Jolteon

Electric Bike Rental
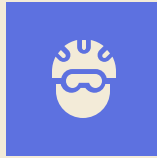
TQS 24/25

June 5th 2025

Raquel Vinagre Team Manager 113736
António Alberto - Product Owner 114622
Diogo Fernandes - DevOps Master 114137
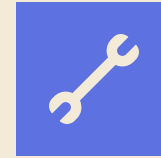Henrique Oliveira - QA Engineer 113585

Product Concept

Jolte*on*

- Bike renting platform
- Interactive map
- City Admin and Bike Operator Control Pannels

Target Market
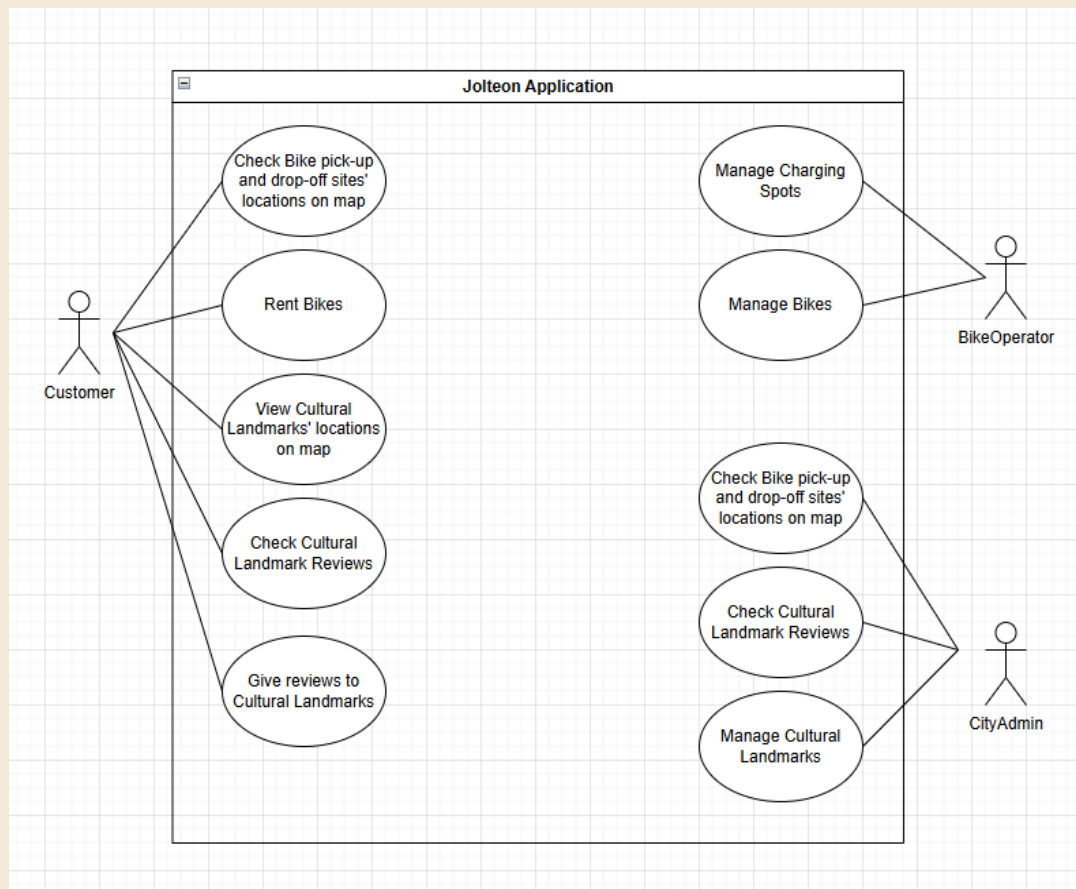
- Urban Cyclists
- Tourists
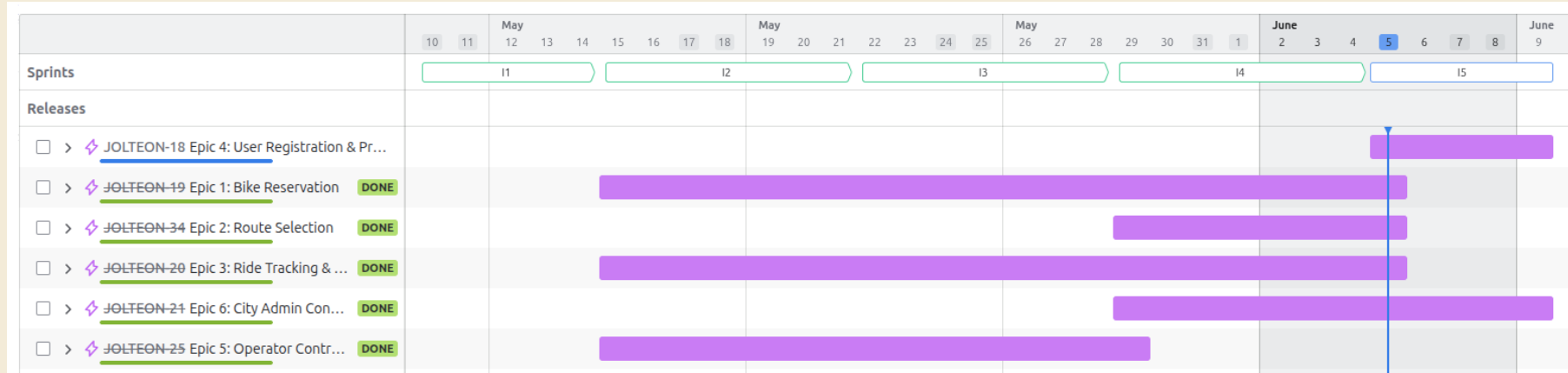- Urban Planners

