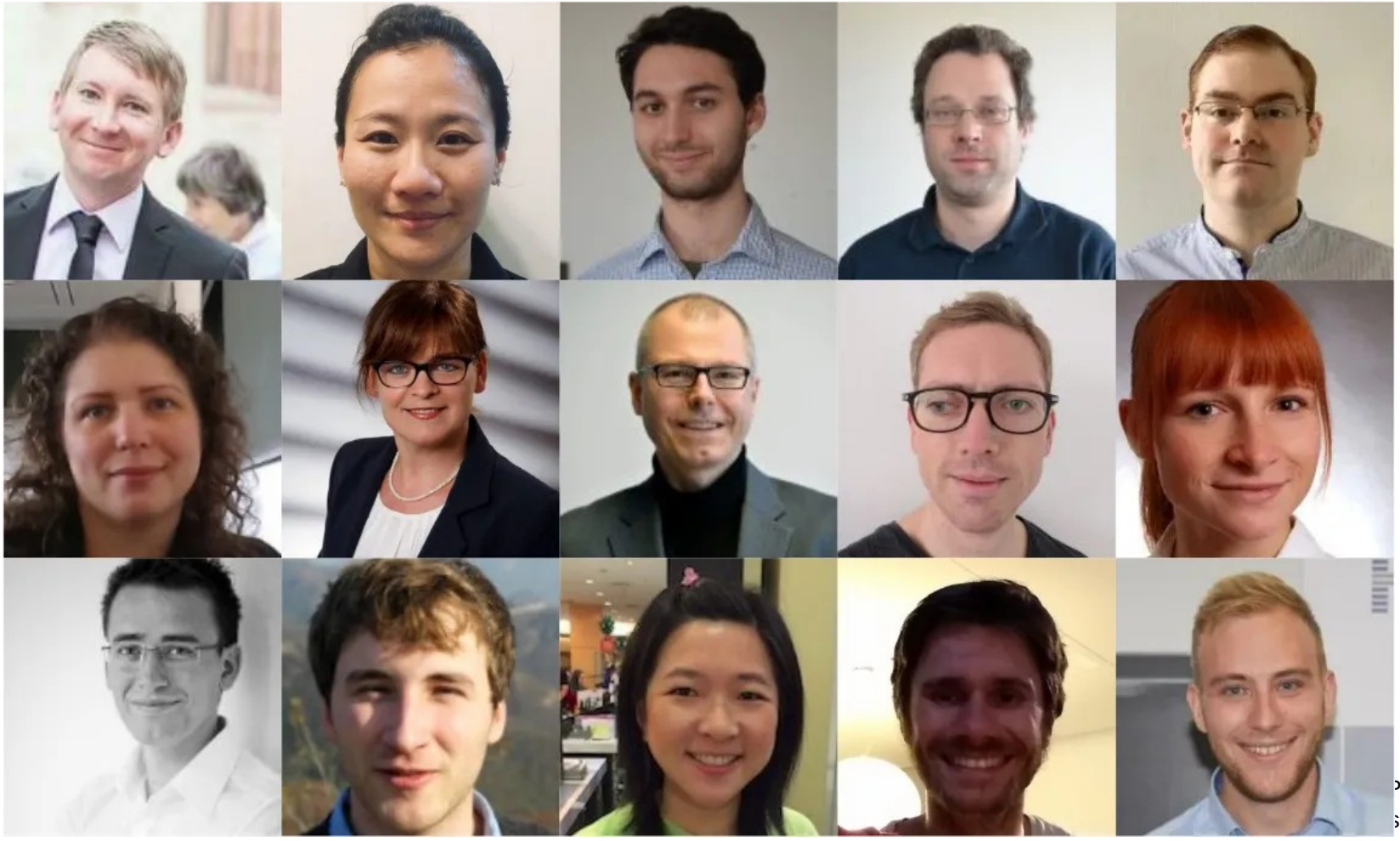
Welcome to Demo Day!

