



# NikoGrid

TQS Final Project, 6th June 2025

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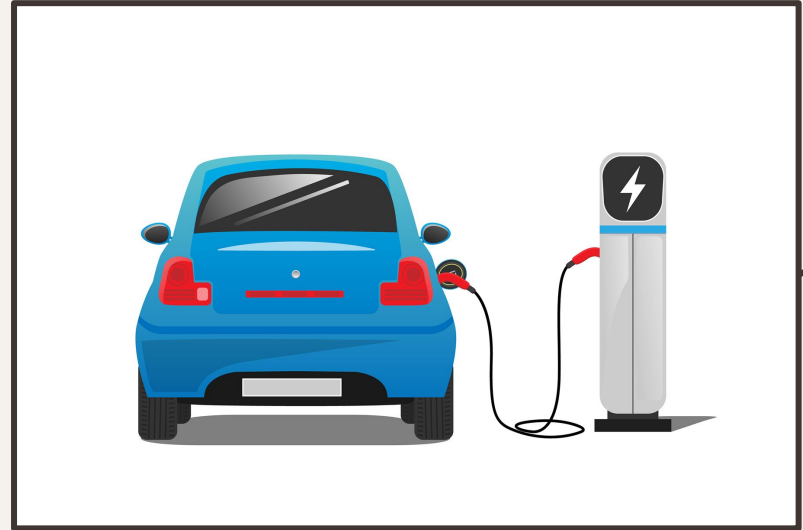
# 01

# Product Concept

The business opportunity

# About NikoGrid

NikoGrid, envisions a future where charging of electric vehicles (EV) is globally accessible, trustworthy and reliable. Our main goal is to eliminate the existing fragmentation in the EV charging ecosystem, offering a unified digital system that empowers drivers, station operators, and third-party services to interact effortlessly and efficiently.

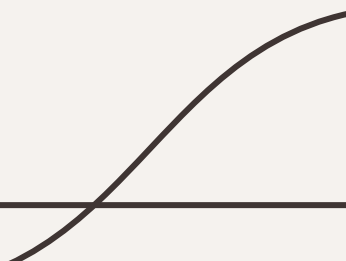




02

# Product Development Roadmap

# Goals and Objectives

- **Browse nearby charging stations**
  - **Filter stations**
  - **Find the closest available station**
  - **Account register**
  - **Account login**
  - **Slot reservation**
  - List reservations
  - Cancel reservations
  - Register new stations
  - Unregister existing stations
  - Update station status
  - Pay session bill
  - Issue station discounts
- 

	May					May					May					June																	
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8
<b>Sprints</b>	<div> <div>NIK Sprint 1</div> <div>NIK Sprint 2</div> <div>NIK Sprint 3</div> </div>																																
<b>Releases</b>																																	
<input type="checkbox"/> > <a href="#">NIK-4 Station Discovery</a>	<div></div>																																
<input type="checkbox"/> > <a href="#">NIK-40 User Profile Management</a>	<div></div>																																
<input type="checkbox"/> > <a href="#">NIK-5 Slot Booking and Scheduling</a>	<div></div>																																
<input type="checkbox"/> > <a href="#">NIK-9 Station Management</a>	<div></div>																																

# Agile Planning

## Find closest available charging station

+ Add

Apps

### Description

As a user, I want to find the closest available charging location to my or another location, so that I can head there to charge.

### Linked work items

is tested by

NIK-39	Test Find closest available charging station	TO DO		
NIK-300	getClosestAvailableLocationOk	TO DO		
NIK-301	getClosestAvailableLocationNotFound	TO DO		
NIK-306	getClosestAvailableLocationOk	TO DO		
NIK-307	getClosestAvailableThrowsNotFound	TO DO		
NIK-308	getClosestAvailableLocationNotFound	TO DO		
NIK-313	findClosestAvailableReturnsAvailable	TO DO		
NIK-315	getClosestAvailableLocationBadData	TO DO		
NIK-316	findClosestAvailableReturnsEmpty	TO DO		
NIK-326	getClosestAvailableReturnsFound	TO DO		

