DAF HACKATHON

Team SSSD

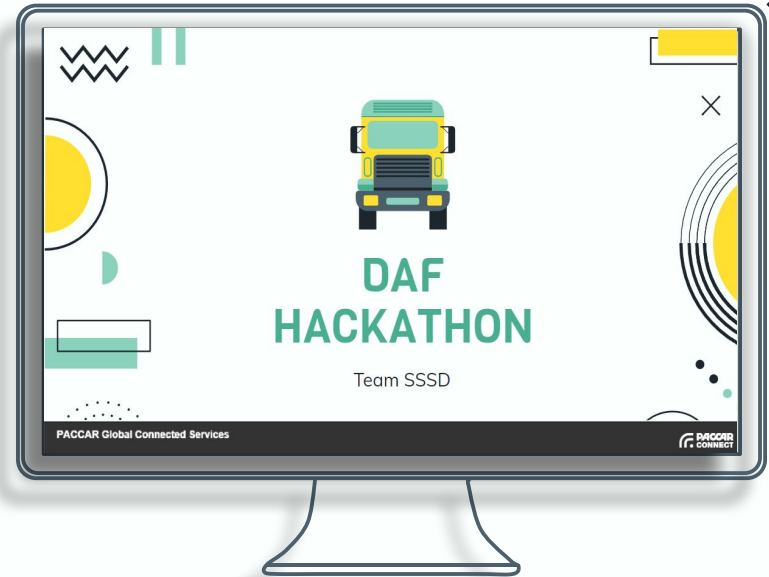PACCAR CONNECT

Presentation plan

1. Our team
2. The problem of overworking of drivers
3. The problems we were solving
4. Our solution
5. The scoring system
6. Rules for awarding points
7. How to use points
8. Recommendation System
9. Advantages of the decision
10. Demonstration
11. Ideas for improvement
12. Outro
13. Questions and answers

