VoltConnect

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Team Roles

Carolina Prata

Team Coordinator

Product Owner

João Varela

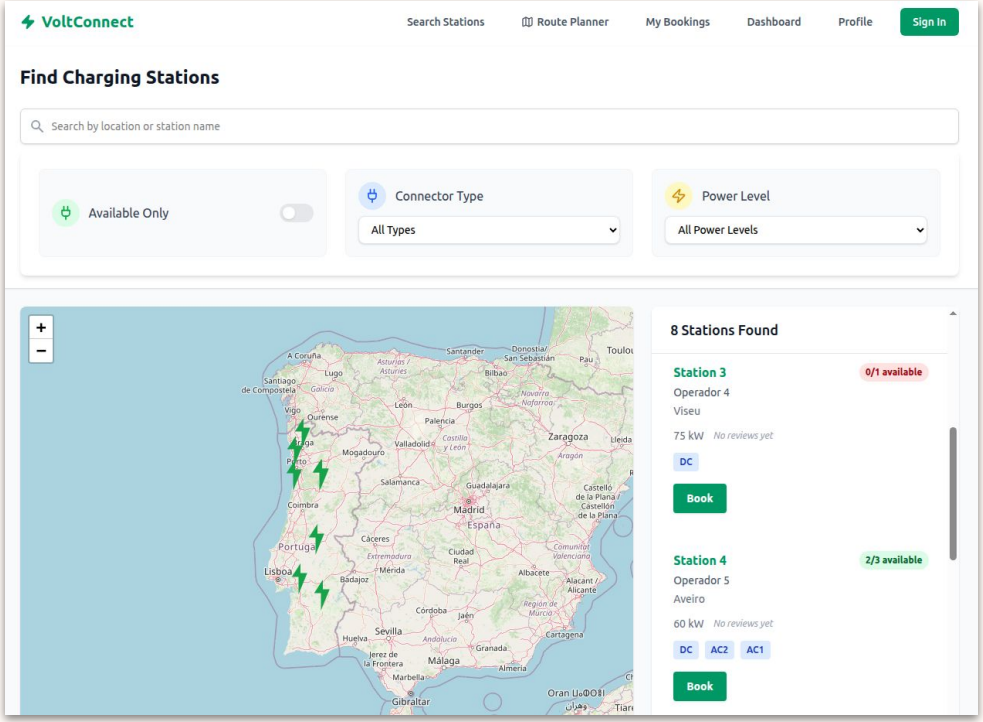
DevOps

Diogo Domingues

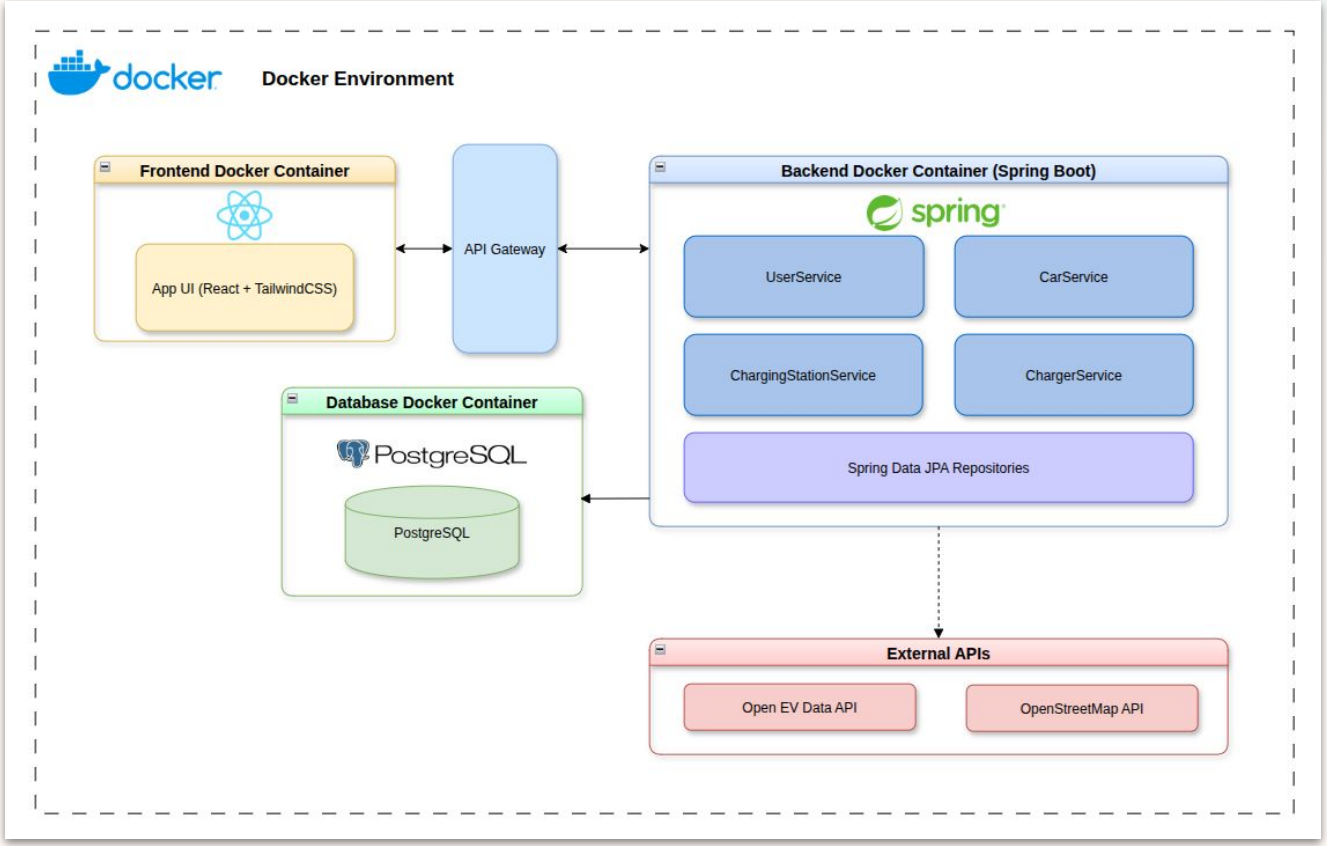
QA Engineer

Product Concept

- **Main Features:**
  - Station Discovery
  - Slot Booking
  - Charging Control
  - Stations and Chargers Management
- **Extra Features:**
  - Route-based planning
  - Ratings and reviews
  - Discounts
- **Actors:**
  - EV Driver
  - Technician
  - Admin