Core Value Proposition

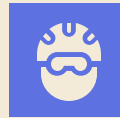- View Cultural Landmarks' locations and reviews

Use Cases

Jolteon Application

Customer
- Check Bike pick-up and drop-off sites' locations on map
- Rent Bikes
- View Cultural Landmarks' locations on map
- Check Cultural Landmark Reviews
- Give reviews to Cultural Landmarks

BikeOperator
- Manage Charging Spots
- Manage Bikes

CityAdmin
- Check Bike pick-up and drop-off sites' locations on map
- Check Cultural Landmark Reviews
- Manage Cultural Landmarks

3

Product Development Roadmap

Sprints			I1		I2		I3		I4		I5

| | May | 10 | 11 | May 12 | 13 | 14 | 15 | 16 | 17 | 18 | May 19 | 20 | 21 | 22 | 23 | 24 | 25 | May 26 | 27 | 28 | 29 | 30 | 31 | 1 | June 2 | 3 | 4 | 5 | 6 | 7 | 8 | June 9 |

Releases

- JOLTEON-18 Epic 4: User Registration & Pr...
- JOLTEON-19 Epic 1: Bike Reservation — DONE
- JOLTEON-34 Epic 2: Route Selection — DONE
- JOLTEON-20 Epic 3: Ride Tracking & ... — DONE
- JOLTEON-21 Epic 6: City Admin Con... — DONE
- JOLTEON-25 Epic 5: Operator Contr... — DONE

