

Streamlit and CiviCRM: A Winning Team for Custom UIs and Dashboards ?



Ulrich Meyer-Martin



CiviCamp Hamburg 03.06.2024

FlyingCivi.Clients.Community



**kultur
land
bc:ro**



Streamlit- Universe



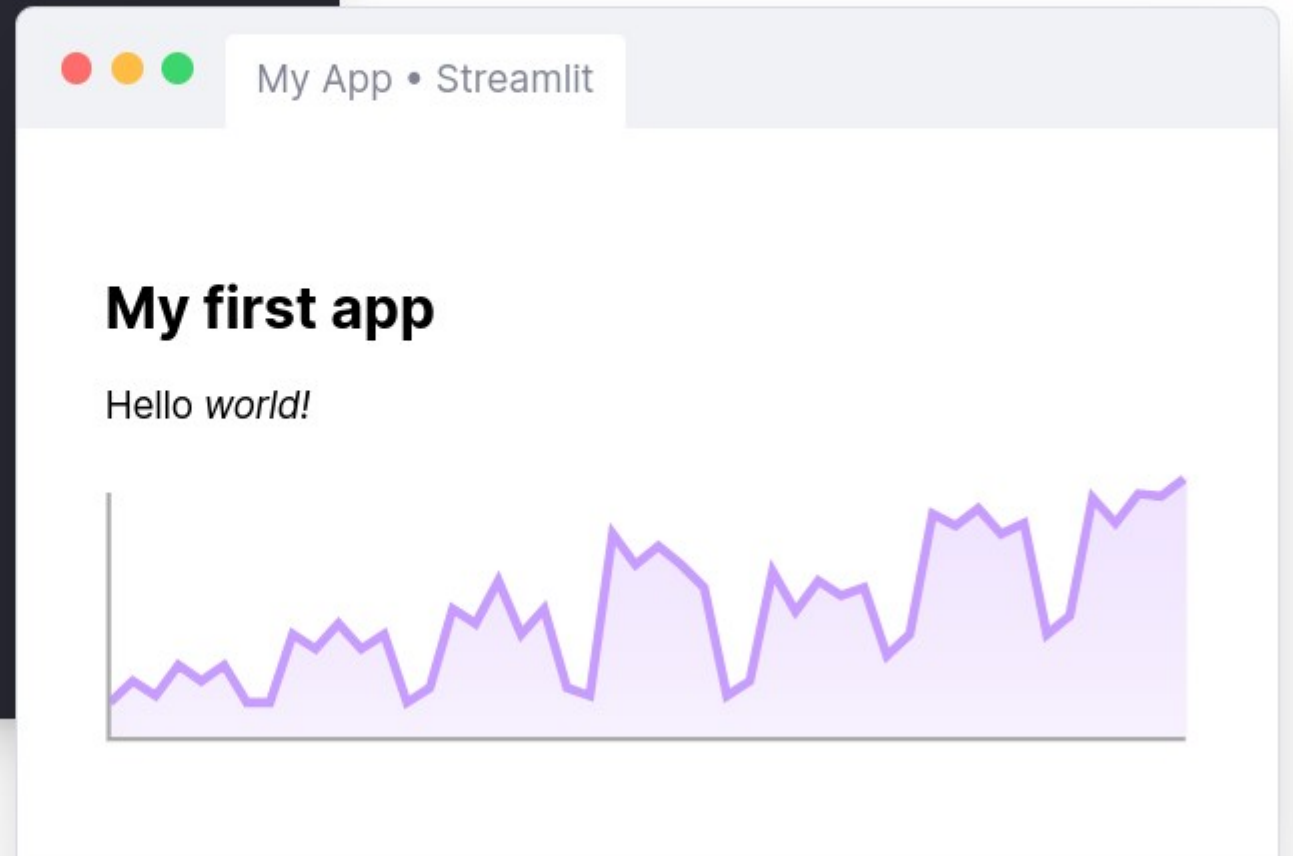
What is Streamlit ?

```
MyApp.py

import streamlit as st
import pandas as pd

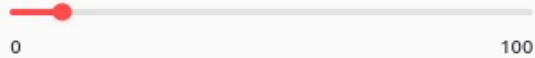
st.write("""
# My first app
Hello *world!*
""")

df = pd.read_csv("my_data.csv")
st.line_chart(df)
```