Done

✓ Done

⌘ Improve work item

### Details

Assignee	IC Igor Alexandre Vieira Coelho
Labels	None
Parent	NIK-4 Station Discovery
Due date	None
Team	None
Sprint	NIK Sprint 3 +2
Story point estimate	4
Fix versions	None
Development	1 branch Create commit 1 pull request 2 builds
Reporter	IC Igor Alexandre Vieira Coelho

MERGED

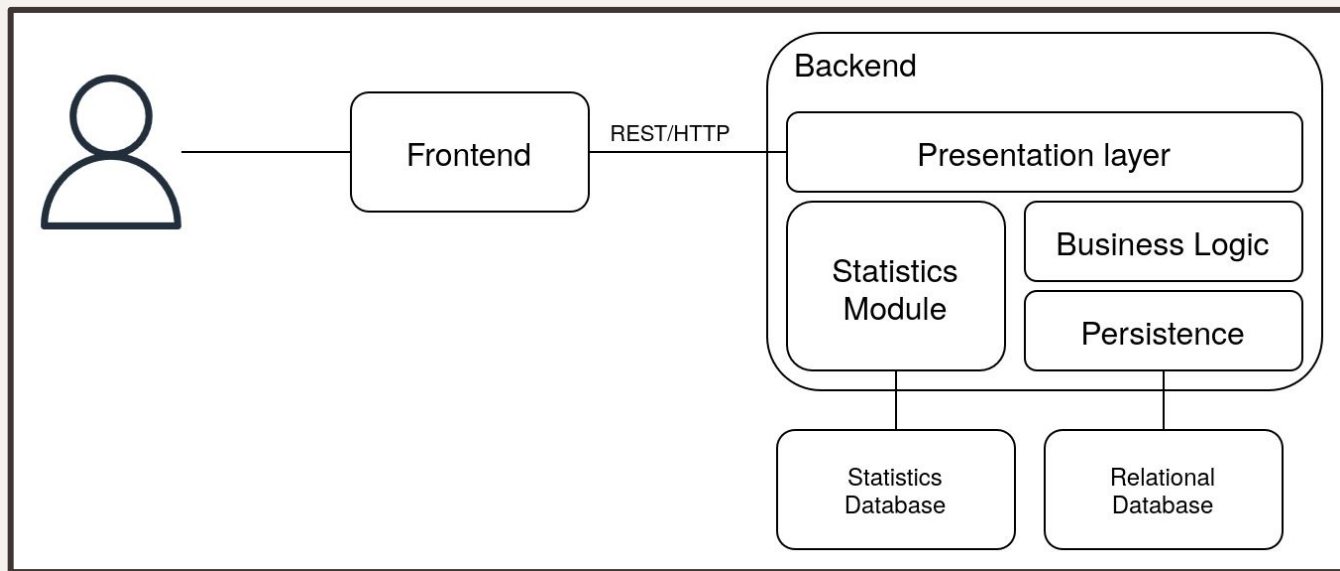




03

# Software Architecture

# Architecture

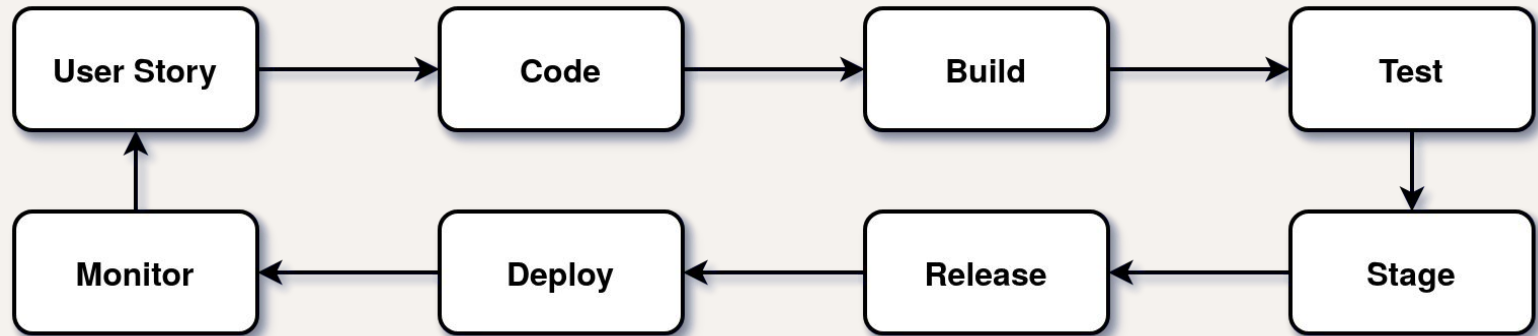




04

# Development Pipeline

# Pipeline



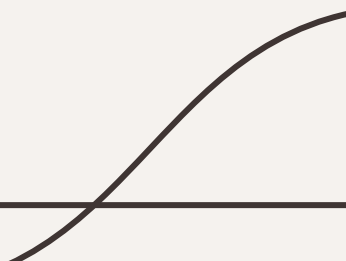


05

# Quality Assurance

Policies and tools for code quality

# Policies

- AOSP Style convention is followed
    - Naming Convention
    - Brace Styling
    - Java Language Rules
  - Code contribution policy
    - Minimum of 80% code coverage
    - All tests must pass
    - Reviewed by at least another member
- 

