

Backend application

Backend application

- **CRUD** - Create Read Update Delete
- **REST** - REpresentational State Transfer
- **ORM** - Object-Relational Mapping
- Relational database

Recommended Technology stack

- Java
- Python
- Node.js

+ PostgreSQL or MySQL/MariaDB

Technology stack

Java

Java - Programming language

Spring Boot - Application framework

Spring Data JPA (Hibernate) - ORM framework

Spring MVC - Web framework

postgresql-jdbc - Database driver for PostgreSQL

mysql-connector-java - Database driver for MySQL

JUnit 5 - Unit testing framework

Mockito - Mocking framework for unit tests

Spring Test - Integration testing support

Technology stack

Python

Python - Programming language

Flask - Web framework

SQLAlchemy - ORM framework

Flask-RESTful - REST API extension

psycopg2 - Database driver for PostgreSQL

mysql-connector-python - Database driver for MySQL

pytest - Testing framework for unit and integration tests

unittest.mock - Mocking library (built-in)

Technology stack

Node.js

JavaScript - Programming language

Express.js - Web framework

Sequelize - ORM framework

Express Router - Routing middleware

pg - Database driver for PostgreSQL

mysql2 - Database driver for MySQL

Jest - Testing framework for unit and integration tests

Supertest - HTTP assertions for API testing

Domain

Fitness Challenge Tracker

Game Achievement Tracker

Music Festival Performance Scheduler

Pet-friendly Restaurant Directory

Fitness Challenge Tracker

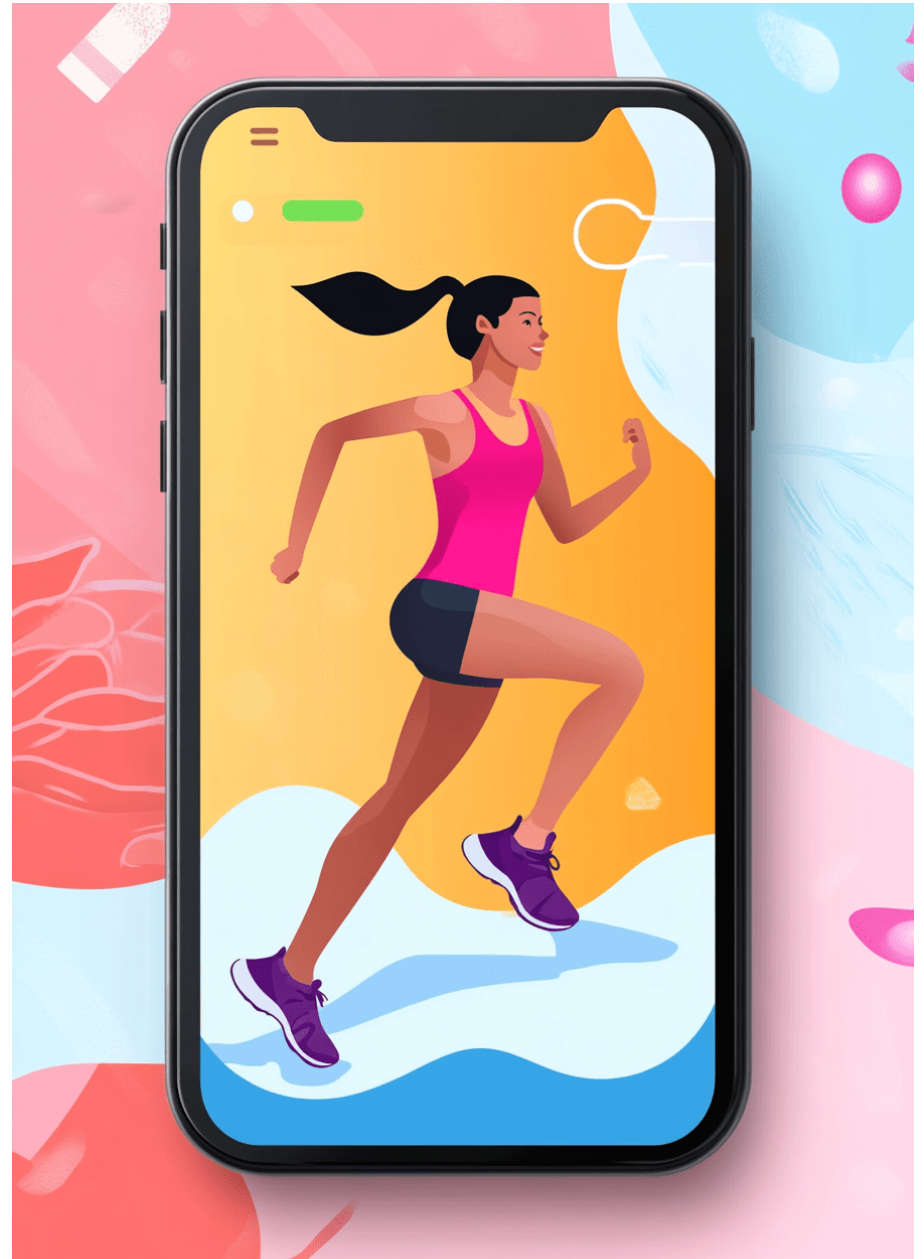
challenge

- name
- type
- start_date
- end_date

progress

- challenge_id
- score
- progress_date

```
POST /challenges/  
GET /challenges/  
GET /challenges/{id}  
DELETE /challenges/{id}  
POST /challenges/{id}/progress  
PUT /challenges/{id}/progress/{progress_id}  
GET /challenges/{id}/progress
```



Game Achievement Tracker

game

- title
- category
- release_date

achievement

- game_id
- type
- description
- achievement_date

```
POST /games/  
GET /games/  
GET /games/{id}  
DELETE /games/{id}  
POST /games/{id}/achievements  
PUT /games/{id}/achievements/{achievement_id}  
GET /games/{id}/achievements
```



Music Festival Performance Scheduler

festival

- name
- start_date
- end_date
- location

performance

- artist_name
- genre
- start_time
- end_time

```
POST /festivals/  
GET /festivals/  
GET /festivals/{id}  
DELETE /festivals/{id}  
POST /festivals/{id}/performances  
PUT /festivals/{id}/performances/{performance_id}  
GET /festivals/{id}/performances
```



Pet-friendly Restaurant Directory

restaurant

- name
- cuisine
- location

review

- date
- animal
- rating
- comment

```
POST /restaurants/  
GET /restaurants/  
GET /restaurants/{id}  
DELETE /restaurants/{id}  
POST /restaurants/{id}/reviews  
PUT /restaurants/{id}/reviews/{review_id}  
GET /restaurants/{id}/reviews
```

