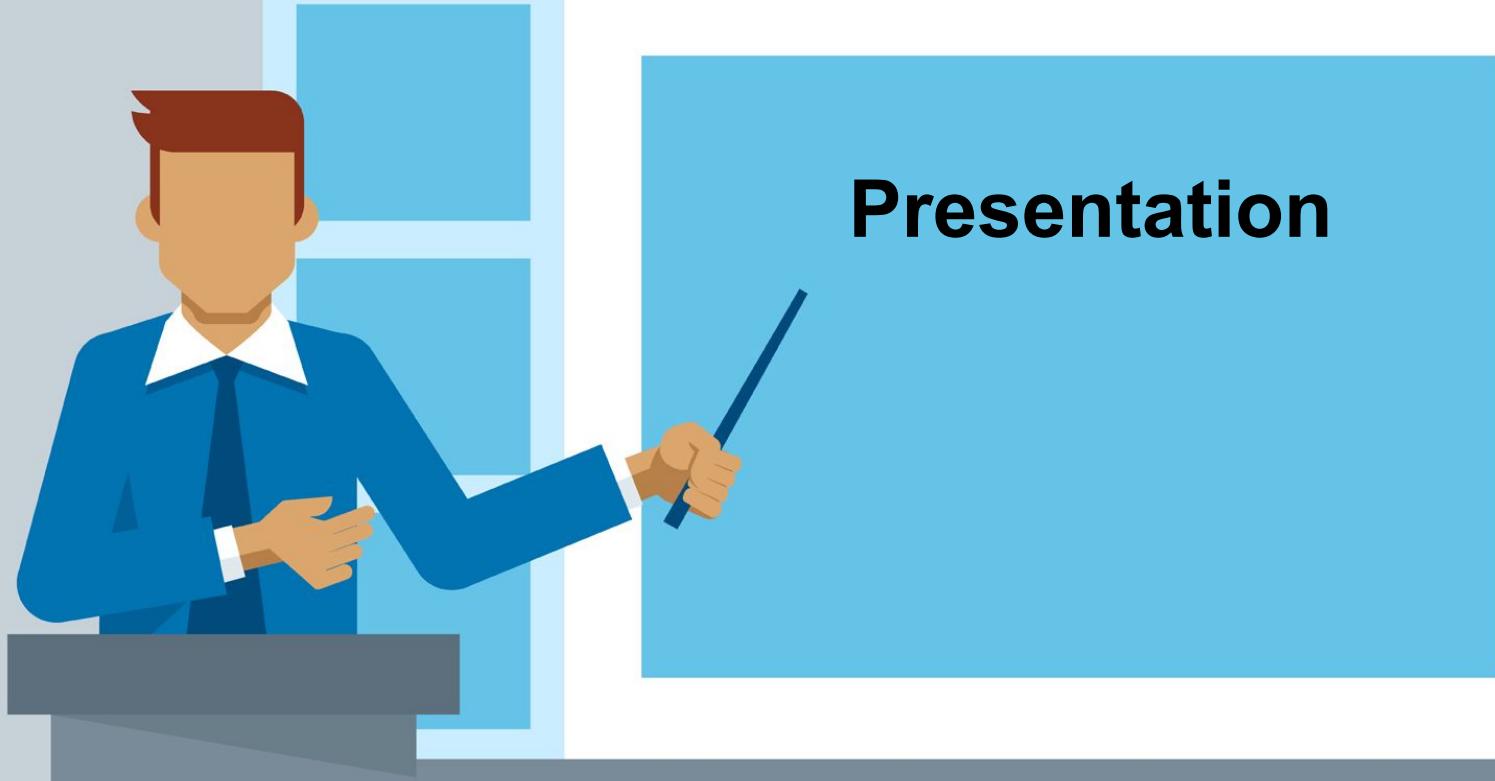
- crash free app
- Working google maps implementation
- Working database and filter functionality on data

