Imagine IoT
Prototype Challenge

Summary
The fleet manager of a car rental service always needs to know the healthstatus of all the cars they are lending.

Story
The fleet manager of a nationwide operating car rental service wants to deliver always the best service to his/her customers. Therefor he / she needs to know the healthstatus and location of the cars in realtime.
For example, if the engine will have a damage during the next 1000 kilometers. A first alarm signal might be an increased consumption of oil. To prevent customers from an engine failure the fleet manager wants to be alerted directly so that he / she could block the car when it will be the next time in a company parking zone. He / she wants to send previously a message to a workshop so that the car could be pickuped directly. After repair the fleet manager could get the message that everything is fine and could reactivate the car for rental again.
**Persona**

**John – the Fleet Manager**

I like to get things done quickly, because sometimes I have got so many things to do that I would need a clone of myself.

**About**

- 45, single, 10 years experience in fleet management
- I am one of the persons who is responsible for a riskfree driving-experience of our customers
- sits mainly all day on his desk
- works together with the Chief Fleet Manager, other fleet managers, dispatchers of workshops, and emergency hotlines

**Responsibilities**

- I am responsible for cars of our fleet
- I am responsible for information regarding buying decisions
- I am sitting mainly all day on my desk, having an eye on the healthstatus of the cars of my area
- once a month I have a meeting regarding breakdown statistics

**Needs**

- I need an overview of all cars in my responsibility and their condition in one system in real time. At the moment I have to check different systems for the information wanted, but nothing is real time.
- I need the ability to act directly in case of emergency – the driver will not always be able to call for help
- I need reports regarding the propability of breakdowns during the next 1000 kilometers

**Main Goals**

- responsible for the healthstatus of the cars
- I want to minimize the breakdown time
- quick response on any emergency
- customer should feel safe always

**Pain Points**

- workshop should get the needed information for service with one click
- alert function for emergency
- switching between systems is time consuming
- temporary replacement for colleagues is cumbersome
Point of View

John, the Fleet Manager:

"As a Fleet Manager I need a way to monitor the condition of the cars in real time so that I could react directly in a case of emergency."
# User experience journey

<table>
<thead>
<tr>
<th>Actions</th>
<th>Mindset</th>
<th>Feelings</th>
<th>Touch points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Fleet Manager John is looking through the condition of hired cars One car has got an increased consumption of oil</td>
<td>This does not look good. Might generate risk of engine failure.</td>
<td>😞</td>
<td>Condition overview of cars</td>
</tr>
<tr>
<td>John sends a work order to the workshop at the place where the car will be given back for checking the engine.</td>
<td>The workshop should check the engine asap.</td>
<td>😞</td>
<td>Work order request</td>
</tr>
<tr>
<td>The manager of the workshop receives the work order and sends the technician Bill to the named place for picking up the car.</td>
<td>Let’s send Bill to check on the car.</td>
<td>😞</td>
<td>Work order Staff Car</td>
</tr>
<tr>
<td>After bringing the car to the workshop Bill checks the car according to a checklist. For finding the error he has to work step-by-step</td>
<td>Oil consumption might be critical for the engine. Thankfully I have got these checklists for all these different cars.</td>
<td>😞</td>
<td>Work order Checklist Car</td>
</tr>
<tr>
<td>Bill localized the problem in a damaged oil sealing He could repair it immediately and notifies John via email that the car is fine now Bill brings the car back to rental service location.</td>
<td>Wow, this was really critical. Sealing was nearly gone.</td>
<td>😞</td>
<td>Car Email</td>
</tr>
<tr>
<td>John receives the message and activates the car again for rental.</td>
<td>Woooow.... this saved one customer from an emergency breakdown and a lot of money for the company.</td>
<td>😞</td>
<td>Email System</td>
</tr>
</tbody>
</table>
Fleet Management System

Technical Condition of Cars

- Critical
- Satisfying
- Good
- Very Good

Planned Maintenance
- Car5: 500 km left
- Car39: 550 km left
- Car94: 600 km left
- Car42: 700 km left
- Car234: 1000 km left
- Car486: 1200 km left
- Car72: 1250 km left
- Car832: 1300 km left
- Car94: 1500 km left
- ...

Inbox for messages (Preview with links to car data)

(Link to) Reports

(Link to) Car listings with filter criteria

(Link to) Workshops

Emergency Box
No emergencies at the moment

Main-Menu Dropdown
### Listing of Cars with Critical Incidents

<table>
<thead>
<tr>
<th>Car #</th>
<th>Incident</th>
<th>Location</th>
<th>Message to Workshop</th>
<th>Inform Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>#54 - xyz</td>
<td>Oil consumption</td>
<td>Los Angeles</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#63 - acb</td>
<td>Irregular vibrations</td>
<td>San Francisco</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#934 - kqu</td>
<td>Oil consumption</td>
<td>New York</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#318 - mbi</td>
<td>Fuel consumption</td>
<td>Houston</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#4 - mnbu</td>
<td>Tire pressure</td>
<td>Denver</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#31 - mb</td>
<td>Gear box</td>
<td>Miami</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#189 - mxz</td>
<td>Coolant pressure</td>
<td>Atlanta</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#378 - nbb</td>
<td>Exhaust system</td>
<td>Phoenix</td>
<td>🌍</td>
<td>🔧</td>
</tr>
<tr>
<td>#...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fleet Management System

Emergency Box
No emergencies at the moment

Main-Menu
Dropdown

#54 - xyz

Technical status:
- Oil consumption
- Oil level
- Fuel consumption
- Tire pressure
- Coolant pressure
- Coolant level
- ...

Deactivate
(no more rental)

Activate
(rental possible)

Data:
- Date of purchase
- Warranty
- Total kilometers
- Name of renter
- Rent time
- ...

Contact workshop
Enter message here....

Contact driver
- By call
- By car system

History of car....