Prof. Dr. Dirk Riehle

Friedrich-Alexander University Erlangen-Nürnberg

AMOS I01

The Professorship for Open Source Software



Industry Partners and Teaching Projects

Volkswagen

• • •

The 2021 AMOS Projects

1. EMBA Service (with Siemens Energy)
2. Context Map for Corporate Data (with CPU 24x7)
3. Synthetic File System (with GRAU DATA)
4. Inner Source Project Linter (with DATEV)
5. 3D Viewer (with Büren & Partner)
6. Neural Network Enablement (with Huawei)
7. Bike Nest (with Markus Stipp, entrepreneur)
8. Carbon Footprint Visualization (with Siemens Energy)


2 kg
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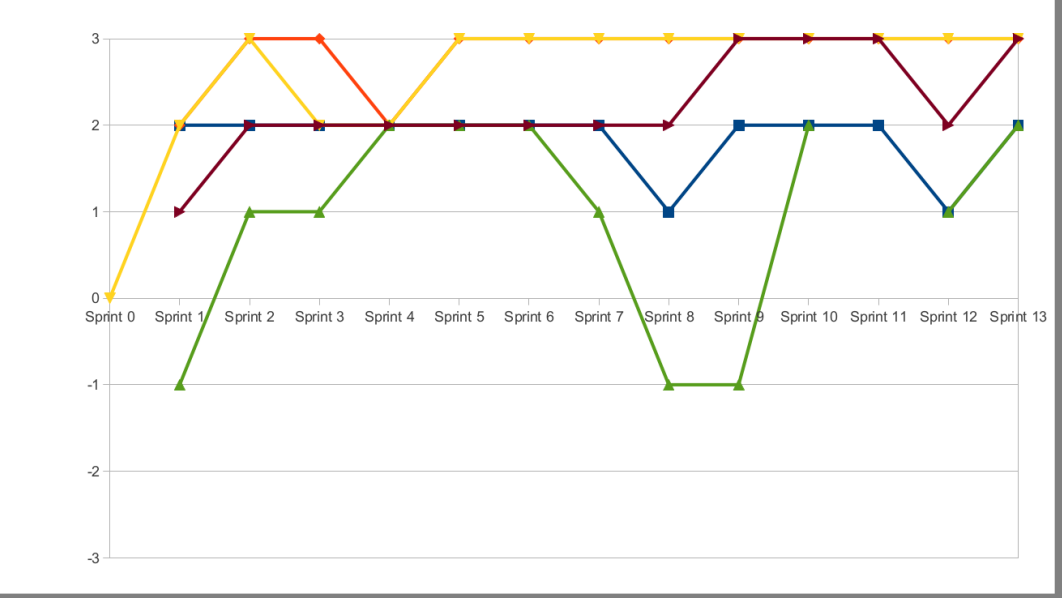
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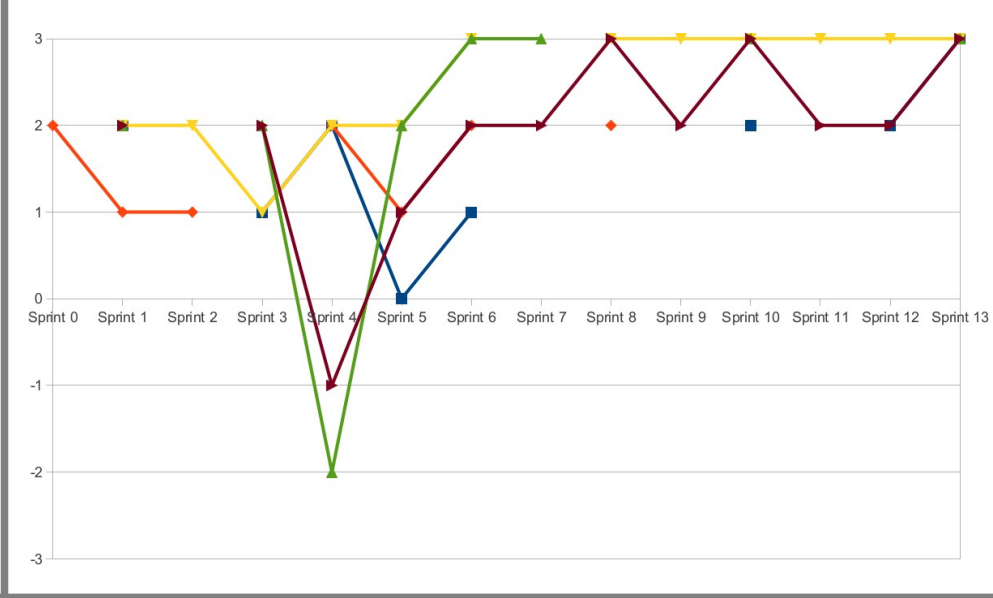
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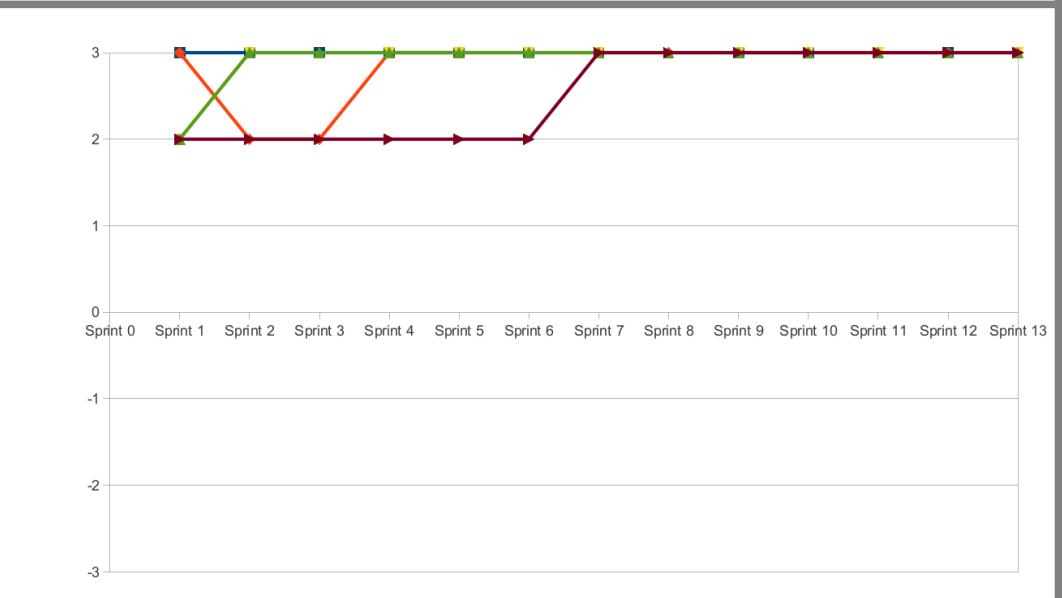
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SIEMENS energy