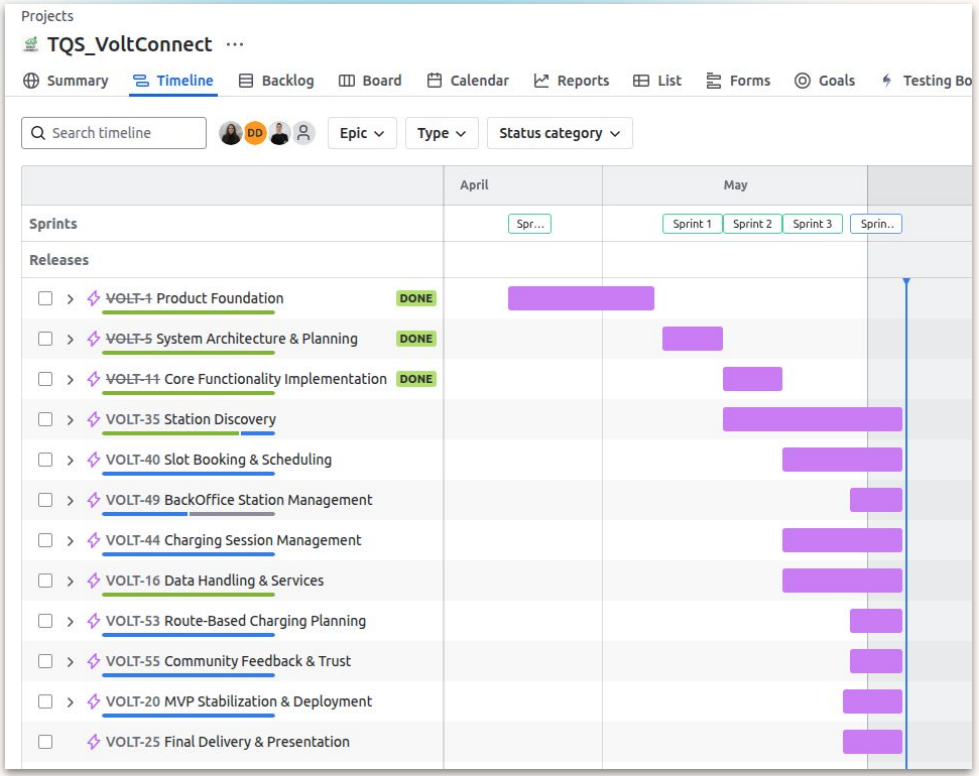


System Architecture

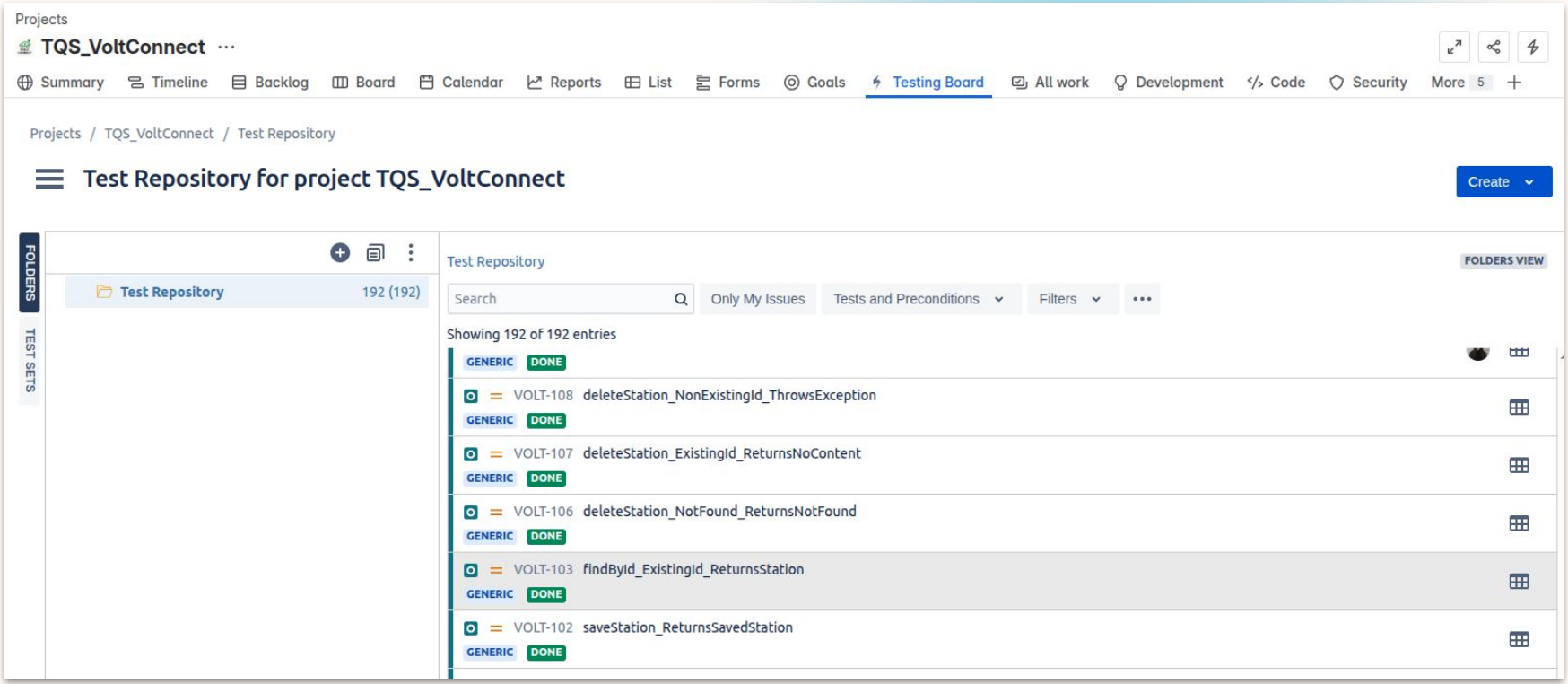


Epics

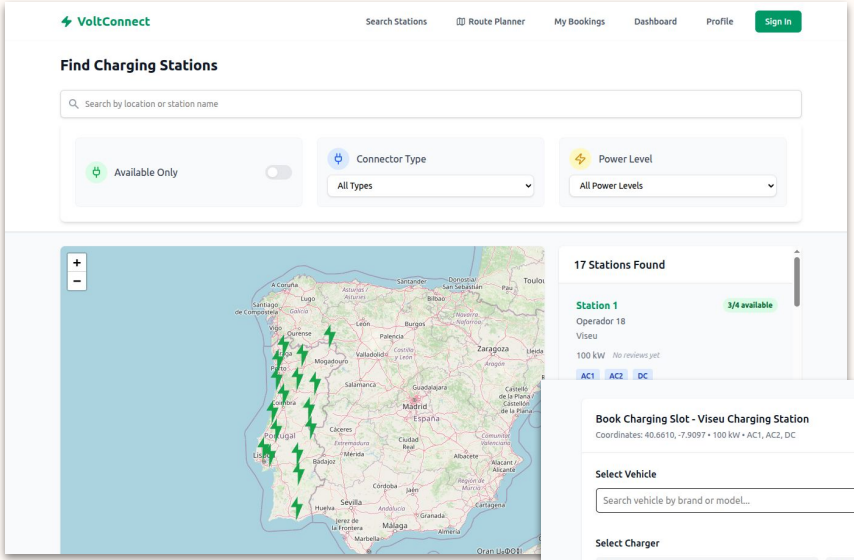
- **Station Discovery** (15/05 – 04/06)
- **Slot Booking** (21/05 – 04/06)
- **Charging Session Management** (22/05 – 04/06)
- **BackOffice Management** (30/05 – 04/06)
- **Route-Based Charging Planning** (30/05 – 04/06)
- **Community Feedback & Trust** (30/05 – 04/06)

