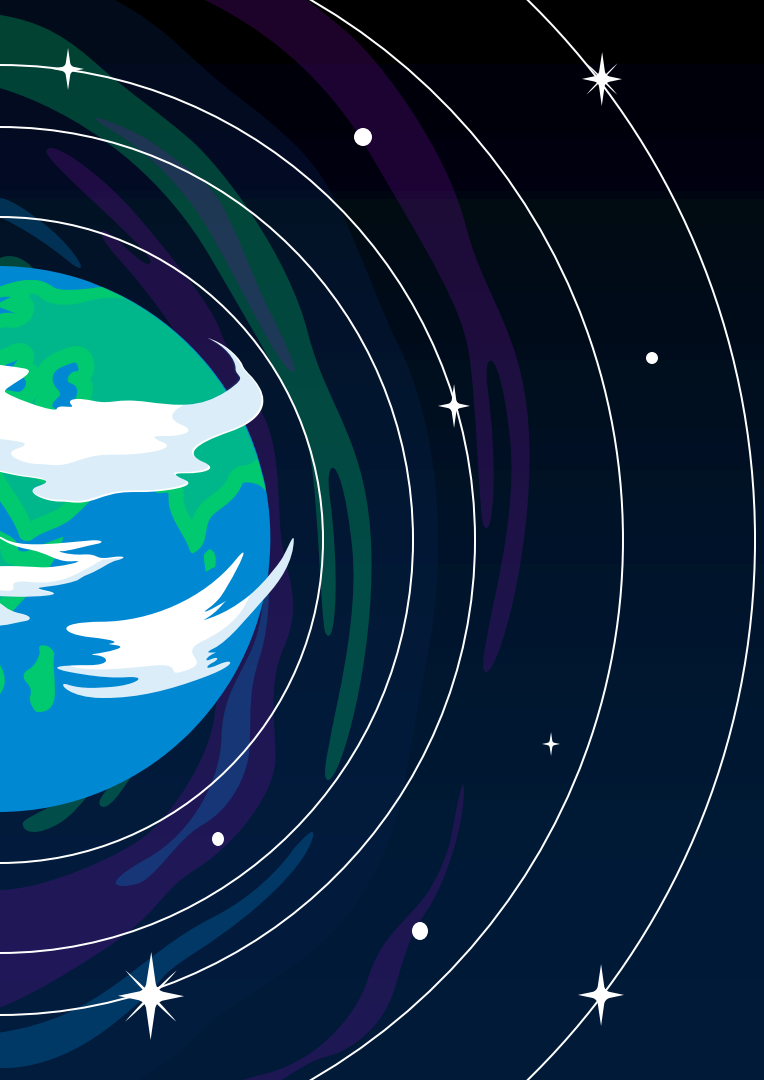


A.T.L.A.S.

IES - 2024

Diogo Fernandes 114137
Henrique Oliveira 113585
Mateus Rocha 122949
Raquel Vinagre 113736

TABLE OF CONTENTS

INTRODUCTION

Advanced Tracking Legendary Automated Spaceship

Software application developed for the efficient monitoring and analysis of spaceship operations.

The app leverages real-time tracking of data, emitting useful alerts.

With a Greek mythology-based name, A.T.L.A.S. revolutionizes space exploration.

PERSONAS

Melon Usk

CEO

Juan Direction

Astronaut

Lua Dipa

Aerospace Engineer

Mona Luísa

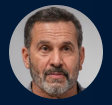
Flight Director

USER STORIES

1 - Lua Dipa should receive real-time alerts on subsystem anomalies during the mission

2- Mona Luísa wants to know the evolution of the time a message from HQ takes to reach the spaceship.

3 - Juan Direction should be notified on crew members' low oxygen levels



4 - Melon Usk can find specific data regarding aspects of the system

5 - Mona Luísa should be able to, based on a specific time period, get the summarized data of the spaceship.

FEATURES

Check system status

Cabin pressure, ship velocity, power...

