

# The Problem

- Urban adaptation to climate change
- Social inequalities
- Rising population densities
- Lack of walkable and Green spaces
- Social divides in accessibility

BBC

'Apocalyptic' Dubai floods shake picture-perfect city

19 April 2024

Sean Seddon BBC News

Share Save



POWER Bear

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HOME / LATEST ARTICLES / WASTE DISPOSAL CHALLENGES FACED BY DUBAI RESIDENTS

## Waste Disposal Challenges Faced by Dubai Residents

21 Jun | By POWER Bear



GULF NEWS

DUBAI 32°C GOLD/FOREX

UAE / Weather

## Extreme heat and dust storms sweep UAE: 44°C forecast for Dubai and Abu Dhabi, chance of rainfall today

NCM issues weather warning for blowing dust and poor visibility

Last updated: August 28, 2025 | 06:35

Manuel Almario, Senior News Editor

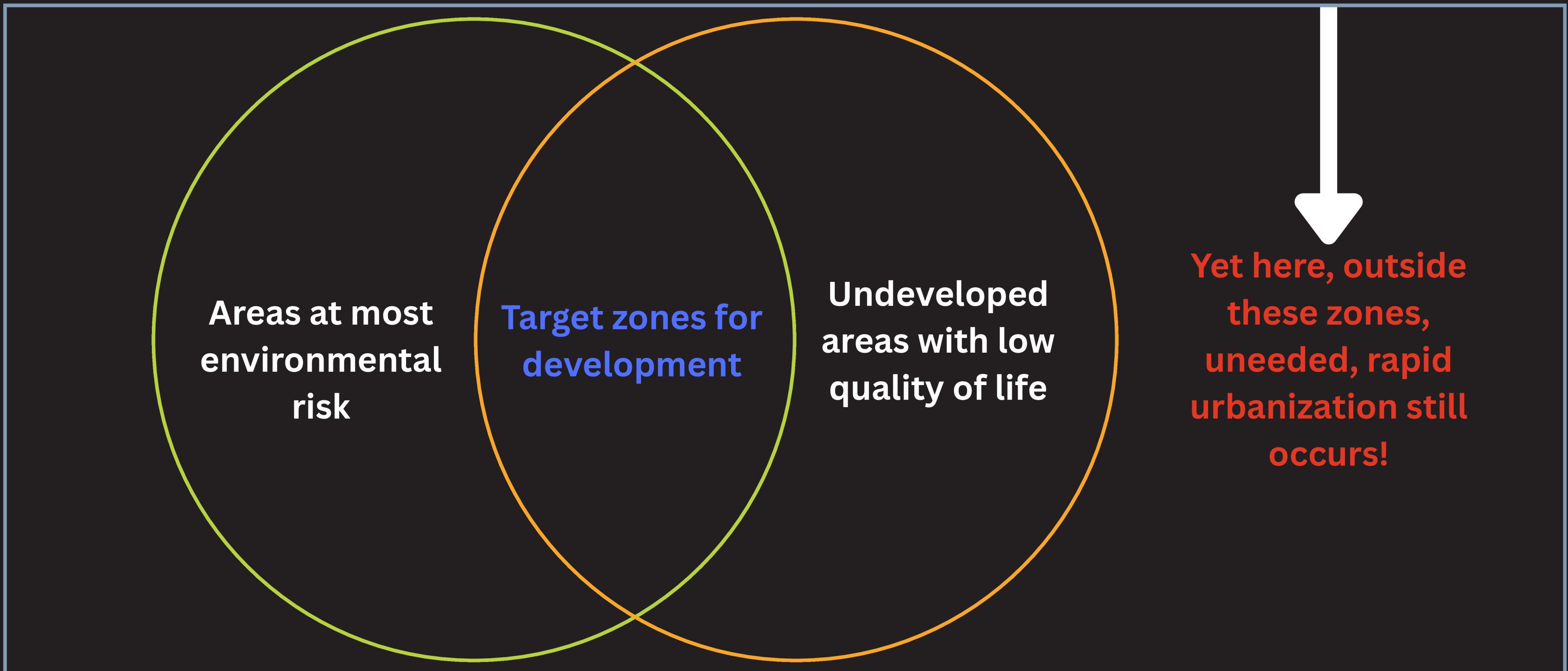
2 MIN READ

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# The Problem

When it comes to urban development, anything inside the circles are fair game...