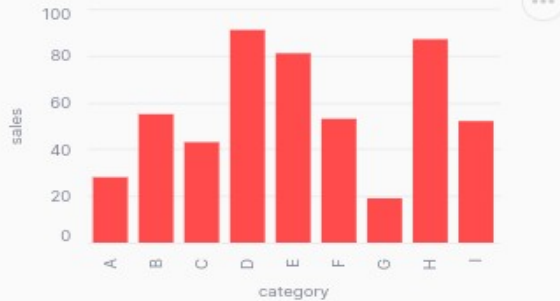


Streamlit Widgets

Pick a number



```
number = st.slider("Pick a number", 0, 100)
```



```
st.altair_chart(my_chart)
```

Pick a file



Drag and drop files here

Limit 200MB per file • TXT

Browse files

```
file = st.file_uploader("Pick a file")
```

Pick a color



```
color = st.color_picker
```

Pick a pet

Dog

Cat

Bird

```
pet = st.radio("Pick a pet", ["Dog", "Cat", "Bird"])
```

Pick a date

< May 2024 >

Su Mo Tu We Th Fr Sa

1 2 3 4

5 6 7 8 9 10 11

12 13 14 15 16 17 18

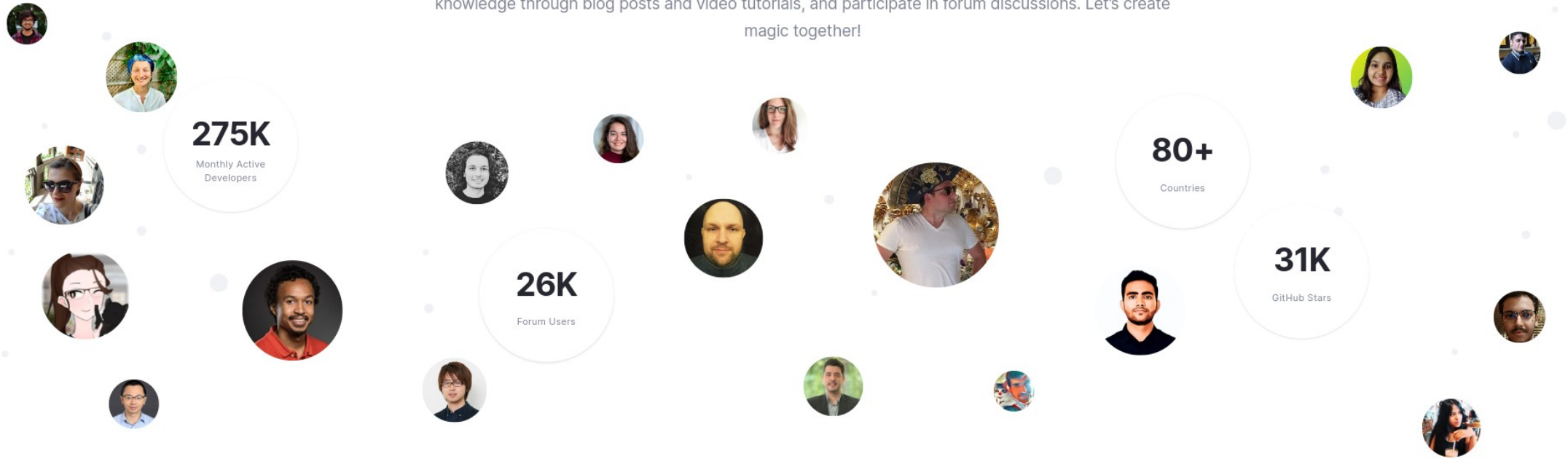
19 20 21 22 23 24 25

26 27 28 29 30 31

Streamlit Community

Join the community

👋 Welcome to our active community of developers and data scientists! Create beautiful apps, share knowledge through blog posts and video tutorials, and participate in forum discussions. Let's create magic together!



One of the Project Issues ...