FAU FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG

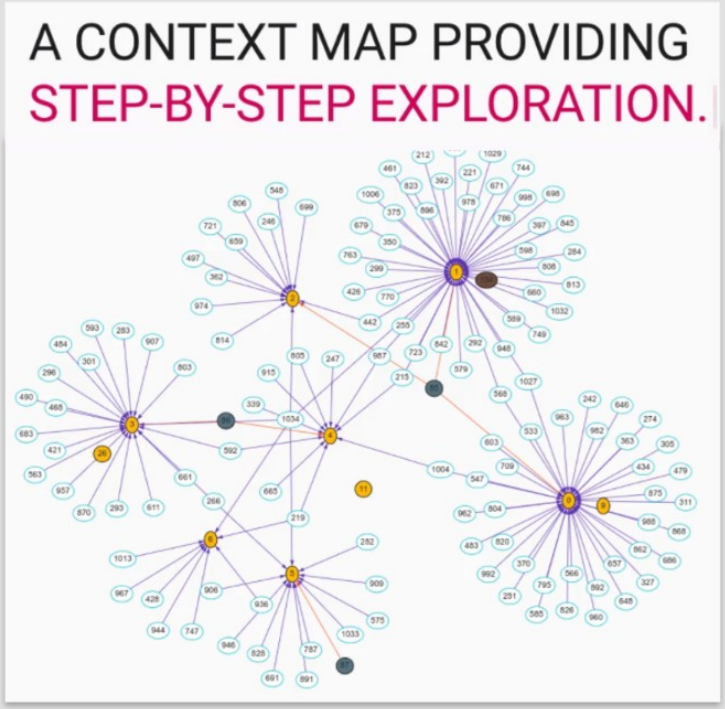
EMBARK

A containerized service for analyzing embedded firmware

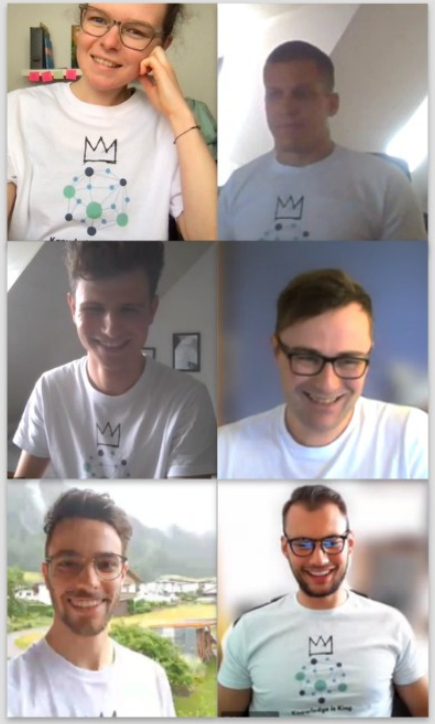
- Multi-user upload
- Analyse embedded firmware
- Track emba processes
- Aggregating vulnerabilites
- Downloading reports

Welcome to [KMAP]

Knowledge is King



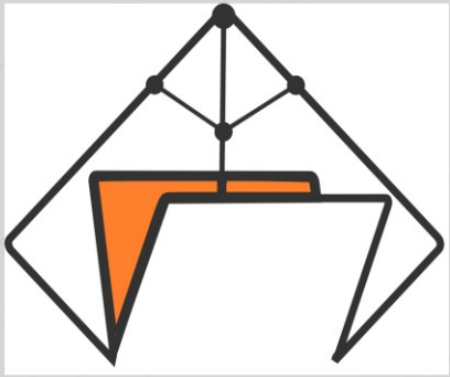
- Turning company data into **valuable insights**
- **Codeless** querying
- Step-by-step **exploration**
- Improve **communication** and **transparency** across companies and along the value chain



GRAU DATA
YOUR DATA. YOUR CONTROL

FAU FRIEDRICH-ALEXANDER UNIVERSITÄT ERLANGEN-NÜRNBERG
FACULTY OF ENGINEERING

SYNTHETIC FILE SYSTEM



What is a virtual file system?

- A virtual file system, is a filesystem, where all the normal filesystem calls, are overwritten and user defined. This can be used to adapt the behaviour of the system when accessing a folder, manipulating its content.

