

Urban Data Platform Agent (UDP Agent)

*Towards an agentic architecture
for speaking with your urban data
in natural language*



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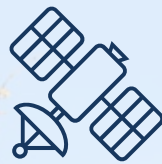


**URBAN DATA
PLATFORM**
HAMBURG

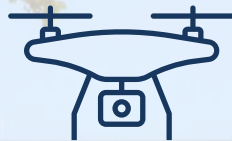


Hamburg

ABOUT US



Surveying



Maps & Aerial photos



(Geo) data



Real estate cadastre
&
Appraisal committee



Management
of urban data

Foundation: Urban Data Platform as a System of Systems

Applications



Statistics



Web Portals



Apps



API

Maps

Data Access

Metadata

Real-time Data

Data Processing

Analyses

Decision Support



**URBAN DATA
PLATFORM**
HAMBURG

Systems



Urban Planning



District Plans



Urban Green



Housing



Social
Infrastructure



Rent Index



GUIDING PRINCIPLES

Interoperability



Open Geospatial Consortium



URBAN DATA PLATFORM
HAMBURG

Standardized Interfaces



URBAN DATA PLATFORM
HAMBURG

Digitally enabled



Privacy

Multiple use

The problem

At present, users analyse the data visually via Geo-Online or retrieve it via the UDP interfaces and process it themselves in GIS or other technical systems.

Technical expertise is required.



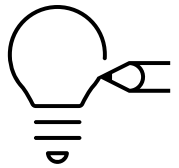
Evolution:

Urban Data Platform Agent— An agentic architecture for interacting with urban data

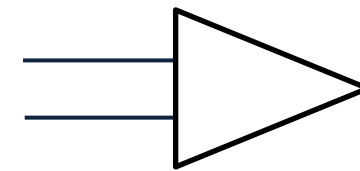
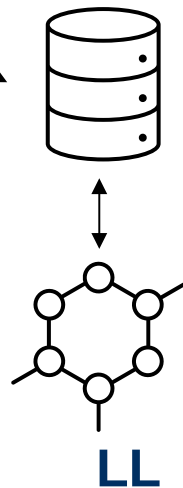
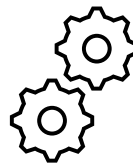
MCP Server Setup

- MCP (Model Context Protocol)
- The agents communicate via a central MCP server
- Each agent is an independent, interchangeable component
- The architecture is flexible and easily extensible

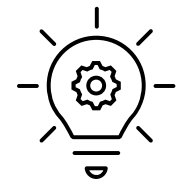
Planing-Agent



Excecution-Agent



Answer



Demo Questions

- How many schools do we have in Hamburg?
- How many bicycle stations are in Wilhelmsburg within a 200 meters radius of public transport stops?
- Where are the shrinking industrial estates located?
- Show me all hospital in „Hamburg Mitte“ on a map.

Demo (Schools)

UDP_Agent



Let's chat

Here, you can ask any questions and get answers based on the files in your workspace. Don't forget to give a thumbs up or down to show if the answer was correct.

How many schood | I

Submit



Share

UDP_Agent



Description

Willkommen beim Hamburg UDP Agent



Ich bin Ihr KI-Partner für die Hamburg Urban Data Platform (UDP). In dieser neuen Version agiere ich nicht mehr nur als Architekt, sondern auch als Baumeister. Ich bestehe nun aus zwei spezialisierten Einheiten: einem Planer und einem Ausführer.

Das neue Feature: Der "Autopilot"
Ich habe gelernt, Situationen einzuschätzen.

- **Vorher:** Ich habe stur auf Ihr "Go" gewartet.
- **Jetzt:** Wenn Ihre Anweisung präzise ist und ich die passenden Datenquellen eindeutig identifiziere, **setze ich den Plan sofort um.** Sie erhalten das Ergebnis ohne Zwischenstopp.

Mein flexibler Workflow

Je nach Klarheit Ihrer Anfrage wähle ich den effizientesten Weg:

1. Der Direktflug (Standard bei klaren Fragen):

- *Sie fragen:* "Zeige alle Krankenhäuser in Hamburg-Mitte auf einer Karte."
- *Ich reagiere:* Ich erkenne die Datenquelle, plane und führe sofort aus. Sie erhalten direkt das Ergebnis & den Kartenlink.

2. Die Rücksprache (Bei komplexen/vagen Fragen):

Demo (Bicycle Stations within Public Transport)

UDP_Agent

jh How many schools do we have in Hamburg?

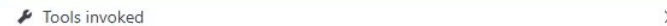
h Based on the data fetched from Hamburg's Urban Data Platform, Hamburg has a total of 543 schools.

Here's the breakdown:

- **State schools** (staatliche_schulen): 455 schools
- **Non-state schools** (nicht_staatliche_schulen): 88 schools

Total: 543 schools

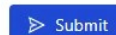
Both datasets have been completely fetched and verified, covering all schools registered in Hamburg's education system across all districts (Bezirke) and neighborhoods (Stadtteile).

 Tools invoked >



How many bicycle stations are in Wilhelmsburg within a 200 meters radius of public transport stops?

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Demo (Shrinking industrial estates locations)

UDP_Agent

There are 7 StadtRAD stations (stations) in Wilhelmsburg within 200 meters of public transport stops.

Details:

Total StadtRAD stations in Wilhelmsburg: 7

Stations within 200m of public transport (bus or rail): 6

The 6 stations that meet the criteria are:

1. Ursula-Falke-Terrassen / Mengestraße
2. Georg-Wilhelm-Straße / Mankiewicz
3. Neuenfelder Straße / Kurt-Emmerich-Platz
4. Karl-Arnold-Ring / Dahlgrünring
5. Veringstraße / Mannesallee
6. S Wilhelmsburg / Wilhelm-Strauß-Weg

Station NOT within 200m of public transport:

- Groß-Sand / Wilhelmsburger Krankenhaus

Methodology:

- Filtered StadtRAD stations to Wilhelmsburg boundaries (7 stations found)
- Combined all public transport stops in the area (8 rail + 199 bus = 207 total stops)
- Created 200-meter buffers around all transport stops
- Identified StadtRAD stations intersecting with these buffers
- Result: 6 out of 7 stations (85.7%) are within 200m of public transport

Tools invoked >

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Where are the shrinking industrial estates located?

Submit

Demo (Show me all hospitals on a map)

UDP_Agent

- Industrial area monitoring (Gewerbeflächenmonitoring)
- Commercial/industrial estate development data (Gewerbeflächen Entwicklung)
- Economic area tracking over time (Wirtschaftsflächen Zeitreihe)
- Land use changes (Flächennutzungsplan Änderungen)

What is available (partial alternative):

The closest dataset I found is the [Flächennutzungsplan Hamburg - Änderungsübersicht](#), which documents 227 land use plan changes since 1997. This *could* potentially identify areas where industrial use was converted to other purposes, but:

- ❌ It doesn't explicitly track industrial area size changes over time
- ❌ It doesn't have structured "previous use" vs "new use" fields
- ❌ Changes would need to be manually analyzed from text descriptions
- ⚠️ It shows *planned* changes, not actual area measurements

Recommendation:

If you need data on shrinking industrial estates in Hamburg, I recommend contacting the UDP_HH team at gdi-hh@gv.hamburg.de to request:

- Publication of industrial estate monitoring data
- Time-series data showing industrial area development
- Economic land use tracking with temporal indicators

Would you like me to create a plan to analyze the land use plan changes as a workaround, or would you prefer a different approach?

Tools invoked >

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Type your message here... >