Mentoring Hoheluft Board

- Kennenlerngespräch**: Gabriele (30. Jun.), Lara (11.04.23 Online), Michael (K:31.05.23), Rustam (K: 01.06.23), Matthias (14. Aug.), Jonathan (3.6.23), Melina (K:25.05.23)
- Mentee raussuchen**: Norden lila | Osten orange | Süden gelb | Westen rot | Zentrumsnah blau | Randbezirke grün. Mentees: Angelika, Sonja (K 25.05.23), Kaja (K 19.01.23), Oula (K: 13.03.23)
- Für Mentee vorgemerkt**: Ute (M: 05.04.23)
- Matching**: Stephan (M. 14.06.23), Laurens (Verlängerung 17.12.2022 | M 17.06.2022), Christian (M: Christian - Eduardo), Madeleine (M: 10.06.2023), Anneke (K. 8.5.23) M. 12.6.23
- Erstes Feedback (etwa 2 Wochen nach Matching)**: Thu (M 28.04.23), Amina (M 8.5.23), Lukas (2. Patenschaft Jorge M.15.5.23), Karo (M 22.5.23), Andrea (K. 02.02.23)M. 22.5.23

Mentoring Hoheluft Board

- Feedback nach 2 Monaten**: Rinat (M 05.07.2022), Katrin (Patenschaft Sara, M. 17.4.23), Sandra (M 20.03.23), Bahne (m., M 16.02.23), Naciye (M 26.01.23), Ilyas (M 23.03.23)
- Feedback nach Hälfte der Patenschaft**: Carl (M 11.01.23), Danilo (19.04.22), Yannick (M: 14.12.22), Franziska (M 8.12.22), Lisa (M: 09.02.23), Stefanie (M. 27.2.23)
- Feedback nach 4-5 Monaten**: Jürgen (M 10.11.22), Jakob (M 03.11.22), Detlef (H-HmH) M 15.12.22, Hojet (1. Patenschaft Arvin M 09.01.23), Julia (M 16.1.23)
- Verlängerung anfragen**: Doris (1.V. 01.12.22), Malena (13.01.21), Axel (10.12.2021), Janina (1.V. 04.02.23), Susanne (21.01.22), Felix
- Folge-Patenschaft Feedback etwa bei der Hälfte**: Elena (Verlängerung 02.01.2023), Steffen (verl. bis 06.10.2023 | M 06.10.2022), Casimiro (verlängert bis 06.09.23 | M 06.09.2022), Kristina (M 23.08.22 | Verlängerung 23.02.2023)



Anneke (K. 8.5.23) M. 12.6.23

24. Mai um 17:10 Uhr

Iris Höger hat diese Karte von Mentee raussuchen in Für Mentee vorgemerkt verschoben
17. Mai um 08:16 Uhr

Solution with CiviCase

The screenshot displays the CiviCRM case management interface. The left sidebar contains navigation options: Dashboard, CiviCRM, Settings, Admin Utilities, Beiträge, Medien, Seiten, Kommentare, Caldera Formulare, Design, Plugins, Benutzer, Werkzeuge, Einstellungen, Post SMTP, and Menü einklappen. The main content area is titled 'Zusammenfassung' and shows case details: Klient.in, Thema, Betreff: Patenschaft, Typ: Mentoring 2023, Status: in Bearbeitung, Eröffnungsdatum: Januar 11th, 2024, and ID: 21. Below the summary are sections for Case Mentoring, Gruppe 2, Case Mentoring multiple fields, Rollen, Weitere Beziehungen, and Aktivitäten. The 'Aktivitäten' section includes a search filter and a table of activities. The table has columns for Datum, Thema, Betreff, Typ, Mit, Reporter, Beauftragt, and Status. The activities listed are: 1. Januar 12th, 2024 12:20 PM: Kennerlerngespräch (Geplant). 2. Januar 26th, 2024 5:38 PM: hat Mentor : Kira S. Fallrolle übertragen (Abgeschlossen). 3. Januar 11th, 2024 12:15 PM: Patenschaft Fall angelegt (Abgeschlossen).