So what do we do with that?

- Our Synthetic File System (SFS) makes use of this virtual file system, to merge the contents of different data sources (like the Metadatahub, some databases, ...) and to display them in one unified view on a filesystem level. It also allows for all the files to be categorized by their metadata

And why would you want that?

- Metadata can reveal patterns that are often difficult to understand through normal data collection. These patterns are the fuel for artificial intelligence. Good AI needs qualified data which are the result of good metadata management.

Find and unlock the true value of unstructured data

Transform data into VALUE

Reduce search times

Get a bird's - eye view about your data

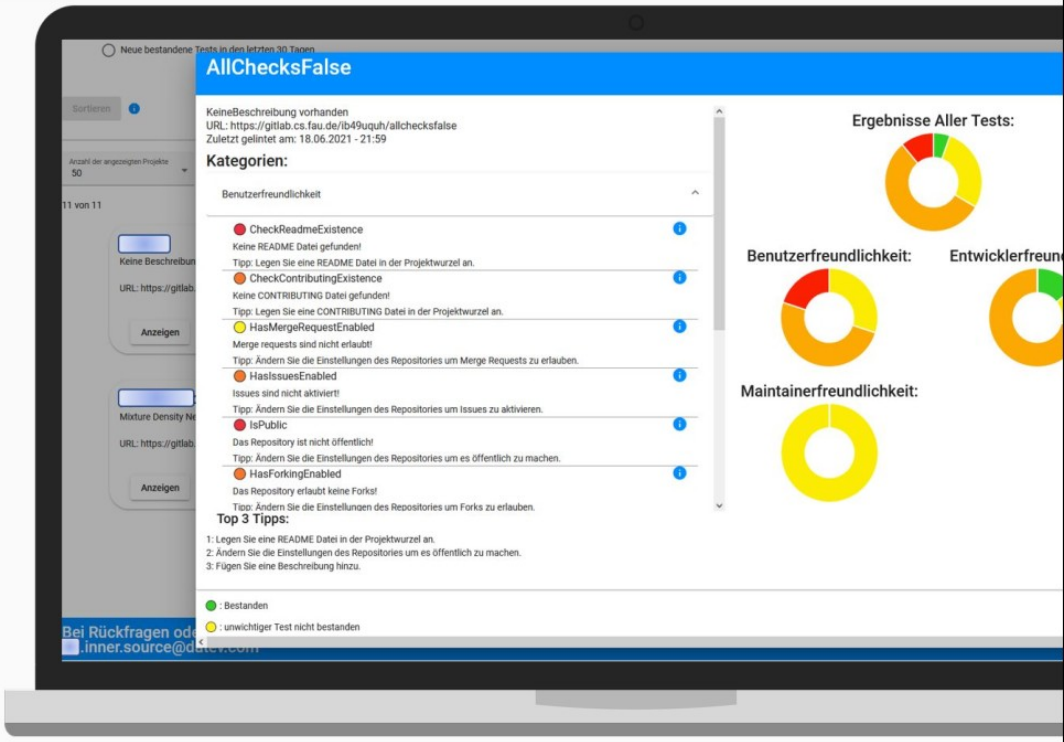
Team Members : Tuhin · Finley · Vaidehi · Sandra · Charinee · Dominik · Marlon · Matti