# Brick ByBit



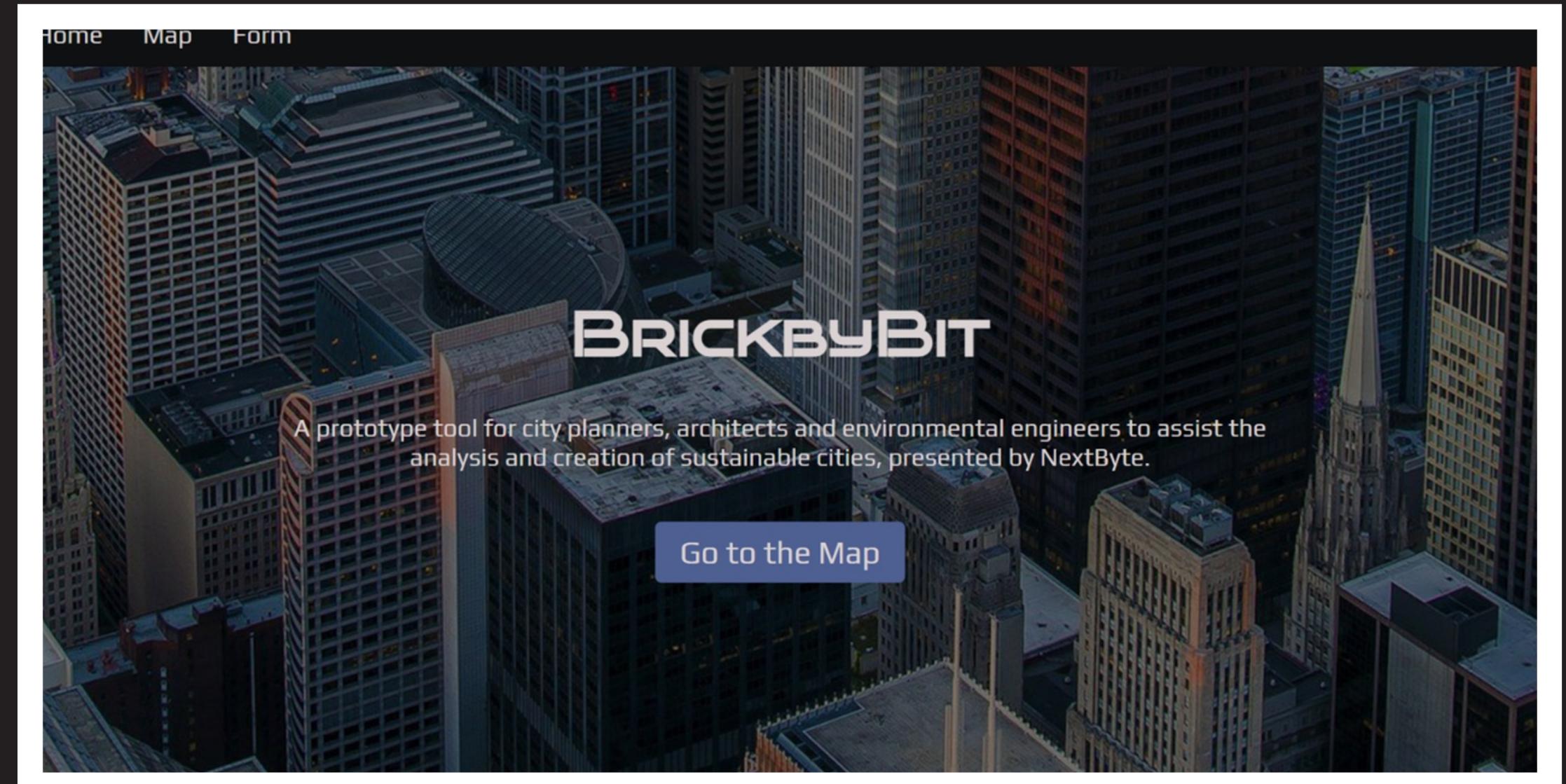
## Driving Impactful Urbanization

# Our Solution

- Using a visual mapping program, close the gap between resident and developer to show where, and what developments are needed