# Software Testing

**Unit Testing**

**Integration  
Testing**

**End to End  
Testing**



# Testing & Quality Assurance



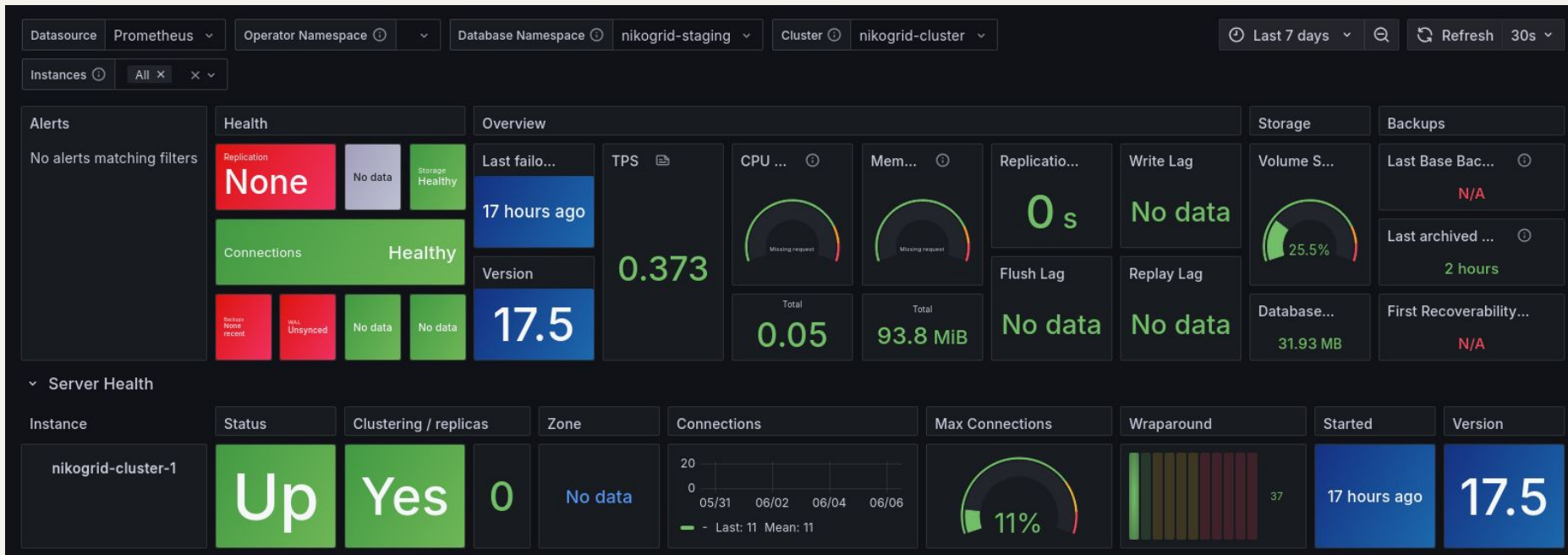


# Monitoring & Performance

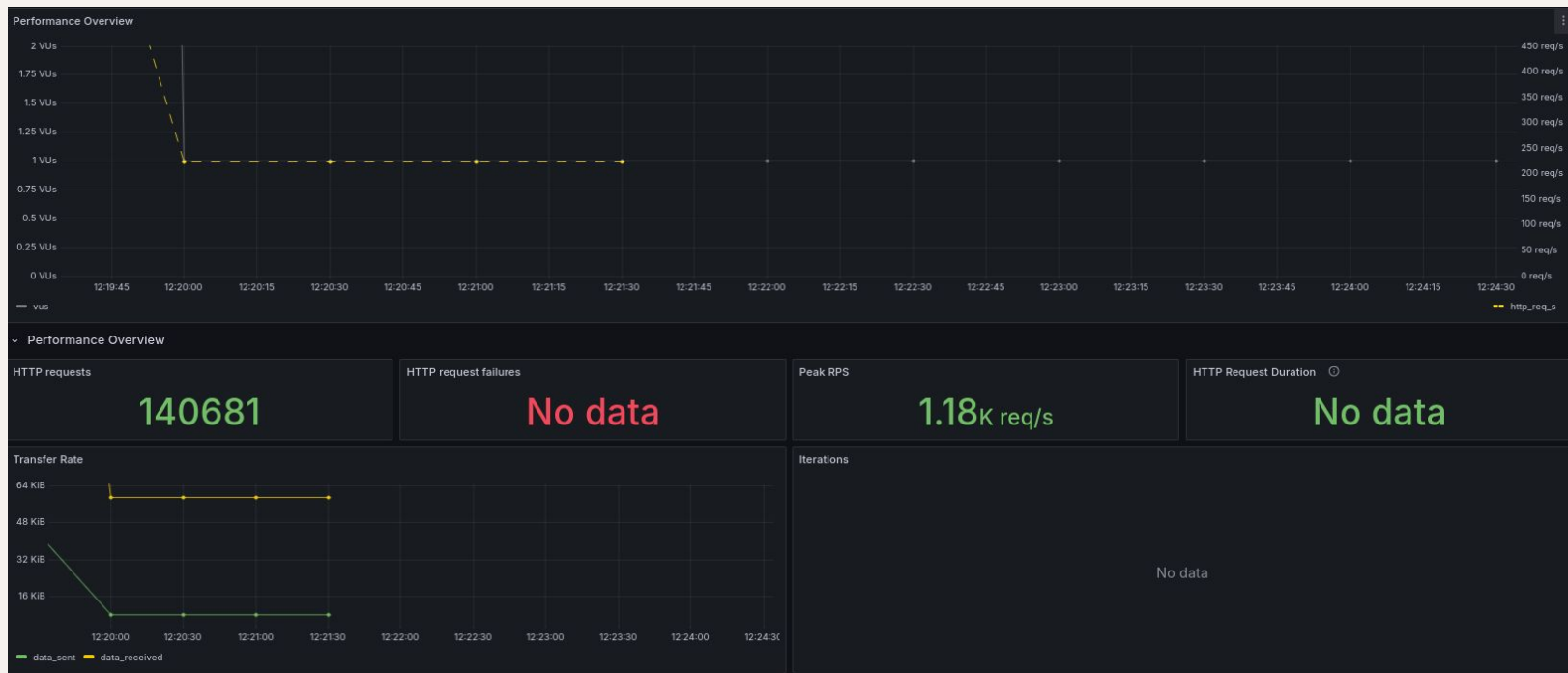


Prometheus

# Monitoring



# Monitoring





# 06

## Product Tour

Demonstration of the developed system



07

# Project self-review

# PMI


## Plus

- Clean Code
- Usage of different technologies

## Minus

- VM Constraints
- Group of 3
- The process takes a lot of time to validate per change

## Interesting

- SonarQube was very helpful
  - First time writing code with quality assurance tools
  - Tests made refactoring easier
- 

# NikoGrid

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