Team Coach : Julia Krause

Inner Source Linter

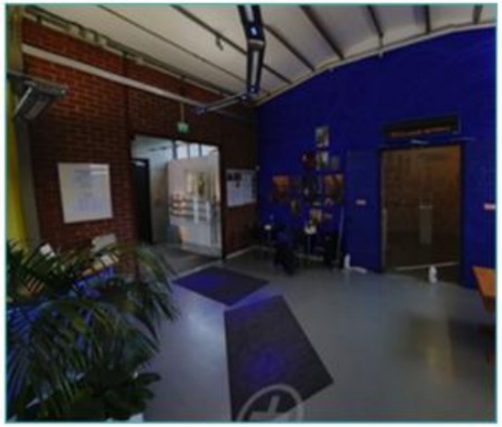
an AMOS project in collaboration with DATEV

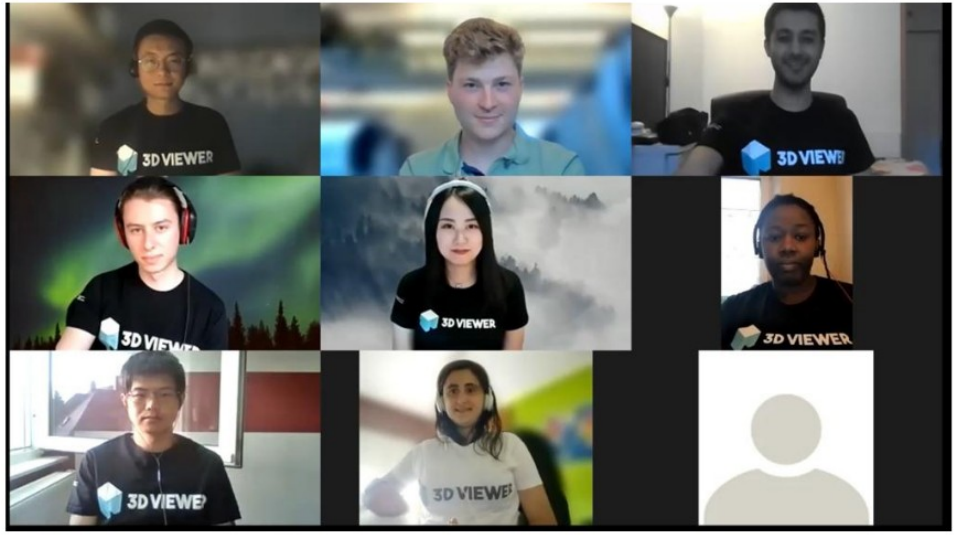
We help inner-source initiatives improve their projects and raise awareness of great projects.



3D VIEWER

Büren & Partner has a project from the computer science department, which is to display its **50 years** of computer science department exhibition on the web.





NEURAL NETWORK ENABLEMENT

NETELLA x HUAWEI x FAU

Objective

- Implementation of a frontend and backend for coloring images and videos using a pre-trained neural network.
- Implementation on an ATLAS 200DK board provided by Huawei.

Approach

- Development of a web service to manage the files and all user functions as well as to present the results.
- Development of a pipeline for coloring the images and videos.