## Target Audience

- Residents
- Urban Developers
- Governments



# User Input

- Users can input issues that they have in their area as well as their location
- We plan to use AI language analysis to organize these ‘markers’
- Data would be organized something like this:

{ User\_ID: latitude, longitude,  
[categories of issues  
mentioned], “User statement”,  
metadata }

The image shows a Google Form interface. At the top, it says "Submit issues in your area!" and displays the email "shreyakopuri@googlemail.com" with a "Switch account" link. Below that, it shows "Not shared" and a "Draft saved" message with a cloud icon. A note indicates that red asterisks (\*) denote required questions. The first section asks "Where are you located?" with a dropdown menu set to "Abu Dhabi". The second section asks "What issue are you facing in your area?" with four radio button options: "Population", "Climate", "Energy", and "Other:".

Submit issues in your area!

shreyakopuri@googlemail.com [Switch account](#)

Not shared

Draft saved

\* Indicates required question

Where are you located? \*

Abu Dhabi

What issue are you facing in your area? \*

Population

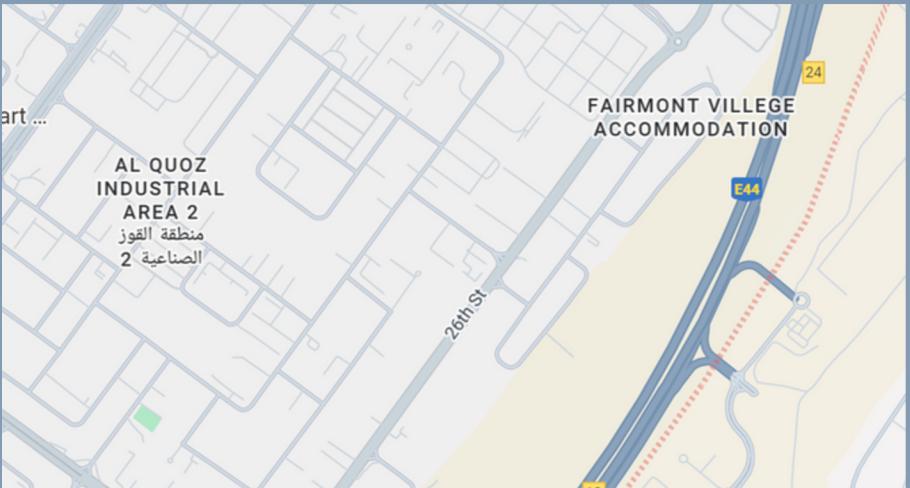
Climate

Energy

Other:

3/10/2025

## 📍 Share location



46MW+8J9 - Al Quoz - Al  
Quoz Industrial Area 2 -  
Dubai  
**25.13643336200364,**  
**55.250561701599615**

## Input Issue statement

I am having many issues in my neighbourhood. For example, the **heat and temperature** is terrible during the afternoons and we have no reliable cooling systems available to us. Furthermore, taking my children to school is an issue since my neighbourhood is not walkable, creating huge amounts of **traffic** that causes our family a headache.

**SUBMIT**

{ 0: **latitude, longitude, [ “heat management”, “Congestion” ] , “\*entire message\*”, metadata }** }

For now, have preset categories such as:

- Heat management issues
- Waste Management
- Congestion
- Access to educational facilities/ utilities/entertainment/greenery

However, to allow us to create better markers, we plan to use AI language analysis. By using language analysis tools and potentially AI, we can identify further categories from multiple user inputs, or common categories based on location-specific user data (coming up)