## commented and “clean” code

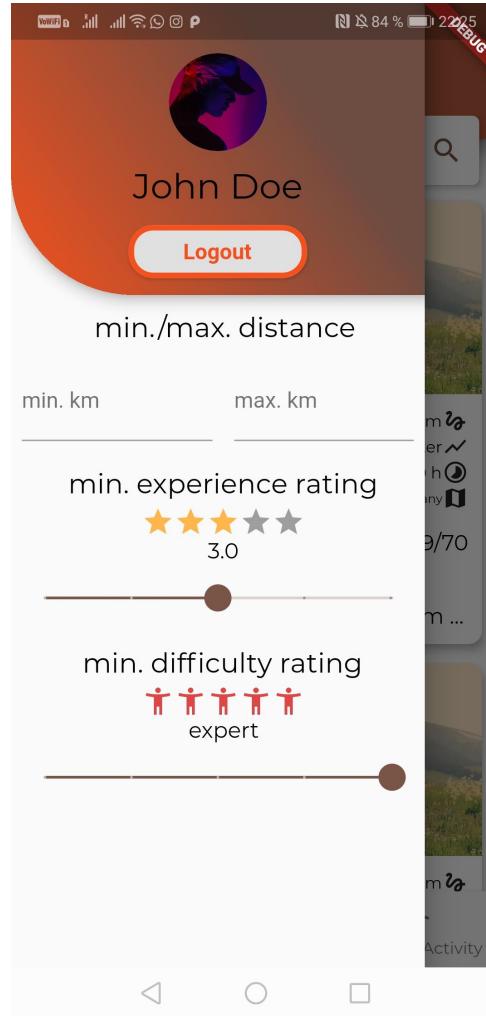
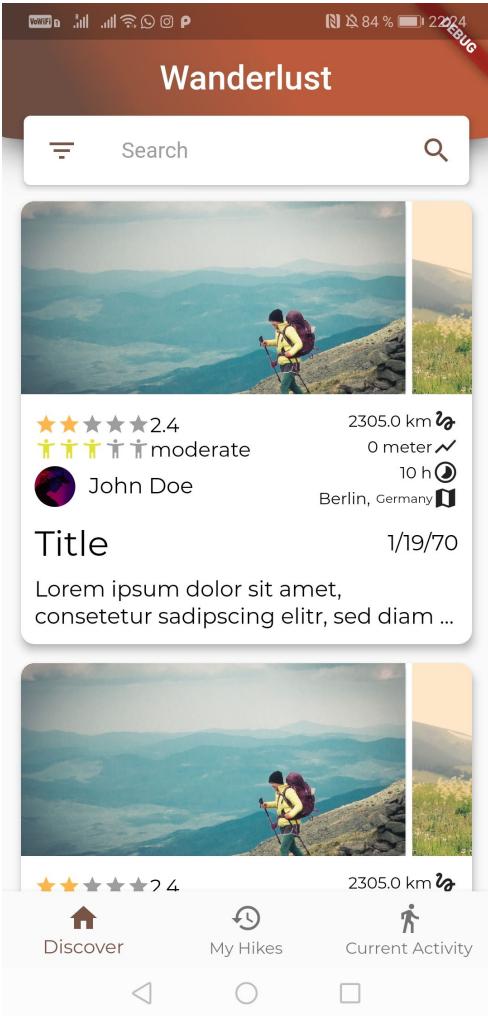
- understandable code for the implementation of additional features

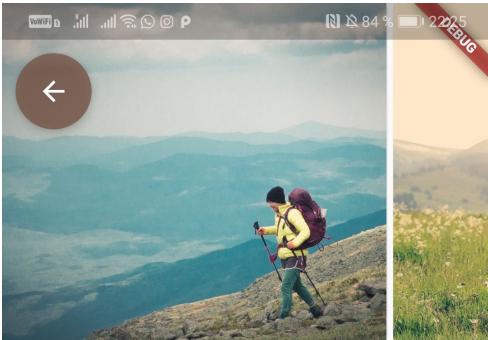
## intuitive to use and added value

- the application is intuitive (no onboarding is required)
- users need less time to plan his trip



# Presentation





Start this route

★★★★★ 2.4  
moderate

2305.0 km ↗  
0 meter ↘  
10 h ⏱

Berlin, Germany 🇩🇪

Title

1/19/70

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

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## Tips & Tricks

Don't forget your water bottle





# Q&A

Thank you for listening!

