The IoT-Solution is set in the world of the equestrian sport of endurance with participants competing with their horses over short (41-60 KM), medium (61-80 KM) or long (81-180 KM) distances in one day.

Each rider and each horse earns points with each competitive ride, according to length and speed.

During the ride the horses are stopped regularly for veterinary inspections (so-called VetGates). Any horse deemed unfit to continue, is eliminated from the running competition.

Against this background various personas are interested to monitor the horse’s performance:
- the organizers of competitions and championship are mainly interested to be able to evaluate distance and speed of all horses to perform the ranking and ensure a fair competition.
- the participant is interested in online-monitoring of the health-status and performance of the horse she/he is riding on, to be able to react accordingly.
- the veterinarians need to monitor and analyze all horses physical state to ensure the horses health and to be able to take informed timely decisions if needed.

As this last Persona of the Veterinarian is the one with the most pressing need to get better supported by IoT, it is the one I want to concentrate in the prototype challenge.

Monika Göz
Prototype Challenge as part of the openSAP course “Touch IoT with SAP Leonardo.”
Persona

Claudia
Veterinary
I want to ensure the horses health taking part in the competition in a timely manner on a solid base of information and as few impairment of the competitions participants (both humans and horses) as possible.

About
• 45, married, veterinary specialized on horses
• I am the one of at least two veterinarians taking the decision on further participation of a horse in the competition.
• moving from VetGate to VetGate in the course of the competition
• I work with the participants, the other veterinarian(s) and the organizer of the competition

Responsibilities
• I check the health of the horses at “check-in” at the beginning of the competition, at the VetGates and at the finish
• I perform on-the-fly” visual check on lameness as the horses pass by defined points in the course
• I decide, if and when a horse needs to be eliminated from the competition
• I have to document the checks correctly assigned to the according participants file.

Needs
• I need to know which participant is the next to arrive at the VetGate
• As the pulse at arrival at the VetGate and time it takes for the horse to come down to “normal” pulse is crucial for the competitor, I need instant and permanent control of the horses pulse.
• Data and remarks of performed checks should be available for the next checks for a better informed judgement.
• Alerts if a horse shows irregular data between the VetGates to enable instant reaction

Main Goals
• Being the person who makes the decision on the further participation of a horse in the competition, I need to keep the balance between carefulness about the horses constitution and the reasonable judgement of the owner of the horse about the horses toughness
• The checks need to be performed timely as the participants arrive and data must be assigned to the correct participant.
• Ongoing monitoring of the horses performance, heart-rate, and pattern of movement will ensure timely reaction on relevant health-problems also between the VetGates.

Pain Points
• I need to check identity of the participant manually
• I need to perform all the medical checks manually
• I need to record all data manually
• I don’t have any information about the horses performance between the VetGates.
• I can check information about previous VetGates only the moment the horse has arrived.
Point of View

As a veterinary at the endurance competition

I need a way to know which the next horse to arrive at the VetGate is

so that I can have the relevant file of the distinct participant with the relevant data ready at the participants arrival.

Point of View

As a veterinary at the endurance competition

I need a way to get the horses pulse at arrival at the VetGate and the exact time when the horse gets down to “normal “ pulse” registered automatically in the respective horses file

so that this time-crucial data gets registered correctly.

Point of View

As a veterinary at the endurance competition

I need a way to have any information from former VetGates and online-monitoring available at any time

so that I can take better informed decisions on the further participation of the horse in the competition at any time.

Point of View

As a veterinary at the endurance competition

I need a way to have get alerted on any irregularity at any participants horses at any time

so that I can react on possible health issues instantly also between the VetGates
## User Experience Journey