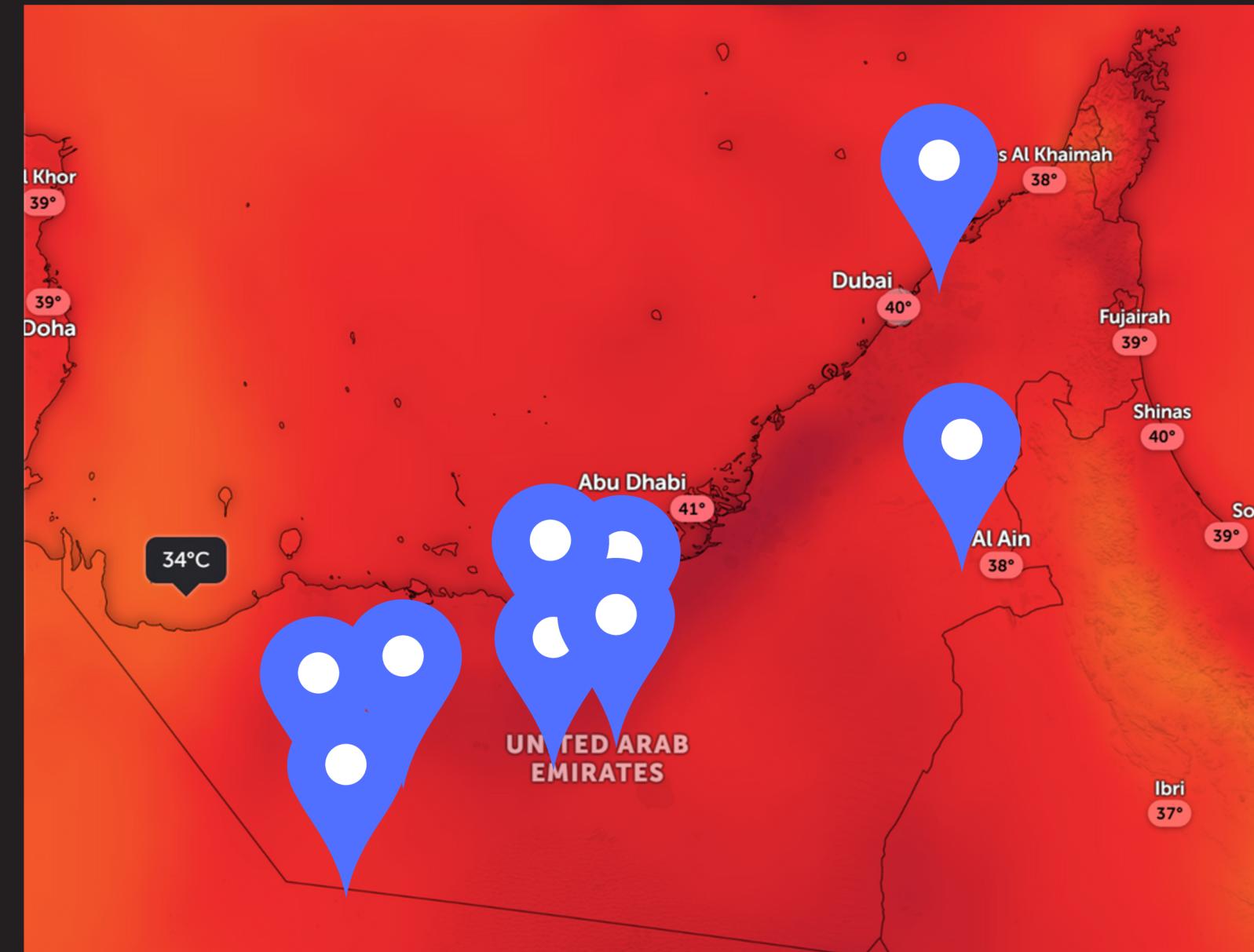
# Urban Developer's side: Examples

Lets assume Urban Developers are trying to establish 'heat relief' centers. They could apply a filter for average temperatures, as well as user complaints for heat.