Agile development
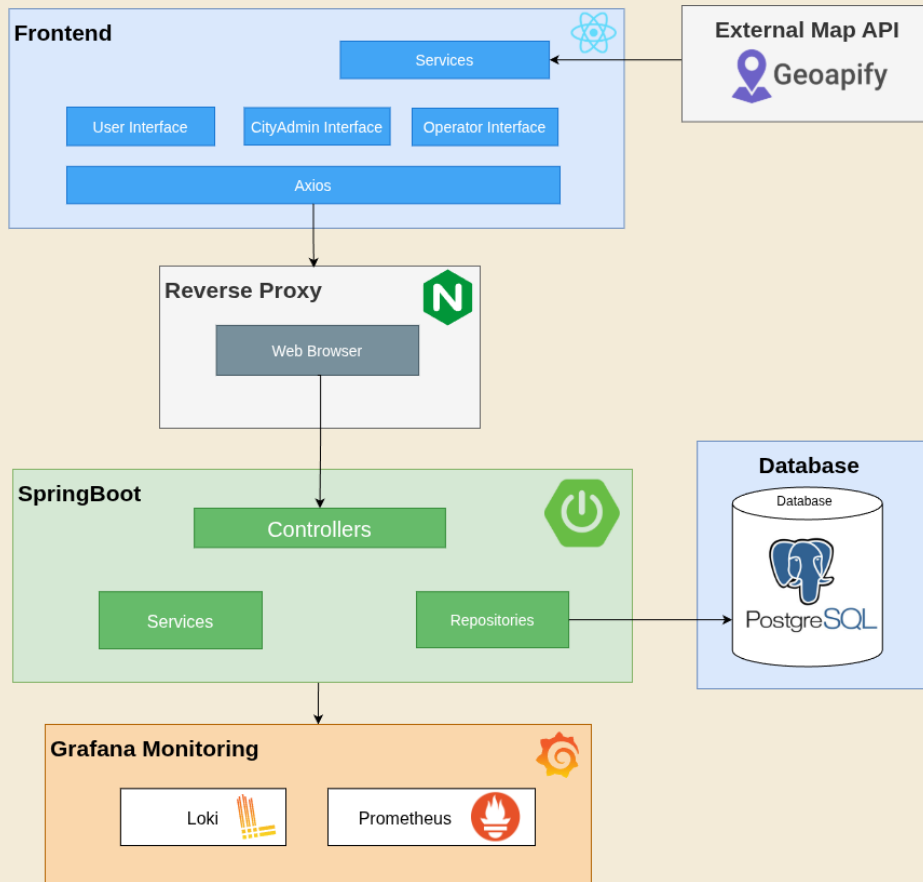
Weekly meetings

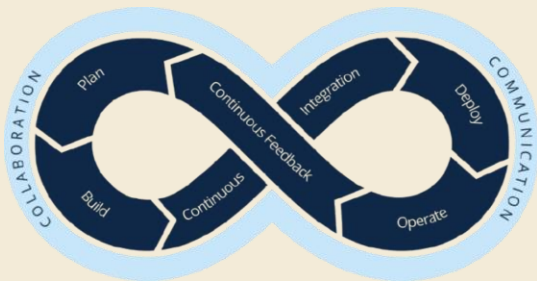**Continuous feedback**

4

Architecture

- All services are containerized using **Docker**

- **Backend**: SpringBoot

- **Frontend**: Vite+React

- **Reverse Proxy**: Nginx

- **Monitoring**: Grafana with Loki and Prometheus

- **Database**: PostgreSQL

5

Development Pipeline

Development workflow

- **Stories in Jira -> Feature Branches**
- **Each PR needs a code review**
- **PRs are only accepted if all CI pipelines run correctly**
- **We use Github actions for the pipelines**

Continuous Integration

- **On a PR:**
    - SonarCloud checks coverage
    - Xray Test coverage is sent to Jira
    - Everything on Push as well

- **On Push:**
    - Frontend code needs to be formatted and linted
    - Backend code needs to pass all tests

Continuous Deployment

- **On Merge with Develop:**
    - The code is deployed to the VM using a Github runner

QA Stack

- **Unit testing**
- Integration testing
- UI Testing (E2E)
- Story-centered testing
- Observability
- Coverage Tools
- Code quality

QA Stack

- • Unit testing
- • **Integration testing**
- • UI Testing (E2E)
- • Story-centered testing
- • Observability
- • Coverage Tools
- • Code quality

QA Stack

- ○ • Unit testing

- ○ • Integration testing

- ○ • **UI Testing (E2E)**

- • Story-centered testing

- • Observability

- • Coverage Tools

- • Code quality

QA Stack

- o
  - Unit testing
- o
  - Integration testing
- o
  - UI Testing (E2E)
  - **Story-centered testing**
  - Observability
  - Coverage Tools
  - Code quality

QA Stack

- o
- o
- o
- o

- Unit testing
- Integration testing
- UI Testing (E2E)
- Story-centered testing
- **Observability**
- Coverage Tools
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Grafana

QA Stack

- o • Unit testing
- o • Integration testing
- o • UI Testing (E2E)
- • Story-centered testing
- • Observability
- • **Coverage Tools**
- • Code quality

QA Stack

- ○ • Unit testing
- ○ • Integration testing
- ○ • UI Testing (E2E)
- ○ • Story-centered testing
- • Observability
- • Coverage Tools
- • **Code quality**

Product tour

Home   Rent Bike   Control Panel   City Admin   About Us

13:09:24

Rent a Bike

Rental Duration   Until I end it ▾
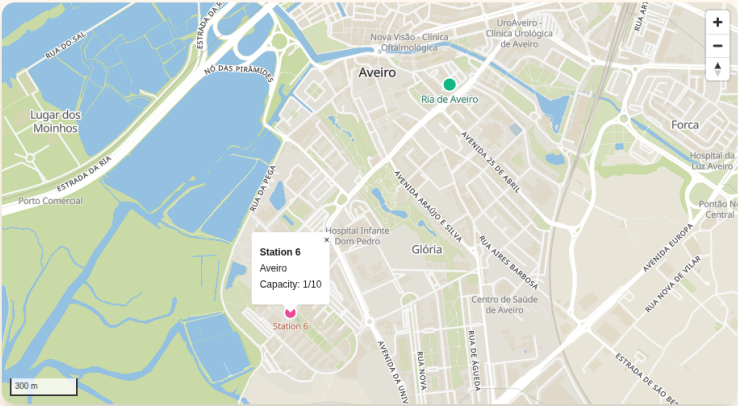
Select Charging Station

Search for a city...

Charging stations available (6 stations)

Station	Rent
New York 1 BIKES AVAILABLE	Rent Here
Los Angeles 1 BIKES AVAILABLE	Rent Here
London 1 BIKES AVAILABLE	Rent Here
Paris 1 BIKES AVAILABLE	Rent Here
Tokyo 1 BIKES AVAILABLE	Rent Here

« 1 2 »

Station 6
Aveiro
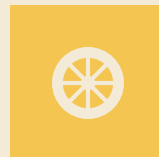Capacity: 1/10

300 m

14

Project self-review
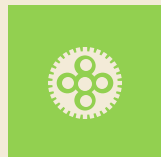
Plus

- Efficient work distribution

- SonarQube, ESlint, Prettier, Xray and Grafana integration

- Decreased "faulty" commits

- Automatic deployment
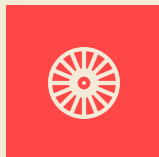
Minus

- Sprint objectives moved to next sprint

- Changed some planned project features

- K6 tests with Grafana

Interesting

- Improved code quality

- Learned good QA practices

- Learned how to use Cypress

Thank you for your attention!