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Team SSSD

PACCAR Global Connected Services

Team SSSD

Danila Solodennikov

Captain
Data Scientist

Aleksandr Nikolaev

Python developer

Aleksandr Raudvee

Data Scientist
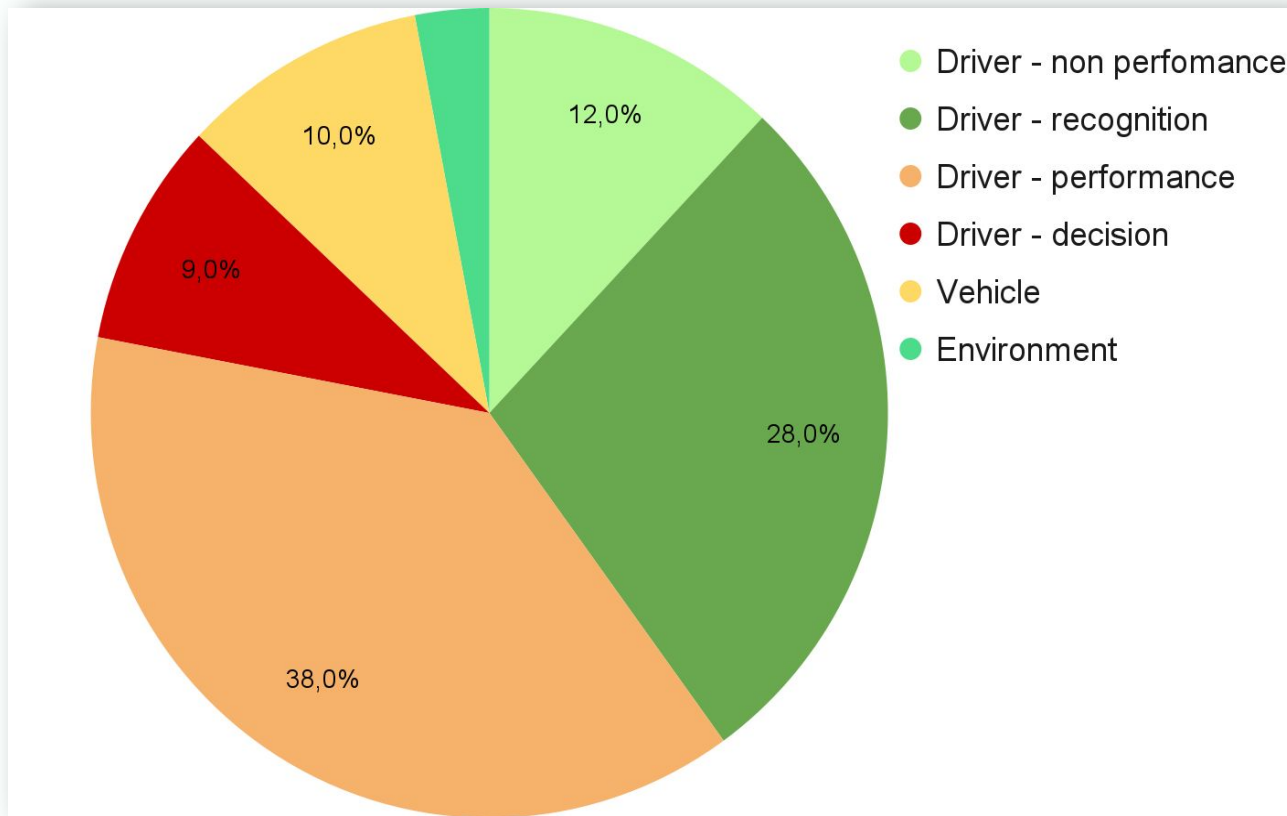
Aleksandr Vardanian

Python developer

The problem of overworking of drivers

Pie chart legend:
- Driver - non perfomance — 12,0%
- Driver - recognition — 28,0%
- Driver - performance — 38,0%
- Driver - decision — 9,0%
- Vehicle — 10,0%
- Environment

The problems we were solving

1. **Improve the life of a truck driver by:**
   - optimizing breaks during driving
   - helping them to plan the trips efficiently

2. **Engage drivers to keep rest-work balance**

Our solution

1. **Improvement of DAF navigation**
   - Recommendation system for break points
   - On-road rearranging system of stops

2. **DAF Coin**
   - Balancing Work and Rest: Avoiding Excess in Both
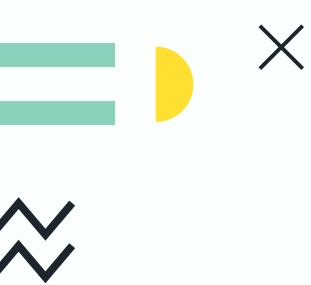   - Gamification of monotonous work

The scoring system

Scoring	Follow Driving time	Resting time	Break time
	100 points	100 points	25 points
Time for the action	8 hours	8 hours	1 hour

Rules for awarding points

Give 100 points

Encourage drivers to follow work life balance

Give 25 points

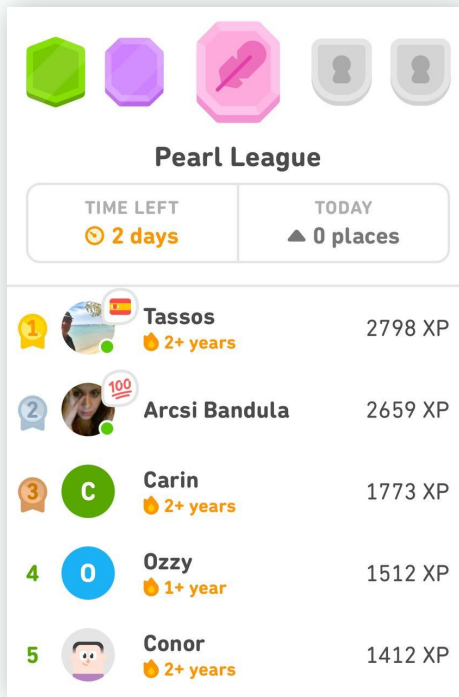Make drivers not afraid of breaks

Multiplier of points

Motivate drivers to take longer trips

How to use points

Company can choose how they want to work with points (DAF coins)

Freedom for the company

Drivers farm coins and participate in weekly competitions

Flex points between drivers

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Win the share of the company

... or get free coffee

Benefits for the company

1. **Reduce the costs for the maintenance:**
   - Drivers will take longer routes - reduce R&M to 100 euro/M per truck
   - Reduce the crash rate of cargo (saves million of euros)

2. **Move the company to the premium segment**

3. **Increase the exploitation time of trucks**

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Recommendation System

Optimal Stops

Selects optimal stop areas along the route and reminds to take a break

Driver's Choice

Recommends suitable places for the driver to stop within the selected area

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Advantages of the decision

1. Reduces the number of accidents

2. Makes drivers' lives easier by assisting with route planning, gamifying the process, and encouraging rest breaks

3. Eases driver recruitment by increasing job attractiveness

What is DAF Truck Navigation?