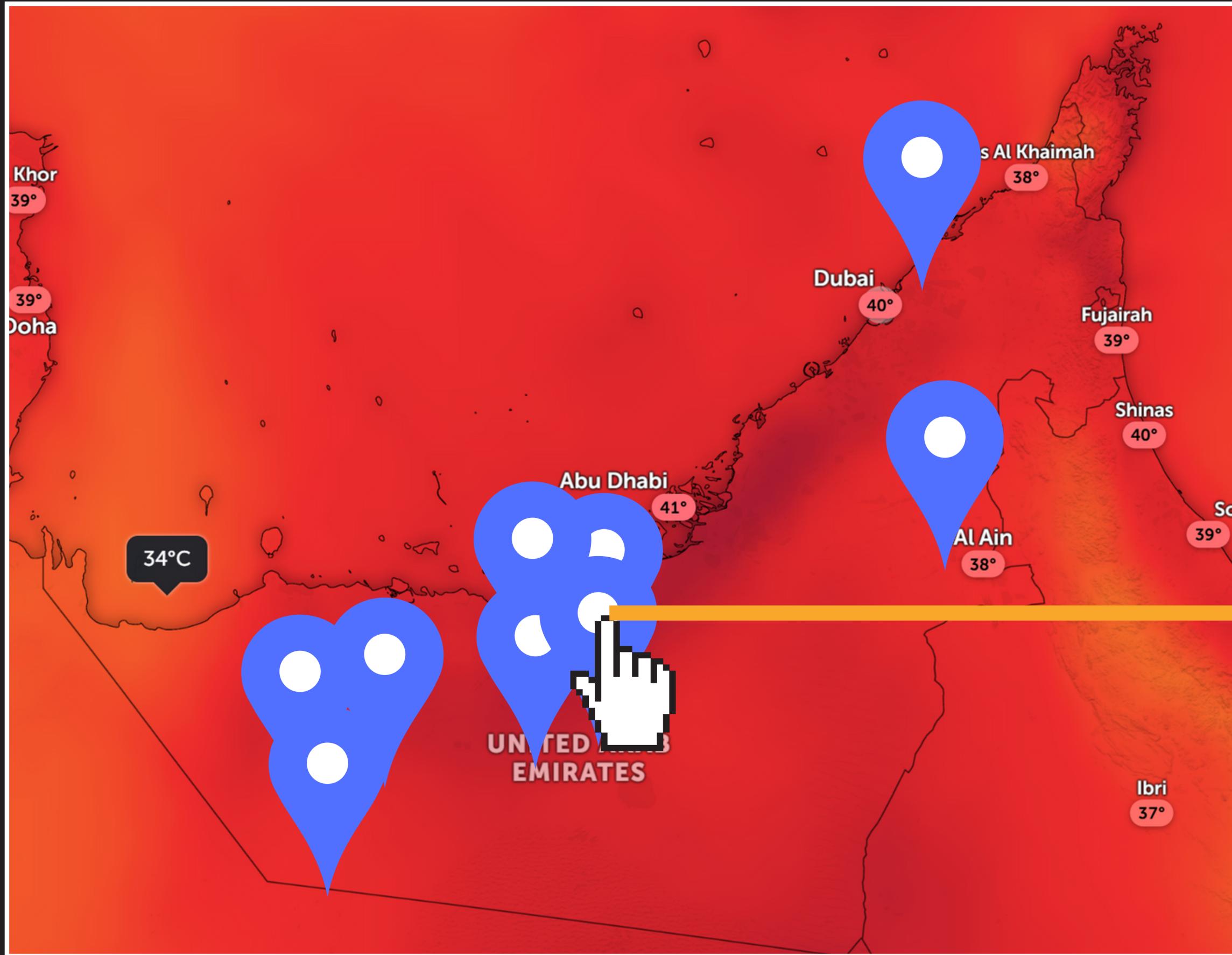


- Clustered data points indicate that the issue is common for many people, so work should be done to fix it in that area
- In this example, NASA temperature data ( or similar data sets ) display the most dangerously hot areas

