
Internet-Praktikum: Telekooperation

Project: Sechzehn

Team Bravo: Alexander Geiß (alexanderhelmut.geiss@stud.tu-darmstadt.de),
Lukas Klein (lukas.klein@stud.tu-darmstadt.de),
Martin Lichtblau (martin.lichtblau@stud.tu-darmstadt.de),
Johannes Semsch
(johannesmaximilianchristian.semsch@stud.tu-darmstadt.de),
Tim Walter (tim.walter.10@stud.tu-darmstadt.de)



TECHNISCHE
UNIVERSITÄT
DARMSTADT



Contents

1	Motivation	2
2	Overview	3
2.1	Architecture	3
2.1.1	Diagram Interaction	3
2.1.2	ERM	3
2.1.3	UML Diagram	3
2.2	Server	3
2.2.1	Node.js	3
2.2.2	AdonisJs	3
2.2.3	PostgreSQL	3
2.2.4	JSON Web Tokens	3
2.3	Client	3
2.3.1	Android Data Binding	3
2.3.2	Retrofit	4
2.3.3	GSON	4
2.3.4	ChatKit	4
3	Feature Explanation	5
3.1	System Requirements	5
3.2	Get Started	5
3.3	App Flow	5
4	Feature List	6

1 Motivation

2 Overview

In this section we present the architecture we used and thereby how our components interact with each other. We then briefly describe which technologies we chose, and why we chose them.

2.1 Architecture

2.1.1 Diagram Interaction

2.1.2 ERM

2.1.3 UML Diagram

2.2 Server

To host our server we use the Heroku Cloud Application Platform[1]. Heroku provides us a PostgreSQL[5] database service and an nodejs execution environment. Furthermore it offers access to Cloudinary[2] image backend. The Cloudinary service can be used as plugin within heroku.

2.2.1 Node.js

[3]

2.2.2 AdonisJs

[4]

2.2.3 PostgreSQL

PostgreSQL[5] is an open-source relational database management system. It is possible to add new data types and functions in PostgreSQL. Amongst other things we implemented a function to compute the Great-circle distance[6]. The Great-circle distance is necessary to compute distances on spheres and therefore to compute distances on the earth. Moreover native programming interfaces exist for many languages. Since Heroku also has a PostgreSQL plugin, that was our way to go.

2.2.4 JSON Web Tokens

The Authentication in our project is done with JSON Web Tokens(JWTs)[7].

2.3 Client

2.3.1 Android Data Binding

[8]

2.3.2 Retrofit

[9]

2.3.3 GSON

[10]

2.3.4 ChatKit

[11]

3 Feature Explanation

3.1 System Requirements

minSDK 23

compileSDK 25

Permissions and justification why they are necessary

3.2 Get Started

Explain how to download and install the APK

3.3 App Flow

When a user starts the app for the first time he enters the login screen. On this screen the user has three options:

1. he can login with his email and password.
2. if he has no account yet, he can enter the register screen and create one.
3. if he has forgotten his password he can request a password reset link to your email address.

We further assume that the user is logged in. he now sees a bottom navigation bar with three navigation options.

1. the first one shows the map with venues and users
2. the second one shows a list with friends and messages
3. the third one is the users profile and its settings

4 Feature List

Bonus Feature: Email Verficiation, JWT, Filterable Results, Live Update, Anonymity Button

Bibliography

- [1] *Heroku*, Accessed: 2017-08-09,
<https://www.heroku.com/>
- [2] *Cloudinary Features*, Accessed: 2017-08-09
<http://cloudinary.com/features>
- [3] *API Reference Documentation*, Accessed: 2017-08-09,
<https://nodejs.org/en/docs/>
- [4] *AdonisJs at a Glance*, Accessed: 2017-08-09,
<https://adonisjs.com/docs/3.2/overview>
- [5] *PostgreSQL: Documentation*, Accessed: 2017-08-09,
<https://www.postgresql.org/docs/>
- [6] *Great-Circle Distanz*, Accessed: 2017-08-09,
https://en.wikipedia.org/wiki/Great-circle_distance
- [7] *Introduction to JSON Web Tokens*, Accessed: 2017-08-09,
<https://jwt.io/introduction/>
- [8] *Data Binding Library*, Accessed: 2017-08-09,
<https://developer.android.com/topic/libraries/data-binding/index.html>
- [9] *Retrofit: A type-safe HTTP client for Android and Java*, Accessed: 2017-08-09,
<https://square.github.io/retrofit/>
- [10] *Google GSON*, Accessed: 2017-08-09,
<https://github.com/google/gson>
- [11] *ChatKit for Android*, Accessed: 2017-08-09,
<https://github.com/stfalcon-studio/ChatKit>