IDP: UI Optimization of an IOT Application for the Construction Industry

Initial situation

The digitalization and networking of construction sites interlocks the construction industry with a current annual turnover of approx. 107 billion euros, telecommunications with a turnover of approx. 60 billion euros and construction and building material machines with a turnover of approx. 14 billion euros. The establishment of smart products and services for tapping efficiency potentials and developing innovative business fields is a central field of action in the technological leadership of Industry 4.0. If the construction site processes would be digitalized to the 4.0 approach, then all material flows, machine movements and equipment stocks on the construction site are to be recorded. This could only be done via the Internet of Things (IoT) for the objects. To utilize the information gathered from the IOT devices, a user-friendly interface with the evaluation function should be developed.

Objective

TaTUM is a fully-featured IOT platform. It was programmed primely for fleet management and was extended to IOT platform. As a data integration platform, it can combine data from different sources and different types, visualize the data in a user-friendly way, and finally keep track of ongoing work and the status of processes. In this IDP study, we would like to discuss and further develop this IOT Platform for the construction industry. The core task is to extend the data flow from the center database from CosmosDB. The Data should be selected and stored in the local database. After that, a simple dashboard should be enabled to visualize the data. The last step is to extend an existing RestAPI for exporting Data.

Requirements

- Interest in learning development with Docker and Kubernetes.
- Interest in programming with PHP, JavaScript and Python.
- We would recommend IDP lectures.

Contact

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