Zusammenfassung

Klient.in [redacted]

Thema, Betreff: Patenschaft Typ: Mentoring 2023 Status: in Bearbeitung Eröffnungsdatum: Januar 11th, 2024 ID: 21

Aktivität hinzufügen Zeitachse hinzufügen Fall-Aktivitäten prüfen

Bericht drucken Dokument exportieren einem anderen Klienten zuweisen

Case Mentoring

Gruppe 2

Case Mentoring multiple fields

Rollen

Weitere Beziehungen

Aktivitäten

Suchfilter

10 Einträge anzeigen

Erste Zurück 1 Weiter Letzte

Datum	Thema, Betreff	Typ	Mit	Reporter	Beauftragt	Status	
Januar 12th, 2024 12:20 PM		Kennerlerngespräch	[redacted]	[redacted]		Geplant	Ansehen Bearbeiten mehr
Januar 26th, 2024 5:38 PM	hat Mentor : Kira S.	Fallrolle übertragen	[redacted]	[redacted]	[redacted]	Abgeschlossen	Ansehen Löschen
Januar 11th, 2024 12:15 PM	Patenschaft	Fall angelegt	[redacted]	[redacted]	[redacted]	Abgeschlossen	Ansehen Bearbeiten

Case Interactive Overview

×

Falltyp:

Rolle wählen

Start-Datum:

Fälle zu Falltyp Mentoring 2023

id	Client	Rolle	Fall ang...	Kennerl...	Mentore...	Reg... ↓
24	30.01.24	30.01.24+	31.01.24+	31.01.24+
9	22.05.23	02.01.24+		30.11.23
2	21.09.23	03.01.24+		29.09.23
17	30.12.23	30.12.23	30.12.23	15.02.24+
22	16.01.24	16.01.24	03.04.24	03.04.24+
1	05.09.23+	05.09.23+		
3	26.09.23	30.12.23+		
4	05.09.23+	05.09.23+		
5	05.09.23	05.09.23+		
15	26.09.23			

- Specific select option
- Specific columns
- Specific marking of status fields
- Sort fields
- Jump into application

The screenshot shows a detailed view of a case in a CRM system. The interface includes a sidebar with navigation options, a header with case details, and a main content area with a list of activities. An arrow from the table in the previous block points to this view, indicating that clicking a row in the table leads to this detailed view.

Specific Kanban Board

Falltyp:
Mentoring 2023

Exit

NONE **Neu** **in Bearbeitung** **Gelöst** **Gestoppt**

Patenschaft mit Ali
CASE_9 VIEW
TAG

Patenschaft mit Mia
CASE_3 VIEW
TAG

Patenschaft mit Osca
CASE_2 VIEW
TAG

Mentor*in für Mia su
CASE_1 VIEW
TAG

Patenschaft mit Mia
CASE_15 VIEW
TAG

Mentor*in für Mia su
CASE_5 VIEW
TAG

test
CASE_18 VIEW
TAG

Mentor*in für Mia su
CASE_4 VIEW
TAG

neuer Fall zum Teste
CASE_10 VIEW
TAG

Patenschaft
CASE_21 VIEW
TAG

x
CASE_19 VIEW
TAG

Mentor für Mia
CASE_17 VIEW
TAG

PAtenschaft neu
CASE_22 VIEW
TAG

Patenschaft
CASE_23 VIEW
TAG

Patenschaft Test
CASE_20 VIEW
TAG

Patenschaft
CASE_24 VIEW
TAG

- Get Kanban-Board directly from CiviCRM-Data
- Use any dimension you like
- Jump to CiviCRM per case
- Change case tags
- Drag and drop to other status
- Simple view