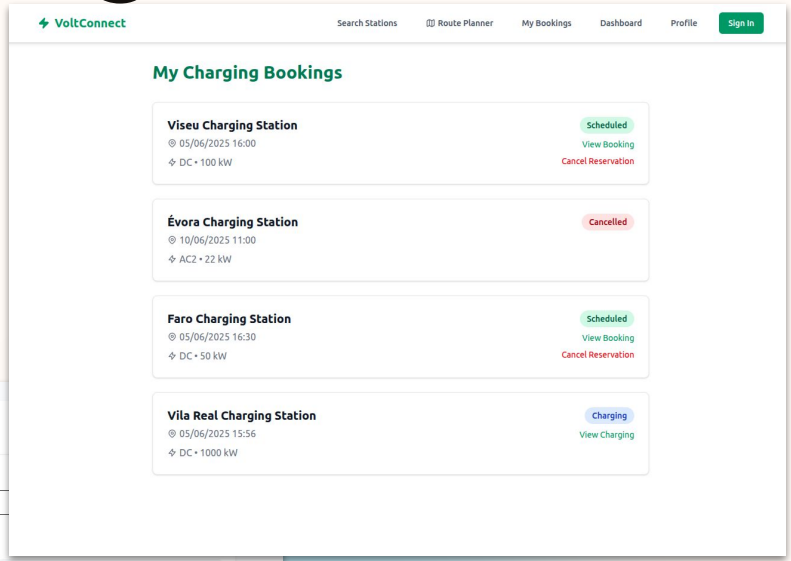


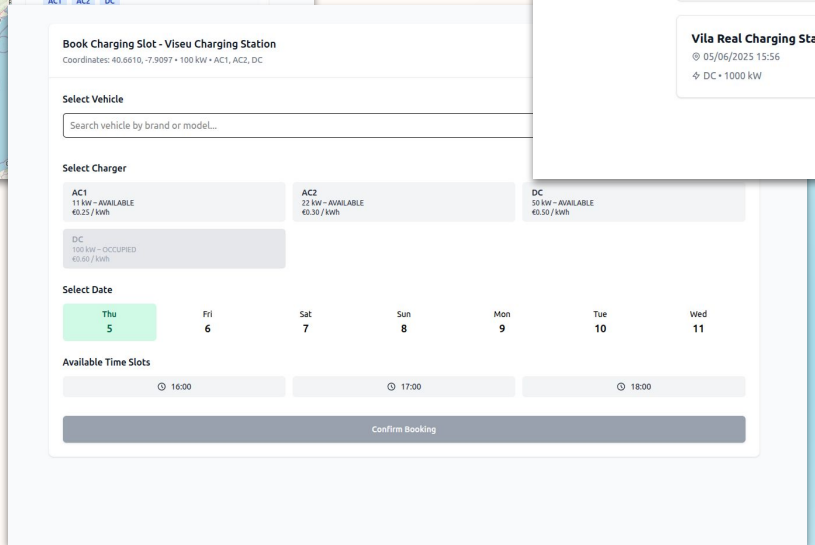
Jira + X-Ray


Projects
TQS_VoltConnect
Summary
Timeline
Backlog
Board
Calendar
Reports
List
Forms
Goals
Testing Board
All work
Development
Code
Security
More 5
Projects / TQS_VoltConnect / Test Repository
Test Repository for project TQS_VoltConnect
Create
FOLDERS
TEST SETS
Test Repository 192 (192)
Test Repository
FOLDERS VIEW
Search
Only My Issues
Tests and Preconditions
Filters
Showing 192 of 192 entries
GENERIC DONE
VOLT-108 deleteStation_NonExistingId_ThrowsException
GENERIC DONE
VOLT-107 deleteStation_ExistingId_ReturnsNoContent
GENERIC DONE
VOLT-106 deleteStation_NotFound_ReturnsNotFound
GENERIC DONE
VOLT-103 findById_ExistingId_ReturnsStation
GENERIC DONE
VOLT-102 saveStation_ReturnsSavedStation
GENERIC DONE