Check crew vitals

Oxygen levels, body temperature...

Messages

Check response time and user messages

Real-time alerts

From all the crew and spaceship sensors

Generate reports

And export them as a PDF

Data evolution

In the form of dynamic graphs

ARCHITECTURE

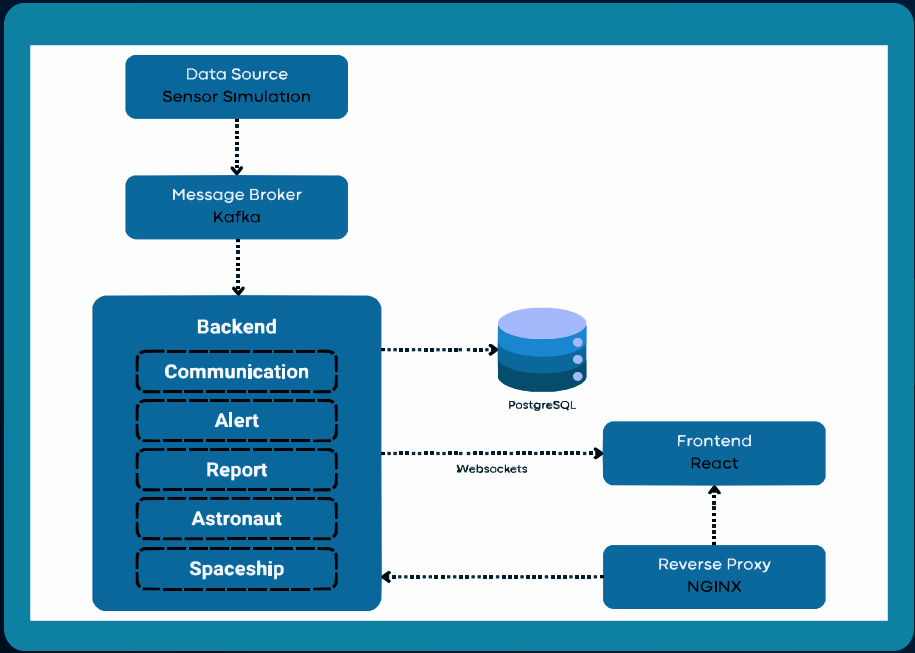
Microservices Architecture

Traffic management between services
- with **NGINX**

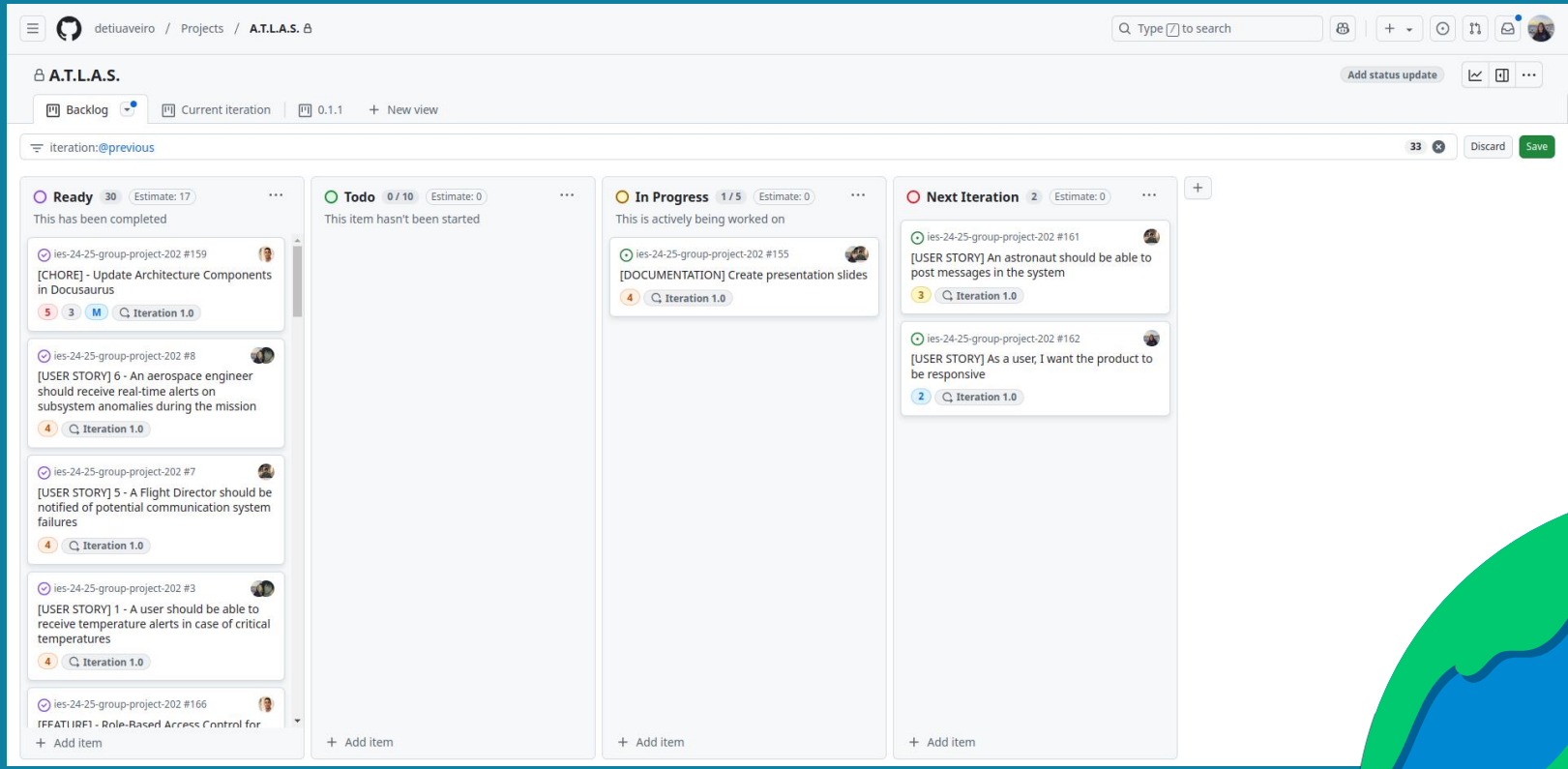
Asynchronous Communication
- with **Kafka**

