



# BIKEPACKER

APPLICATION FOR CYCLISTS  
AND TRAVELERS



# Meet the team

student

## Alexander Baklanov

The Faculty of Information Technology  
and Computer Security  
student,  
Voronezh State Technical University

@ComeBak 



student

## Valentina Filonova

The Faculty of Computer Sciences  
student,  
Voronezh State University

 @press1Em



student

## Alexander Matyuhin

The Faculty of Computer Sciences  
student,  
Voronezh State University

@al\_mtn 



student

## Alexander Ryazantsev

The Faculty of Physics  
postgraduate student,  
Voronezh State University

 @ad\_ryaz



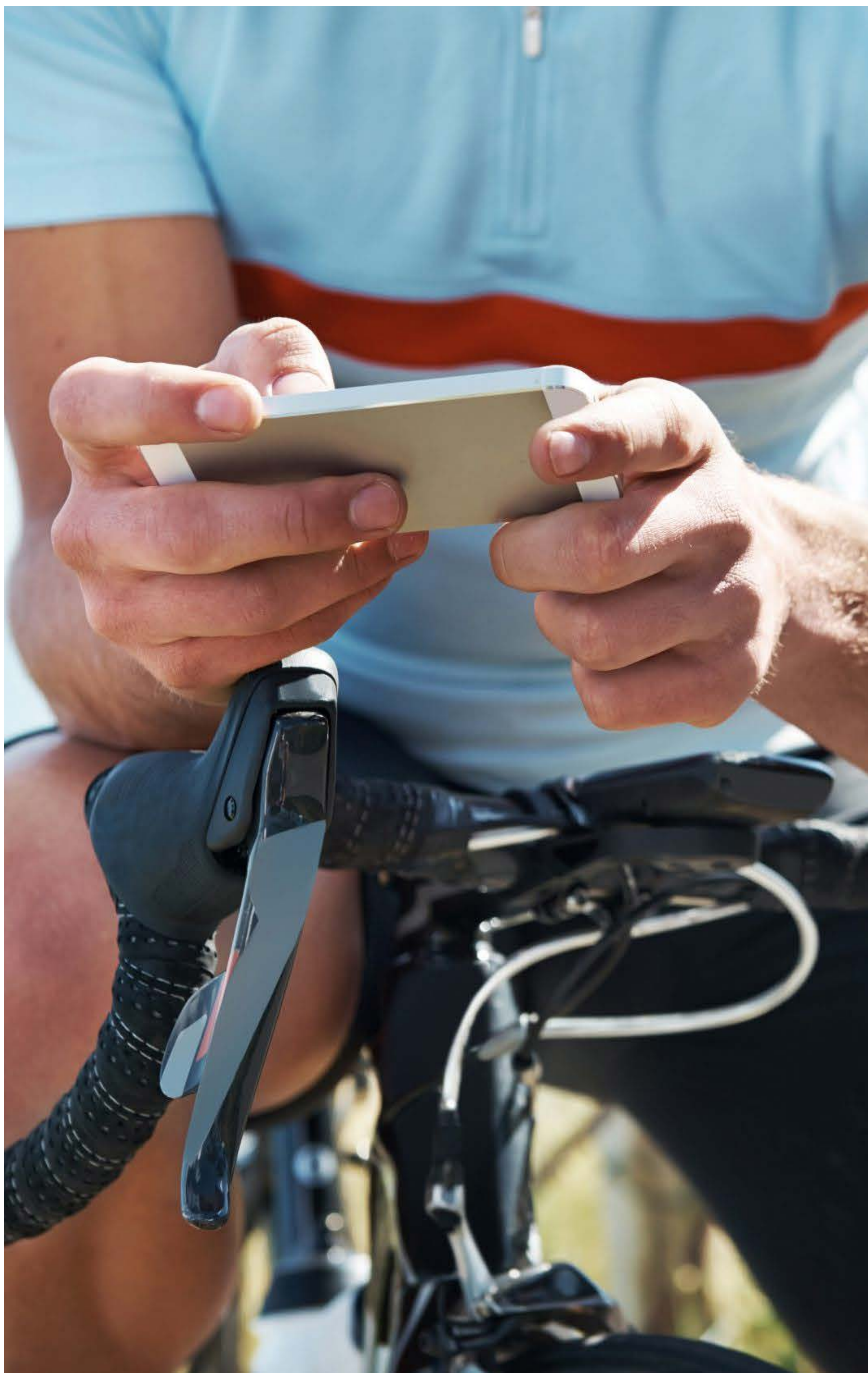


# What is Bikepacker?

**Bikepacker** is an application for planning cycle trips.

**bikepacking** - simply put, bikepacking is the synthesis of all-terrain cycling and self-supported backpacking. It's about venturing further into places less traveled, both near and far, via singletrack trails, gravel, and forgotten dirt roads, carrying the essential gear, and not much more.