Booking Logic







QA Stack

- **Tests Performed:**
  - Unit Tests (JUnit 5 with Mockito and Jacoco)
  - Integration Tests
  - E2E Tests

- **Static Code Analysis:**
  - SonarQube Cloud (quality, coverage, duplications)
  - CodeQL (security)

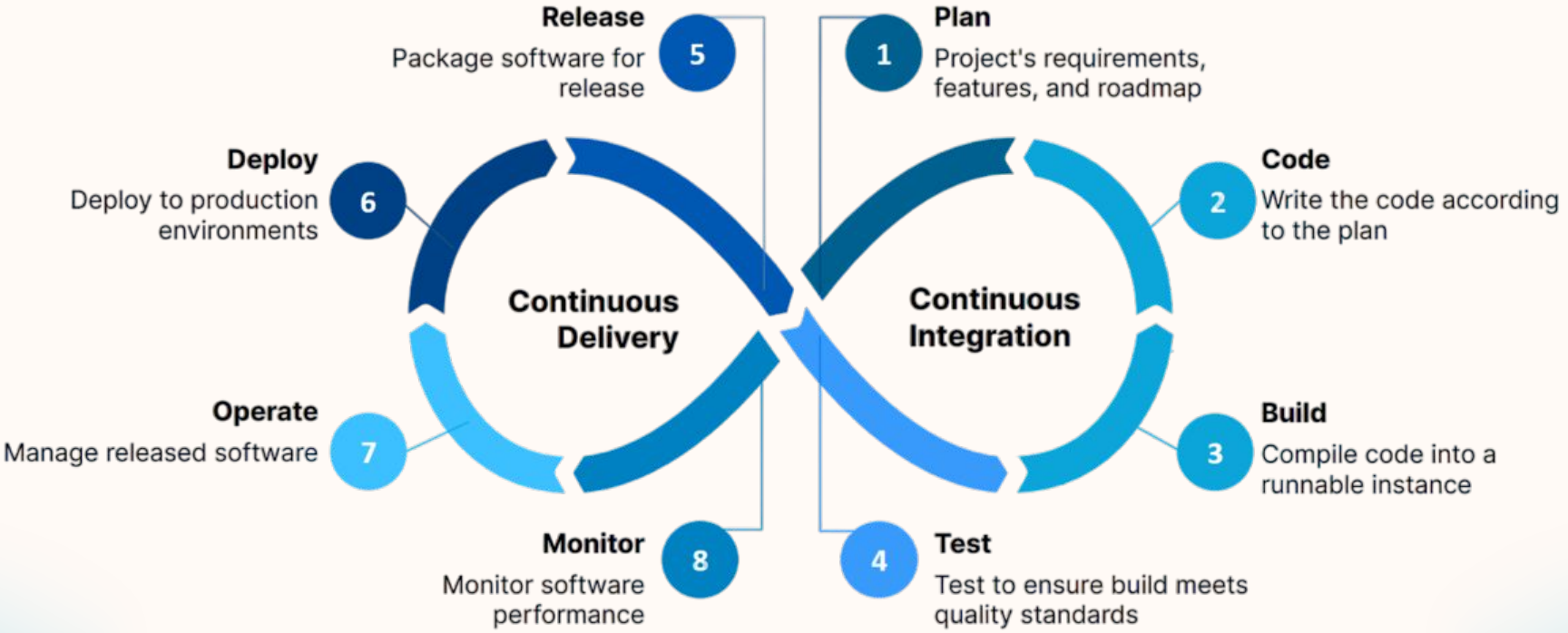
QA Stack

- **Observability:**
  - Prometheus + Grafana
  - Spring Boot Actuator + Micrometer (Backend)
  - Postgres Exporter (DB)
  - Automated alerts via Discord

- **CI/CD:**
  - Via GitHub Actions (with different pipelines for Frontend and Backend)
  - CI - Automatic build and tests
  - CD - new release -> new GHCR image that is then updated automatically in the server