Building the Kanban Board

```
# --- Daten holen -----  
def fetch_data(config_parms, kanban_columns, kanban_keys, case_type_p) :  
  
    test_mode      = "0"  
    log_level      = 2  
  
    config_parms = robot_config.config()  
  
    url            = config_parms["environment_CRM_url"]  
    site_key       = config_parms["environment_CRM_site_key"]  
    user_key       = config_parms["environment_CRM_user_key"]  
  
    ref_no        = 0  
    ref           = "Cases_get"  
    entity, action, http_postget = "Case", "get", "get"  
  
    json_object = {}  
  
    json_object["sequential"] = 1  
    json_object["return"]     = "id, subject, status_id, tag_id"  
    json_object["case_type_id.title"] = case_type_p  
    json_object["options"]     = {"limit":0}  
  
    json_request = json.dumps(json_object)  
    success, json_response = http_call(http_postget, ref_no, ref, url, entity, action, site)  
  
    if success == "1" :
```

```
# --- Grid für Kanban-Board Überschrift und colorieren mit MUI-Paper -----  
with elements("dashboard"):  
  
    max_x = len(kanban_columns)  
    max_y = 15  
  
    layout = []  
  
    for xx in range(0,max_x):  
        layout.append(dashboard.Item("header_" + str(xx).zfill(2) + "_item", xx, 0, 1, 0.6, isDraggable=False, moved=False, isResizable=True)  
        # print("header_" + str(xx).zfill(2) + "_item")  
  
    for xx in range(0,max_x):  
        for yy in range(0,max_y) :  
            layout.append(dashboard.Item("kanban_" + str(xx).zfill(2) + "_" + str(yy).zfill(2) + "_item", xx, yy+1, 1, 0.6, isDraggable=True, moved=False, isResizable=True)  
            # print("kanban_" + str(xx).zfill(2) + "_" + str(yy).zfill(2) + "_item", xx, yy)
```

```
with dashboard.Grid(layout, onLayoutChange=handle_layout_change, compactType='vertical', density='comfortable'):  
  
    if st.session_state['first'] :  
        relation = {}  
        st.session_state['relation'] = {}  
    else :  
        relation = st.session_state['relation']  
  
    for ii, kk in enumerate(kanban_columns):  
        mui.Paper(kk, key="header_" + str(ii).zfill(2) + "_item", elevation=18, variant="outlined", square=False, sx={"bgcolor": "#81F7F7"})  
  
    for ii, kk in enumerate(kanban_columns) :  
        xx = int(ii)  
        yy = 0  
        for index, row in df.iterrows():  
            row_dict = dict(row)  
            if row_dict["Status"] == kk :  
                yy += 1  
                if st.session_state['first'] :  
                    keyy= "kanban_" + str(xx).zfill(2) + "_" + str(yy).zfill(2) + "_item"  
                    relation["kanban_" + str(xx).zfill(2) + "_" + str(yy).zfill(2) + "_item"] = row_dict["Case Id"]  
                else :  
                    for nn, ci in relation.items() :  
                        if ci == row_dict["Case Id"] :  
                            keyy = nn  
                # print("Treffer", row_dict["Case Id"], kk, keyy, xx, yy)  
                with mui.Paper(key=keyy, elevation=18, variant="outlined", square=False, sx={"bgcolor": "lightblue"}) :  
                    mui.Typography(row_dict["Thema"][:20], sx={"bgcolor": "lightblue", "fontFamily": "Arial, sans-serif", "fontWeight": "bold"}, key="title", keyy=keyy)  
                    url_link = "https://hmmh-test.flyingcivi.com/wp-admin/admin.php" + "?" + 'page=CiviCRM&q=civicrm%2Fcontact%2Fview/' + row_dict["Case Id"]  
  
                    col1, col2, col3 = st.columns([1,1,1])  
  
                    with col1:  
                        mui.Button("case_" + row_dict["Case Id"], target = str(xx) + str(yy), href= url_link, sx={"bgcolor": "#81F7F7"}, key="case")  
                    with col2:  
                        mui.Button("view", target = str(xx) + str(yy), onClick=onclick view(row_dict["Case Id"]), sx={"bgcolor": "#81F7F7"}, key="view")
```


Maintain Contact

The screenshot shows a web browser window at <http://localhost:8501>. On the left, there is a sidebar with a search bar labeled "CiviCRM-Id" containing the value "3" and an "Exit" button. The main content area displays a contact form with the following fields:

- CiviCRM ID: 3
- Externe Identifikation: [Redacted]
- Anzeige-Name: Herr Ulrich Meyer-Martin
- Vorname: Ulrich
- zweiter Vorname: [Redacted]
- Nachname: Meyer-Martin
- Keine E-Mails senden:
- Nicht anrufen:
- Nicht anschreiben:
- Keine SMS senden:
- Nicht weitergeben:
- Keine Massen-E-Mails (User Opt out):
- Anrede: [Redacted]