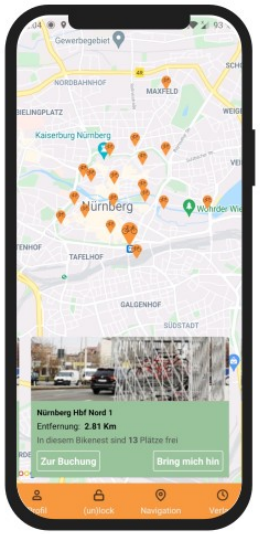
Result

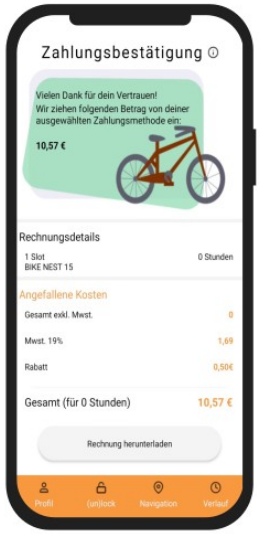
- Implementation of all functions for coloring the images and videos as well as showing the results side by side.
- Adding a function to preserve the sound for videos.

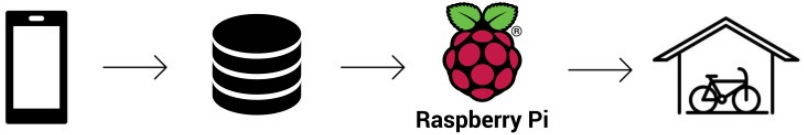
NETELLA
Neural Network Enablement

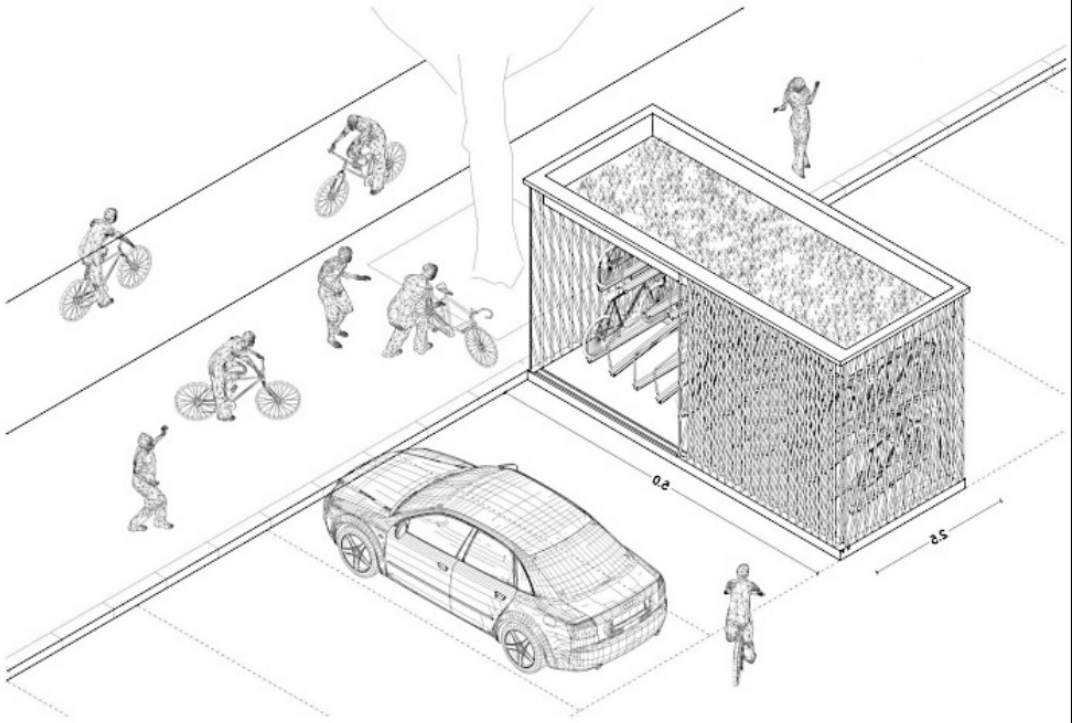
BikeNest is a mobile bike storage service, that can be accessed through an application developed by the AMOS Team