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
<th>TOUCH POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse(s) approaching</td>
<td>“who is approaching?”</td>
<td>😊</td>
<td>Tablet with App</td>
</tr>
<tr>
<td>Check list of approaching horses</td>
<td>“who did the last check?”</td>
<td></td>
<td>Tablet with App</td>
</tr>
<tr>
<td>Pick a horse from the list</td>
<td>“ah - there is a horse I did the last check already - let’s pick it again!”</td>
<td></td>
<td>Tablet with App</td>
</tr>
<tr>
<td>Check “incoming pulse” at the tablet</td>
<td>“uh - pulse seems pretty high!”</td>
<td>😐</td>
<td>Participant</td>
</tr>
<tr>
<td>You get the alert “horse is down to “normal pulse”</td>
<td>“took this horse some time to get the pulse down!”</td>
<td>😐</td>
<td>Horse Participant</td>
</tr>
<tr>
<td>Call the participant for the remaining checks</td>
<td>“let’s check the pulses history…”</td>
<td>😔</td>
<td>Participant</td>
</tr>
<tr>
<td>Perform the remaining checks</td>
<td>“something irregular with the movement-pattern?”</td>
<td>😐</td>
<td>Tablet with App</td>
</tr>
<tr>
<td>Take decision on further participation</td>
<td>“the horse seems quite stressed, but still ok – let’s do the other checks”</td>
<td>😐</td>
<td>Tablet with App</td>
</tr>
<tr>
<td>Close the file</td>
<td>“what does the rider think?”</td>
<td>😊</td>
<td>Tablet with App</td>
</tr>
</tbody>
</table>
Prototype

Launch Page

Click on a line to navigate to page with detailed horses data (shown on next page „Object Data“).
As long as a horse is due to be checked (-> green arrow in column „Call in“) you can only select this line. If you select any other line, you get a toaster message in the center of the screen.

Information measured with GPS-locator

Information measured with sensor

The moment, the horse gets down to requested pulse of 64 /min before 20 min are over, the green arrow is shown to indicate that the horse is due for the VetCheck and has to be called in immediately.

If after 20 min the horse is still not down to pulse 64 /min, the „!” appears to indicate, that there is a problem and the horse has to be taken out of the competition. As soon as there are no horses due for check anymore, the colour of the „!” will turn from grey to red.

Click on a line to select a participant and it will be moved up to your Queue

Claudia G. – Endurance “Donauperlen”

Participants in your Queue

<table>
<thead>
<tr>
<th>Participant/Horse Start Number</th>
<th>Distance to go / in since</th>
<th>Pulse</th>
<th>Last Check</th>
<th>Performed by</th>
<th>Comment last Check</th>
<th>Call in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrea / Quennie 03</td>
<td>15 min</td>
<td>64 /min</td>
<td>😊</td>
<td>Claudia G.</td>
<td>not happy with peristatic sounds - I want to perform next check again!</td>
<td>😛</td>
</tr>
<tr>
<td>Manfred / Dougal 07</td>
<td>20 min</td>
<td>66 /min</td>
<td>😞</td>
<td>Claudia G.</td>
<td>careful - seemed to be quite stressed!</td>
<td>😞</td>
</tr>
<tr>
<td>Robert / Star 34</td>
<td>5 min</td>
<td>80 /min</td>
<td>😞</td>
<td>Martin M.</td>
<td></td>
<td>😥</td>
</tr>
</tbody>
</table>

Approaching Participants – please pick for your Queue

<table>
<thead>
<tr>
<th>Participant/Horse Start Number</th>
<th>Distance to go / In since</th>
<th>Pulse</th>
<th>Last Check</th>
<th>Performed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagmar / Lianca 10</td>
<td>100 meter</td>
<td>95 /min</td>
<td>😊</td>
<td>Martin M</td>
</tr>
<tr>
<td>Peter / Sam 07</td>
<td>100 meter</td>
<td>100 /min</td>
<td>😊</td>
<td>Claudia G.</td>
</tr>
<tr>
<td>Anna / Pocahontas 10</td>
<td>150 meter</td>
<td>120 /min</td>
<td>😞</td>
<td>Martin M.</td>
</tr>
</tbody>
</table>

Please perform checks on horse on top of the list first!
Object Data

Select according checkbox to indicate result of each check; All checks are mandatory

Add a remark if necessary

Additional information from online-monitoring of the horse to get a better understanding of the overall condition of the horse

Buttons are only active, as soon as a result ("ok", "take care" or "not OK") for all checks is selected.

If any of the checks is "not OK" also a remark is mandatory and "not fit to continue" is selected automatically.

After clicking either "fit to continue" or "not fit to continue", the system navigates back to the launch page, where now the line of the horse just checked has disappeared from the queue.
Prototype-Version made in BUILD – due to design-restriction some items have been placed differently on the screen – feel free to test:
https://standard.build.me/prototype-editors/api/public/v1/snapshots/aa87af309814d6930e139ef7/artifacts/latest/index.html#/launch_page