- Use field list of contact
- Map Civi field type to Streamlit Widget
- Handle Multiple Choices
- One or more fields per line

This screenshot shows a section of the contact form with a grid of checkboxes for hobbies. The grid is organized as follows:

- Hobbys: [Redacted]
- AB: [Redacted] AC: [Redacted]
- BB: [Redacted] BC: [Redacted] BD: [Redacted]
- CB: [Redacted] CC: [Redacted] CD: [Redacted] CE: [Redacted]

At the bottom of this section is a button labeled "Absenden".

Uploader

The screenshot displays a web application interface. On the left, a blue modal window contains a login form with the following fields and elements:

- Login** (Section Header)
- Username** field with the value "umeyermartin"
- Password** field with masked characters "....." and a "Press Enter to submit form" instruction.
- Login** button

The main application window, titled "http://localhost:8501", features a header with a "Deploy" button. The main content area is titled "Import Raumbuchungen vom HdE" and includes a file upload section with a "Drag and drop file here" area (Limit 200MB per file • XLSX) and a "Browse files" button. A file named "HdE-Raumbuchungen_ab_07-2023_umm.xlsx" (0.5MB) has been selected.

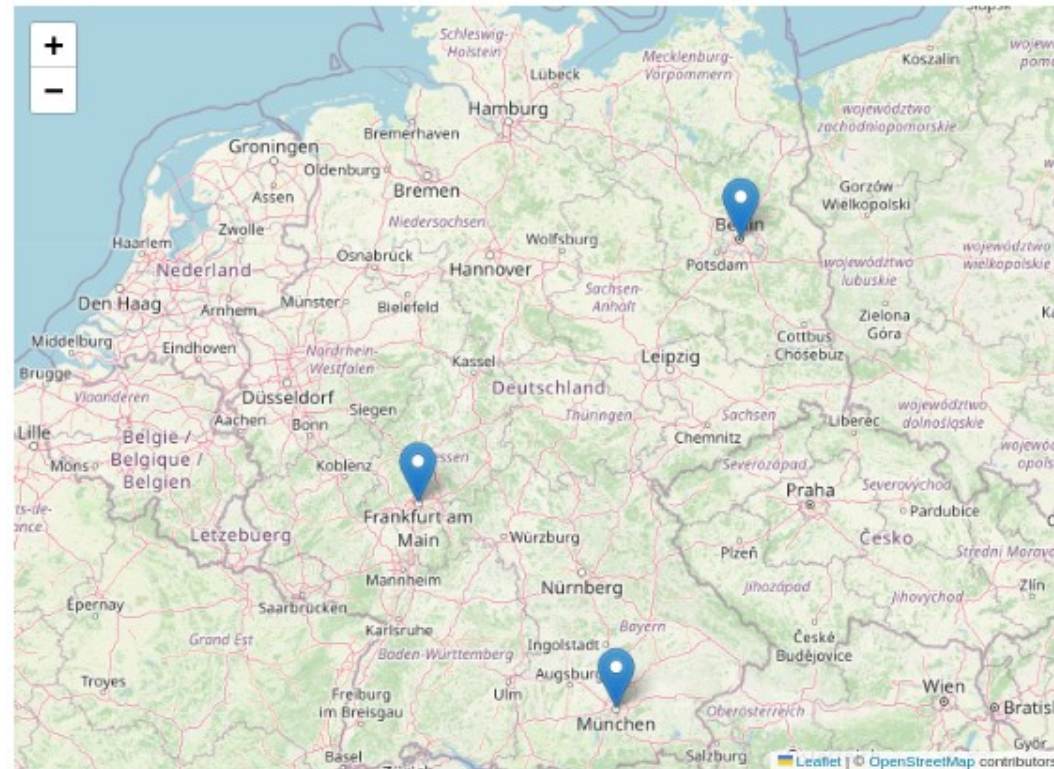
Below the file selection, a table displays the imported data:

ID	Anfragedatum	Anfrageweg	Nutzungsdatum	Tag	Initiative	Ansprechperson extern	E-Mail	Telefonnummer	Anz Pers	Materialbedarf	Catering	Art des Caterings	Start	Ende	
0	5	2023-04-18 00:00:00	Mail	2023-07-01 00:00:00	Sa	Welcome Dinner e.V.	Johana	None	None	10	None	None	None	10:00:00	12:00:00
1	6	2023-05-22 00:00:00	None	2023-07-01 00:00:00	Sa	Haus des Engagements	Katharina Fries	None	None	None	None	None	None	None	None
2	7	2023-05-22 00:00:00	None	2023-07-01 00:00:00	Sa	Engagement Dock	Jana Hüttmann	None	None	None	None	None	None	None	None
3	8	2023-04-11 00:00:00	Mail	2023-07-03 00:00:00	Mo	Rheuma-Liga Hamburg e.V.	Helen Holldorb / Colleen Livingston / Isabel Thiele	jr@rheuma-liga-hamburg.de	None	20	None	None	None	19:00:00	21:00:00
4	9	2022-09-13 00:00:00	Mail	2023-07-04 00:00:00	Di	Betreuungsverein GBALRA	Sven Möhlmeier	svn.moehlmeier@hj.de	0176-13068874	14	None	None	None	18:30:00	20:30:00
5	10	2023-04-18 00:00:00	Mail	2023-07-04 00:00:00	Di	Über den Tellerrand Hamburg e.V.	Wilma Scheschonk	None	None	15	None	None	None	18:30:00	20:30:00
6	11	2023-05-11 00:00:00	Web-Formular	2023-07-04 00:00:00	Di	ALN / AG Nachhaltigkeit	Julia Hudy	j.hudy@aktivoli.de	None	8	None	None	None	10:00:00	12:00:00
7	12	2023-06-07 00:00:00	Web-Formular	2023-07-04 00:00:00	Di	Landesfrauenrat Hamburg e. V. & Haus des Engagements	Katharina Fries (1. Ansprechpartnerin), Lisa Schaur	k.fries@aktivoli.de	0176 747 17 979	25	None	None	None	None	None
8	13	2023-06-08 00:00:00	Web-Formular	2023-07-04 00:00:00	Di	Weiterbildung Hamburg e. V.	Lena Holst	holst@weiterbildung-hamburg.de	040334683261	25	None	None	None	09:00:00	11:00:00
9	14	2023-06-12 00:00:00	Persönlich	2023-07-04 00:00:00	Di	Landesfrauenrat Hamburg e. V. & Haus des Engagements	Katharina Fries (1. Ansprechpartnerin), Lisa Schaur	k.fries@aktivoli.de	177 747 17 979	20	None	None	None	13:00:00	15:00:00