[bikepacking.com](http://bikepacking.com)

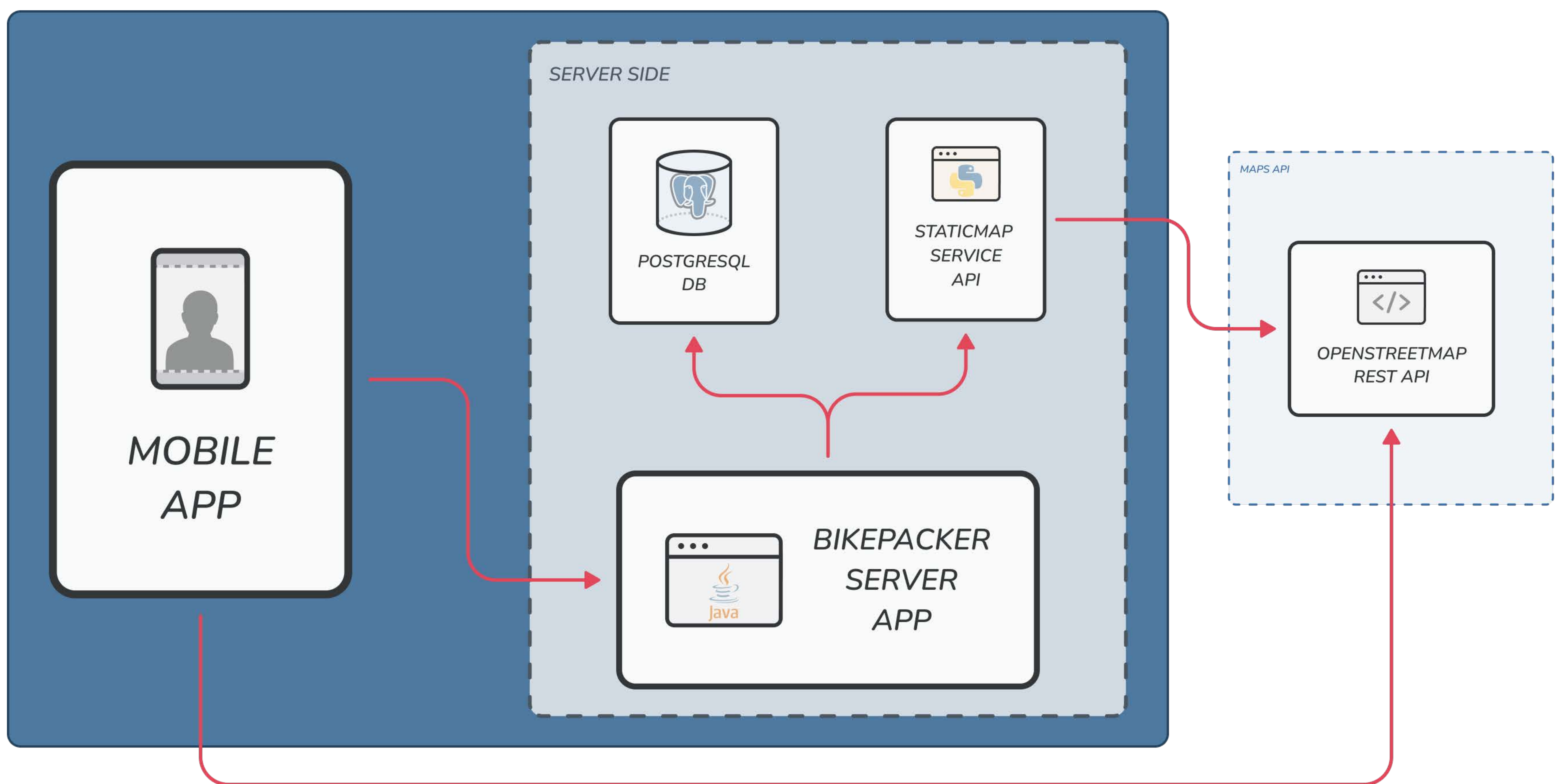


## App features

1. Implementation of a graphical interface for working with geodata.
2. Creating, saving and displaying bicycle routes.
3. Adding and describing points on the route, corresponding to interesting places on the route.
4. Collecting and providing basic statistics on completed rides.
5. Adding other people's routes to favorites for future reuse.
6. Finding and adding new friends. Use their tracks.
7. Creating travel articles/stories.
8. Importing and exporting .gpx files.
9. Easy migration from Strava.



