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Subject Area	Internet Technologies and Applications
Project Partner	Live Track AG, Sargans, SG

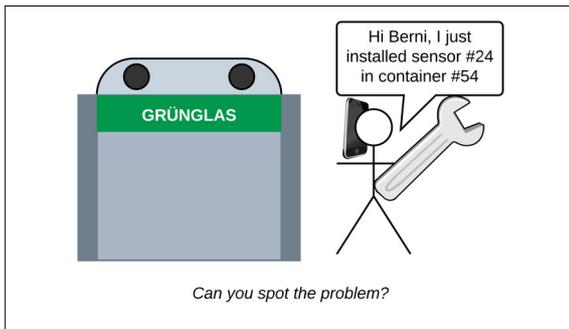


Cyril Kyburz



Sandro Scheiwiller

SensorFlow



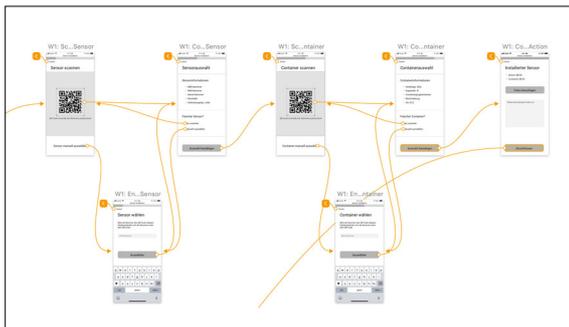
A technician informs LiveTrack after installing a sensor. Own presentment

Problem:

In the morning after a party, empty glass bottles and beverage cans abound, waiting to be recycled at the next recycling point. There they can be thrown into recycling containers, which store the contents until they are collected. Emptying the containers at the right time is a challenge: Up until now, the municipality has to monitor their containers manually and, if they are nearly full, call for a truck to empty them.

Our industry partner, LiveTrack, is going to optimize this process on multiple levels. Sensors will be used to measure the current fill level of the containers, digitizing the data and removing the need for manual monitoring. Using this data, the timing and the routes of truck operations can be optimized.

The sensors will be installed into the containers by a technician and start sending the fill level. Since the sensor does not know in which container it has been installed, the technician must inform LiveTrack in which container he has put the sensor, preferably in a more practical way than displayed in the first picture. Only then the received sensor data can be mapped to its corresponding container.

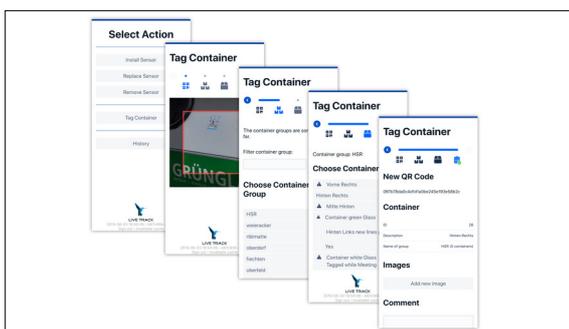


An overview of the "Install Sensor" workflow through the prototype. Own presentment

Approach / Technology:

Based on our own experiences, we know that tracking work digitally is often difficult and can prevent one from focusing on the actual work. Therefore our application should be as easy to use and convenient as possible. And what could be more convenient than using your own smartphone? Right, nothing, so we decided to develop a progressive web application (PWA) that runs in the browser, but still feels like a native app.

Result: We created a mobile application with all planned functionality implemented and tested thoroughly. For each action that the technician can perform, a workflow has been provided to make tracking his work as smooth as possible. In this way, LiveTrack can map sensors to containers and the filling level of containers can be determined. The app has already been published and is being used in production, very much to the satisfaction of LiveTrack.



The final result showcasing the "Tag Container" workflow. Own presentment

The app has been built very modular and with certain extensions in mind. LiveTrack already has plans for further development of the app.