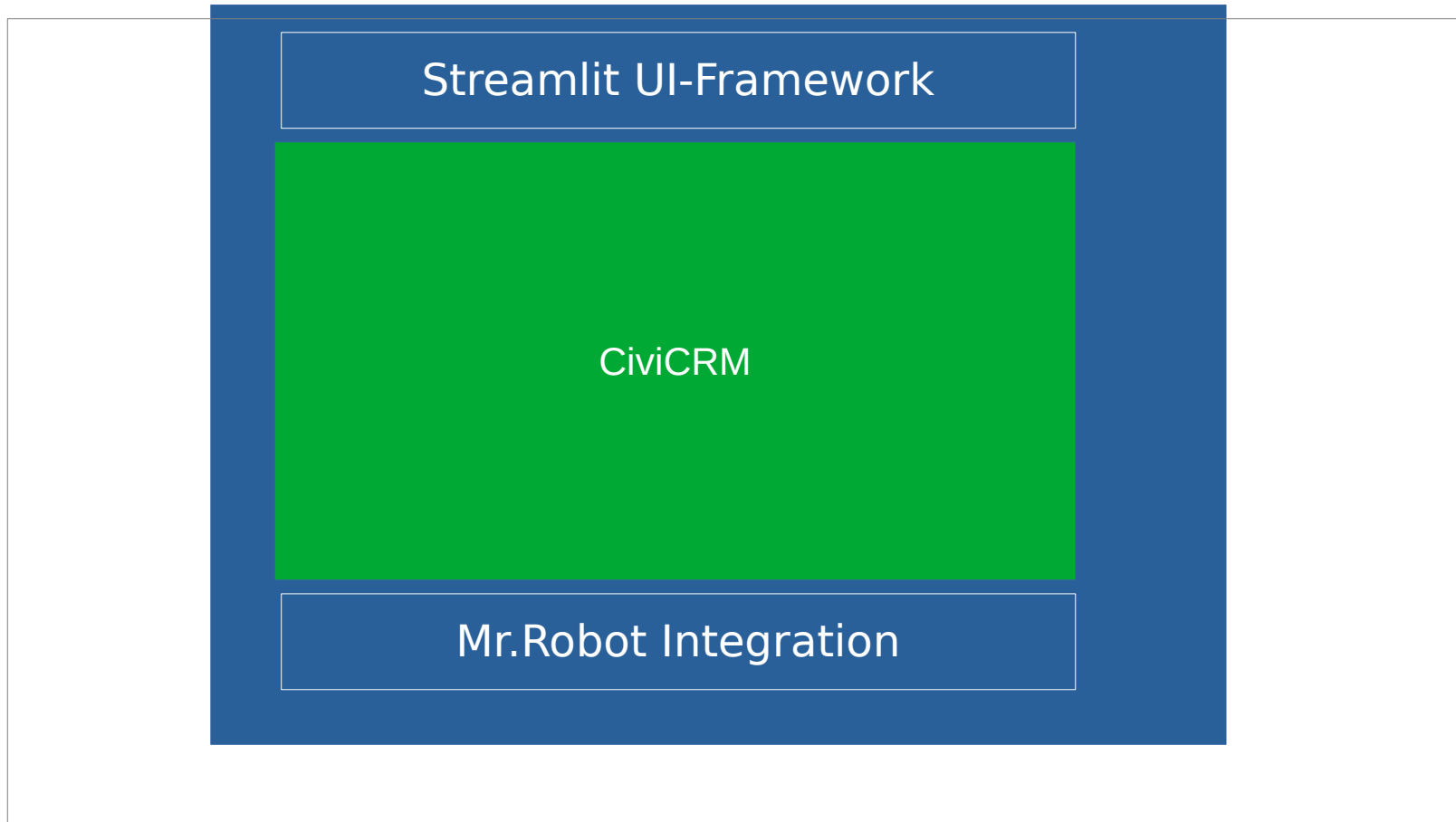
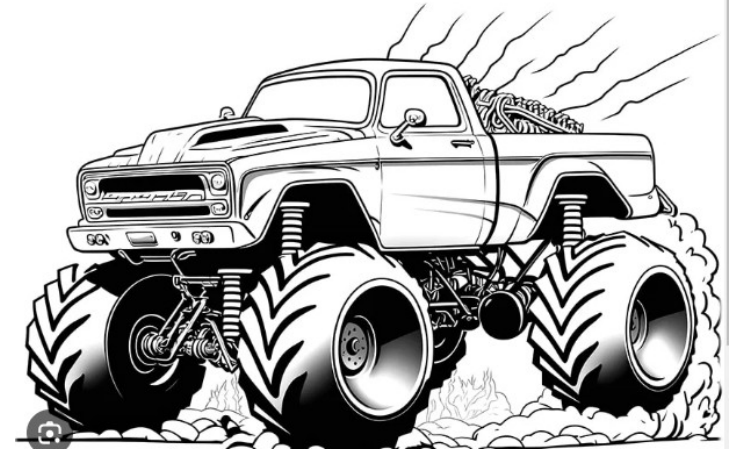
At the bottom of the interface, there is an "Import ausführen" button.

Data and Maps

Folium Karte in Streamlit



Architecture



Stay curious



Flying Civi 

Ulrich Meyer-Martin
u.meyer-martin@flyingcivi.com
m-m-cs GmbH
Kirchenheide 26
22395 Hamburg

Tore Björn Buschsenja
t.buschsenja@flyingcivi.com
OpenSource-Mentor
Dahmsdorf 37
23619 Zarpfen