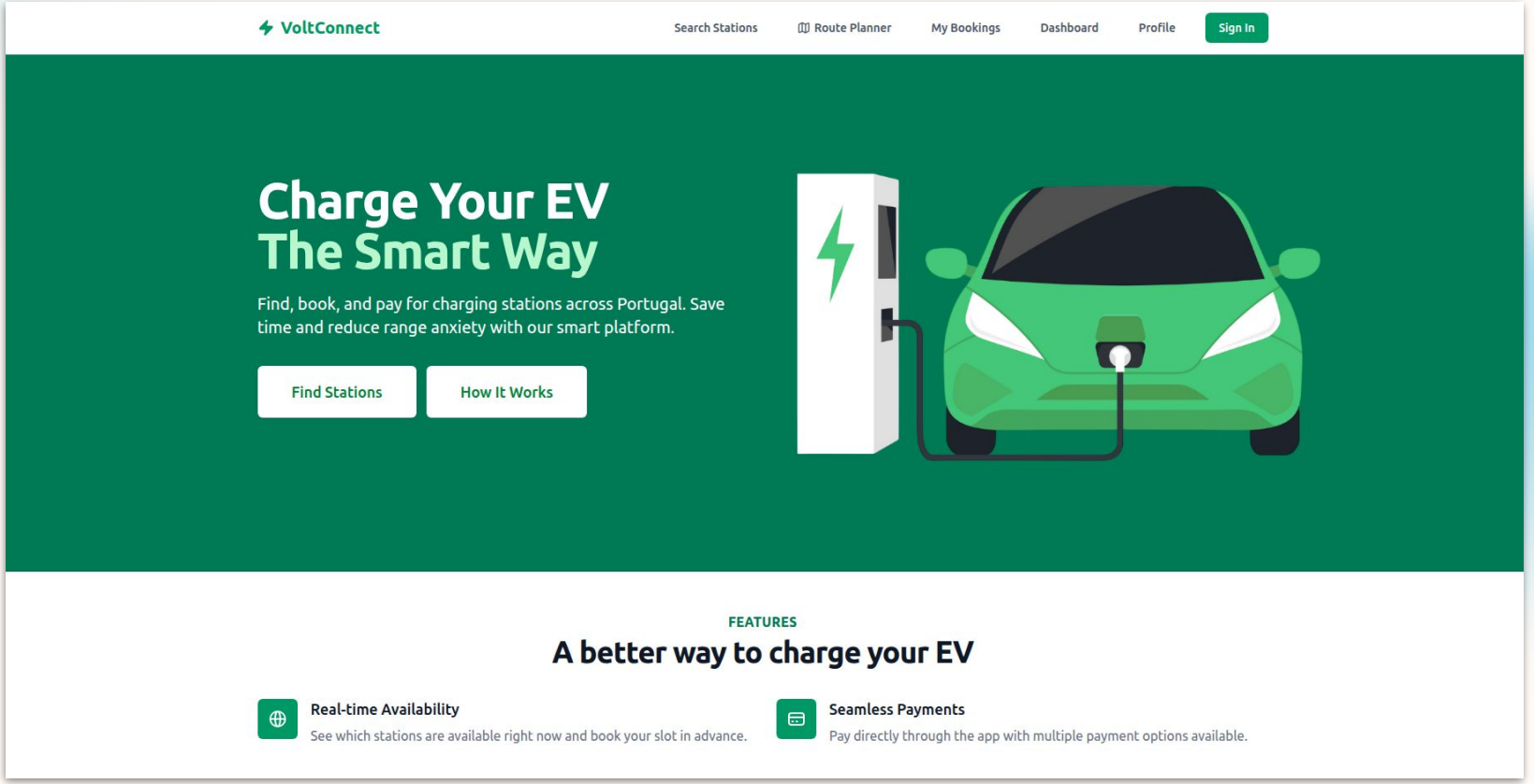
- **Requirements Traceability:**
  - Xray

CI and CD Pipeline



Available on http://deti-tqs-04.ua.pt/

DEMO



Project self-review

Plus	Minus	Interesting
Bookings	Frontend Tests	Route Planner
Technician Actions	CI on frontend	Instant Status Tracking (chargers + reservations)
Release deployment	Outdated Architecture Diagram	Developed our own external EV-car API
Modern frontend	Non Functional Tests	
Great results with only 3 people :)		

Future Work

- Authentication
- Adapt pages to user logged in
- Non-functional Tests
- Frontend test running on GitHub Actions