And our Improvement for it!
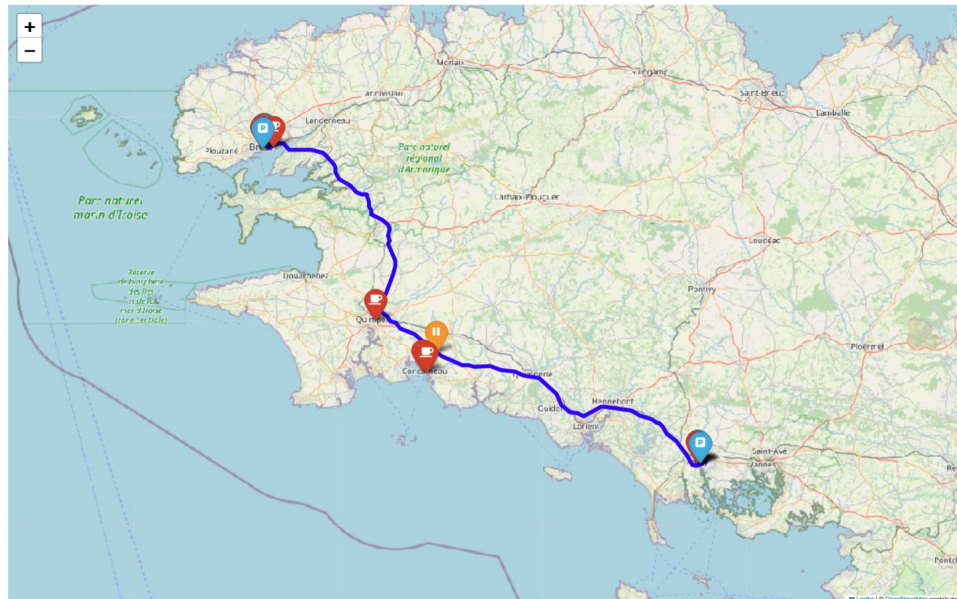
Demonstration

Route Planner

Max Places

3

Origin

14 Chem. du Belano, 56400 Auray, France

Destination

Rue Édouard Pesron, 29200 Brest, France

Select the stop points

Indicate approximate time between stops

1

1   8

Route

From **14 Chem. du Belano, 56400 Auray, France** to **Rue Édouard Pesron, 29200 Brest, France**

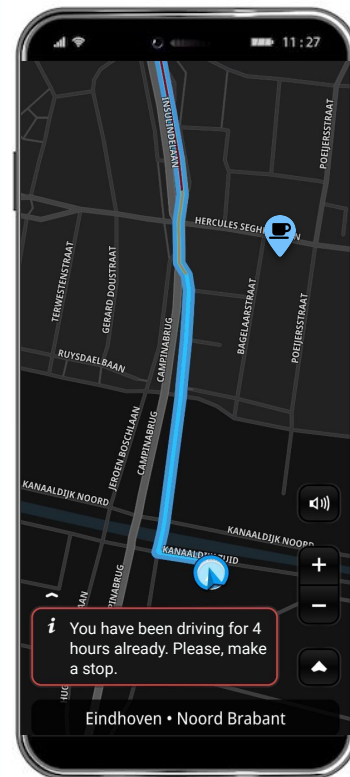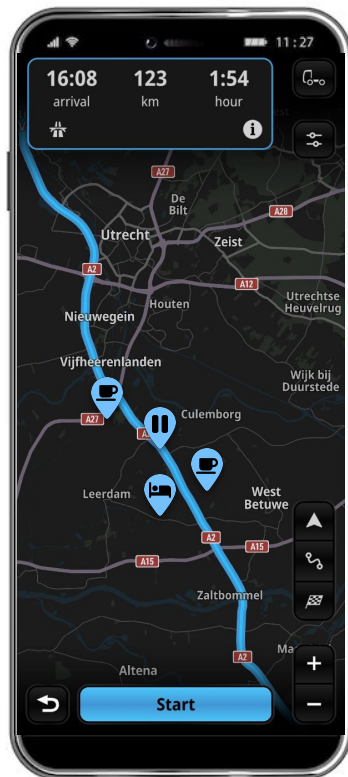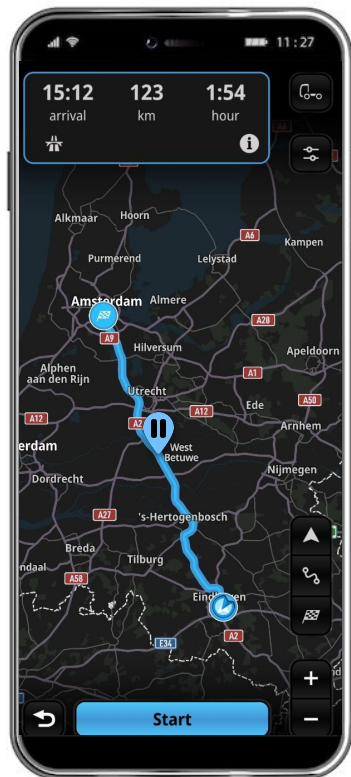The estimated total time: **2 hours 44 mins**

The estimated distance: **169 km**

Stops

Number of Stops: **1**

Time spent at stops: **1 hour 0 mins**

Time spent at driving: **1 hour 44 mins**

How it looks in DAF Truck Navigation

Ideas for improvement/expansion/ in the plans

Idea 1

using machine learning technologies for personal recommendations to the driver

Idea 2

voice assistant

Idea 3

getting feedback (likes, dislikes, rating) from the driver to clarify personal recommendations

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Outro

a) Influence more drivers to such niche job
b) Make the life easier without extra surveillance
c) Bring fun and fair competition to the job

Questions and answers

Thanks

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