# Architectural diagram



## Backend used technologies

1. Ubuntu Server
2. Java
3. Spring Framework
4. Flask Framework
5. PostgreSQL
6. OpenStreetMap API
7. Swagger
8. Git
9. Github CI/CD



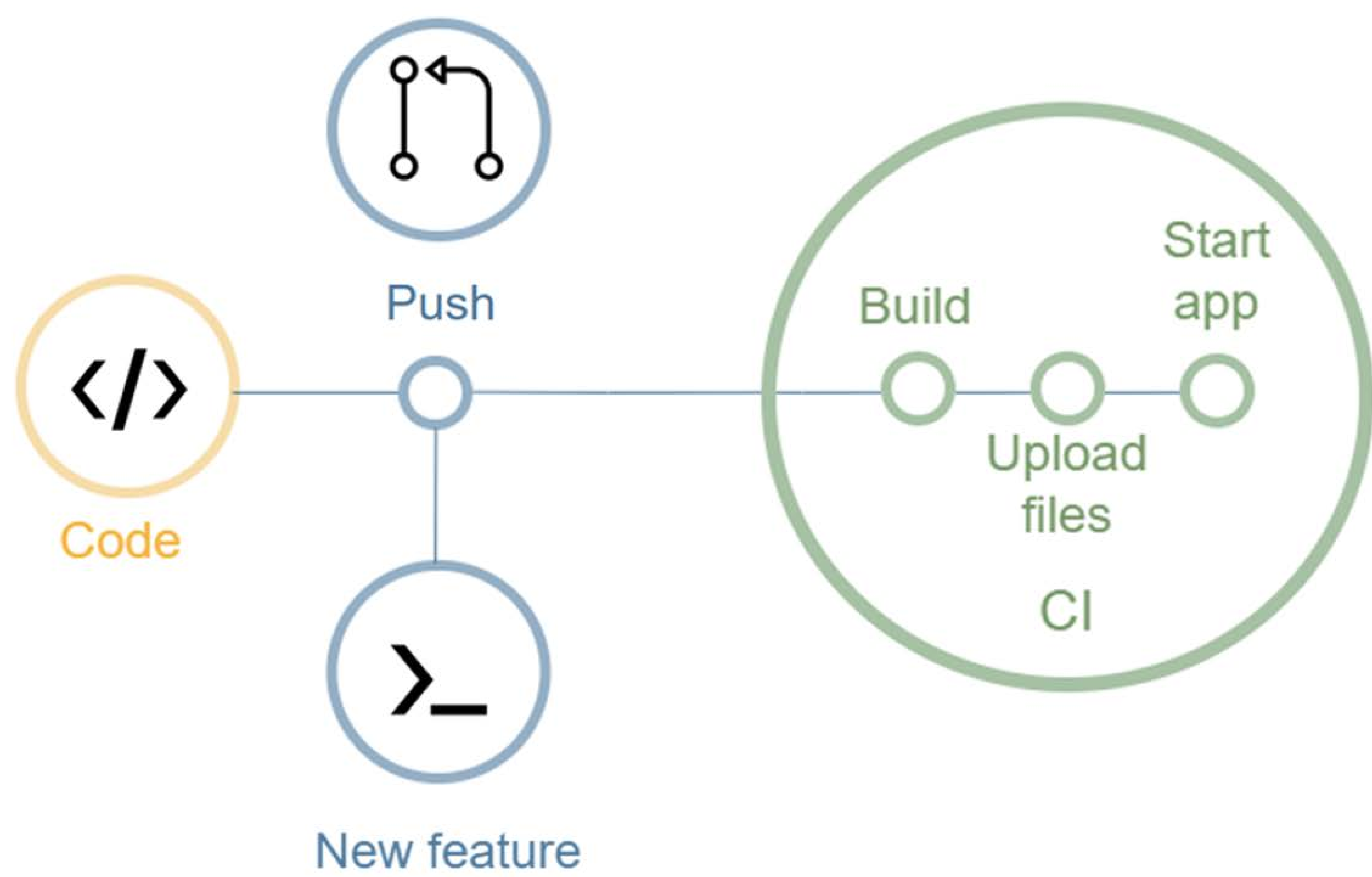
## Frontend used technologies

1. Android
2. osmdroid
3. Retrofit 2
4. JPX
5. Picasso

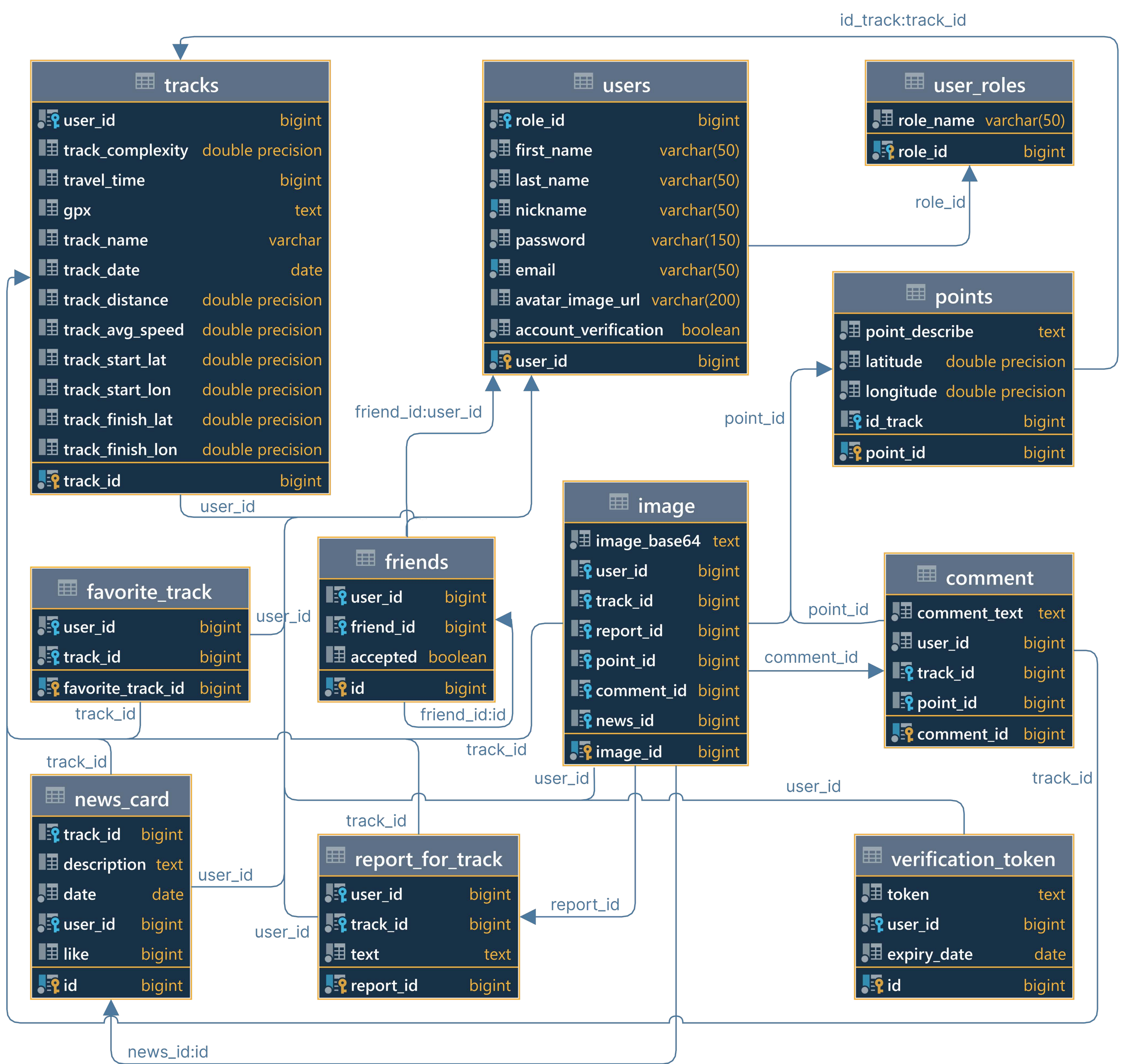




# CI/CD



# Data model







# Initial design system

## Extension points



1. Detailed analysis of saved tracks.
2. Recommendation system for app users.
3. Integration with photo services.
4. Integration with smart watches and fitness trackers.
5. Bikepacking global activity map (heatmap).
6. Articles and reviews on bikes and equipment.
7. Organizing weekend and long trips, brevets and other competitions.
8. Integration with equipment resellers as a means of monetization.





## **Students**

Alexander Baklanov

Valentina Filonova

Alexander Matyuhin

Alexander Ryazantsev

## **Tutors**

Ilya Chudov

Eduard Kiselev

Oleg Tekuchev

Voronezh  
2022