BIKE NEST





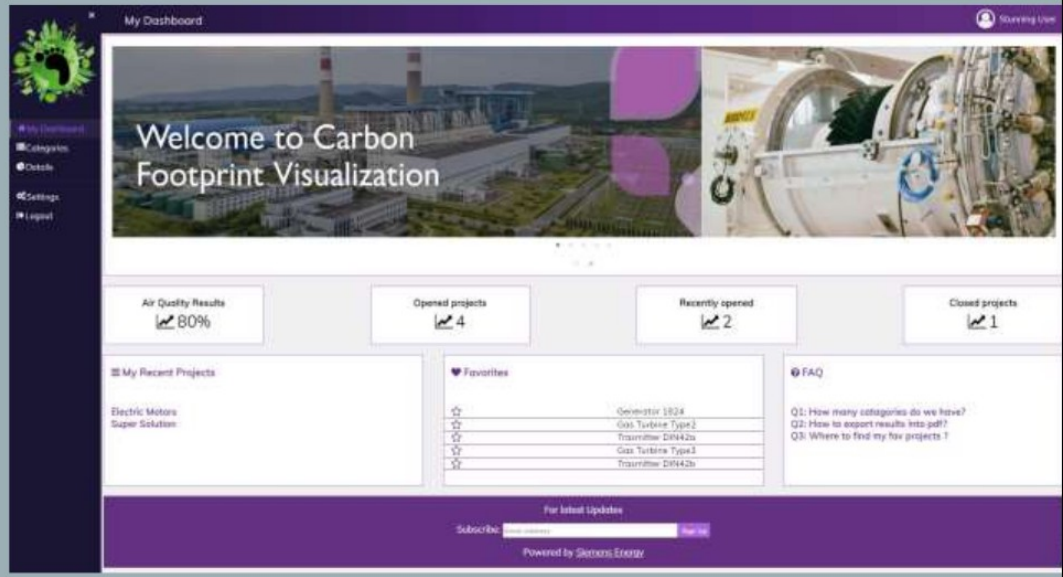




CARBON FOOTPRINT VISUALIZATION

A carbon footprint is the total amount of greenhouse gases that are generated by the actions of human beings such as deforestation or consumption of fossil fuels. For instance, burning fossil fuels while driving our cars and the use of other kinds of energies in our daily lives adversely affect our ecological life which induces climate change and warming of the Earth.

Its overwhelming adverse effects on our world has become even more challenging in the past couple of years. Therefore, the purpose of this project is to furnish support to our customers by providing a comprehensive architectural overview of the Carbon Footprint Visualization tool for them to visualize their solutions themselves to help them to speed up their business while meeting global challenges such as urbanization, demographic change, climate change, and resource scarcity.



Vision

- Calculate the carbon footprint and help our customers to understand the impacts and risks associated with it and offer alternatives.

Mission

- Continually reduce the environmental impact of our activities in order to protect the environment for future generations.

AMOS Demo Day Schedule at https://oss.cs.fau.de

DEMO DAY SCHEDULE							
Registration	https://forms.gle/DuZcSX6CAKJaVHKF9						
Time	**Duration**	**Responsible**	**Title**	**Room**			
10:15	10 min	Riehle	Introduction	Main room			
10:25	10 min	Teams	One slide summ	Main room			
10:35	20 min	Teams	Demo	Demo rooms			
10:55	20 min	Teams	Demo	Demo rooms			
11:15	20 min	Teams	Demo	Demo rooms			
11:35	20 min	Teams	Demo	Demo rooms			
11:55	20 min	Teams	Demo	Demo rooms			
12:15	5 min	Riehle	Conclusions	Main room			
Demo room 1	Siemens Energy	EMBA Service		https://fau.zoom.us/j/64700134419?pwd=MmpQbFYzY3pORjlHSFh			
Demo room 2	CPU 24x7	Context Map		https://fau.zoom.us/j/69582957638			
Demo room 3	GRAU DATA	Synthetic File System		https://fau.zoom.us/j/61254825119			
Demo room 4	DATEV	Inner Source Project Linter		https://fau.zoom.us/j/69975191992			
Demo room 5	Büren & Partner	3D Viewer		https://fau.zoom.us/j/66869909859?pwd=VlkvRGQrM2dOY21sdGtQ			
Demo room 6	Huawei	Neural Network Enablement		https://fau.zoom.us/j/7153384413			
Demo room 7	Startup	Bike Nest		https://fau.zoom.us/j/7658200455?pwd=ZE4xak9xWkZ4eTFGTGtZV			
Demo room 8	Siemens Energy	Carbon Footprint Visualization		https://fau.zoom.us/j/64835513630			

Thank you! Questions?

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