Backend Communication
- via **REST**

Data Flow from Data to Frontend
- via **WebSockets**

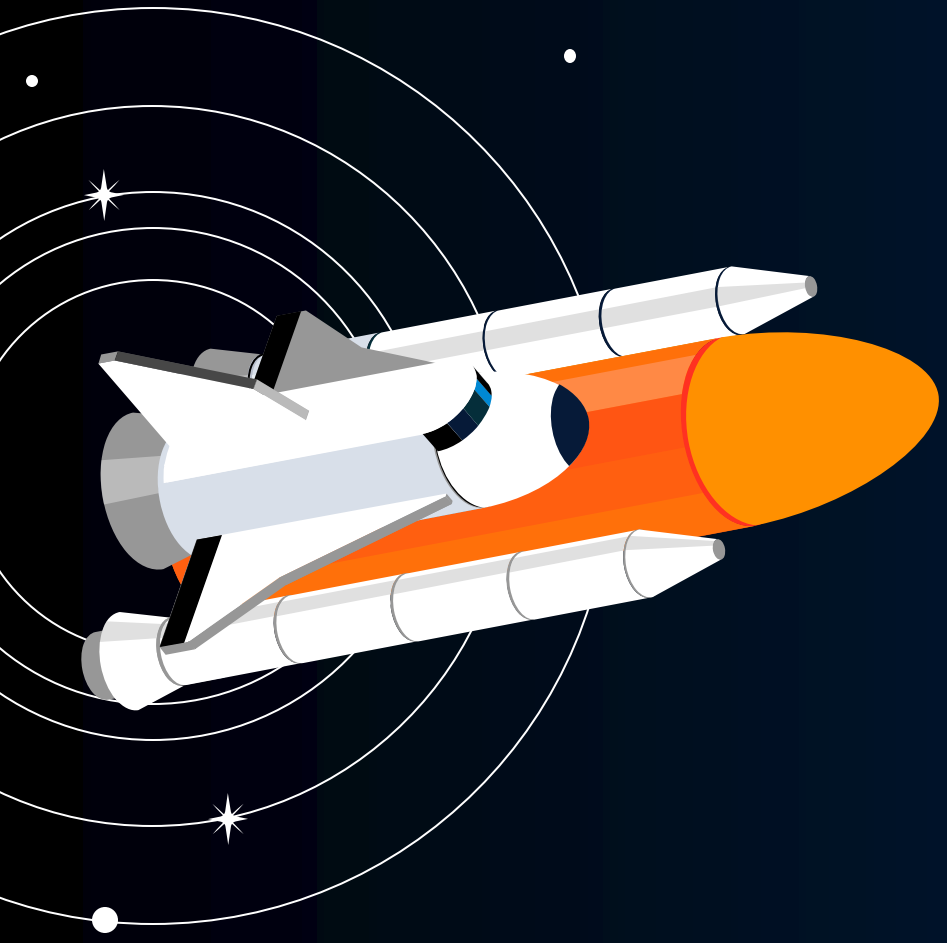


BACKLOG


detiuaveiro / Projects / A.T.L.A.S.
Type / to search
A.T.L.A.S.
Add status update
Backlog
Current iteration
0.1.1
New view
iteration:@previous
33
Discard
Save
Ready 30 Estimate: 17
This has been completed
ies-24-25-group-project-202 #159
[CHORE] - Update Architecture Components in Docusaurus
5 3 M Iteration 1.0
ies-24-25-group-project-202 #8
[USER STORY] 6 - An aerospace engineer should receive real-time alerts on subsystem anomalies during the mission
4 Iteration 1.0
ies-24-25-group-project-202 #7
[USER STORY] 5 - A Flight Director should be notified of potential communication system failures
4 Iteration 1.0
ies-24-25-group-project-202 #3
[USER STORY] 1 - A user should be able to receive temperature alerts in case of critical temperatures
4 Iteration 1.0
ies-24-25-group-project-202 #166
Add item
Todo 0 / 10 Estimate: 0
This item hasn't been started
Add item
In Progress 1 / 5 Estimate: 0
This is actively being worked on
ies-24-25-group-project-202 #155
[DOCUMENTATION] Create presentation slides
4 Iteration 1.0
Add item
Next Iteration 2 Estimate: 0
ies-24-25-group-project-202 #161
[USER STORY] An astronaut should be able to post messages in the system
3 Iteration 1.0
ies-24-25-group-project-202 #162
[USER STORY] As a user, I want the product to be responsive
2 Iteration 1.0
Add item

DEMO


A.T.L.A.S. OVERVIEW
LIFE SUPPORT
Needs attention
SURROUNDINGS AND NAVIGATION
No threats detected
VENTILATION
Needs attention
THERMAL SYSTEM
Critical Issue
COMMUNICATIONS
Stable
POWER SYSTEM
Battery level: Normal
25.78
CABIN TEMP
°C
0.7
CABIN PRESSURE
psia
402.37
CO2
mmHg
23.5
PPO2
psia
35
INT. TEMP
°C
-68.04
EXT. TEMP
°C
54.12
HUMIDITY
%
50.7
BATTERY
%
Inertial Velocity 4317.07 km/s
Altitude 26586 km
Apogee 334050.66 km
Perigee 253747.83 km
Inclination 88.22 °
Range to ISS 0 km
A.T.L.A.S.
OVERVIEW
CREW
COMMS
ALERTS
REPORTS
DATA
Saylor Twift | ASTRONAUT



WHAT'S NEXT?

Where is A.T.L.A.S. going 👀