Example heat map from zoom earth.com



# Urban Developer's side: Examples



## USER COMPLAINT

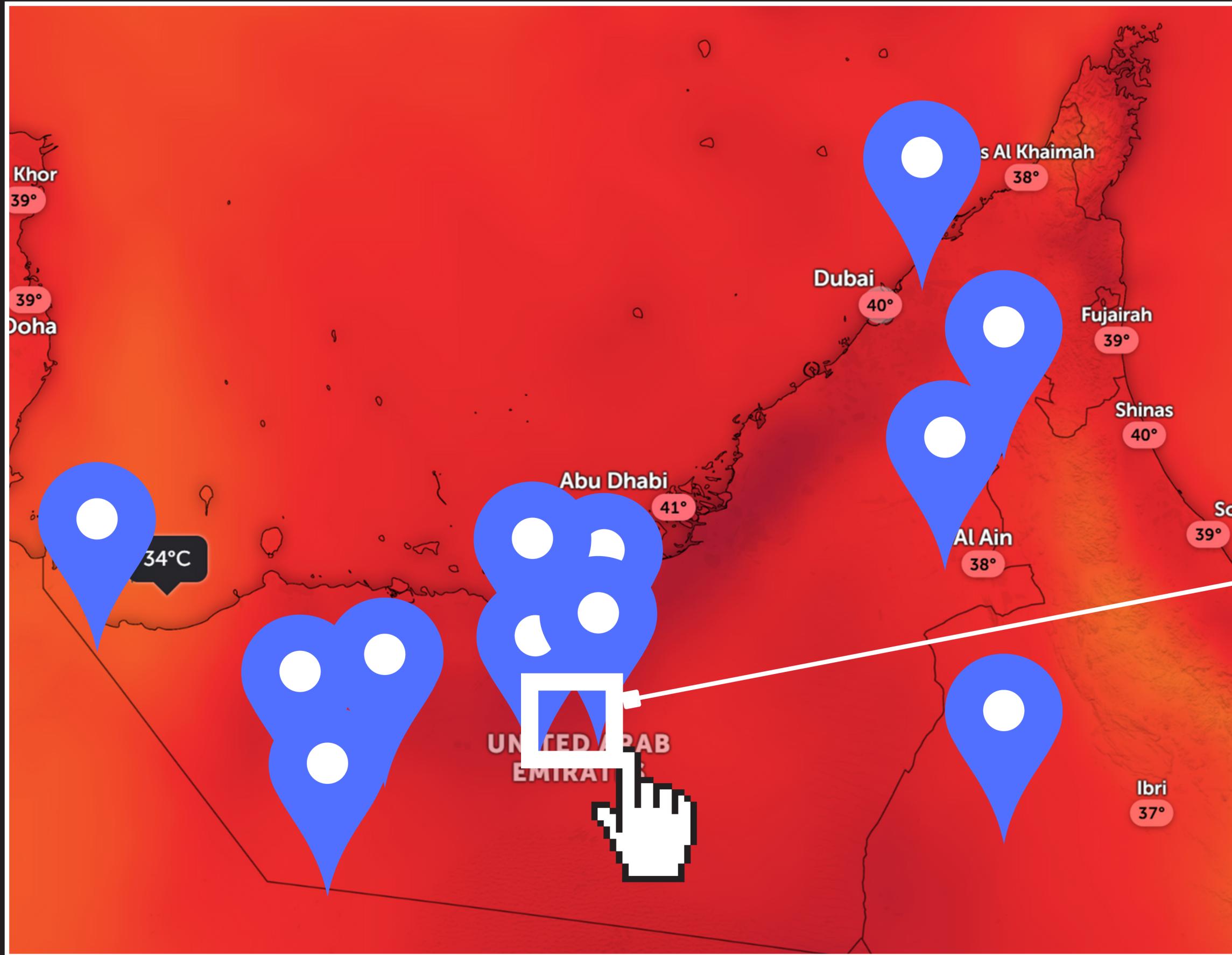
I am having many issues in my neighbourhood. For example, the heat and temperature is terrible during the afternoons and we have no reliable cooling systems available to us. Furthermore, taking my children to school is an issue since my neighbourhood is not walkable, creating huge amounts of traffic that causes our family a headache.

## CATEGORIES

HEAT MANAGEMENT

CONGESTION

# Urban Developer's side: Examples



## CATEGORIES

↔ SORT BY: MOST MENTIONED

HEAT MANAGEMENT

CONGESTION

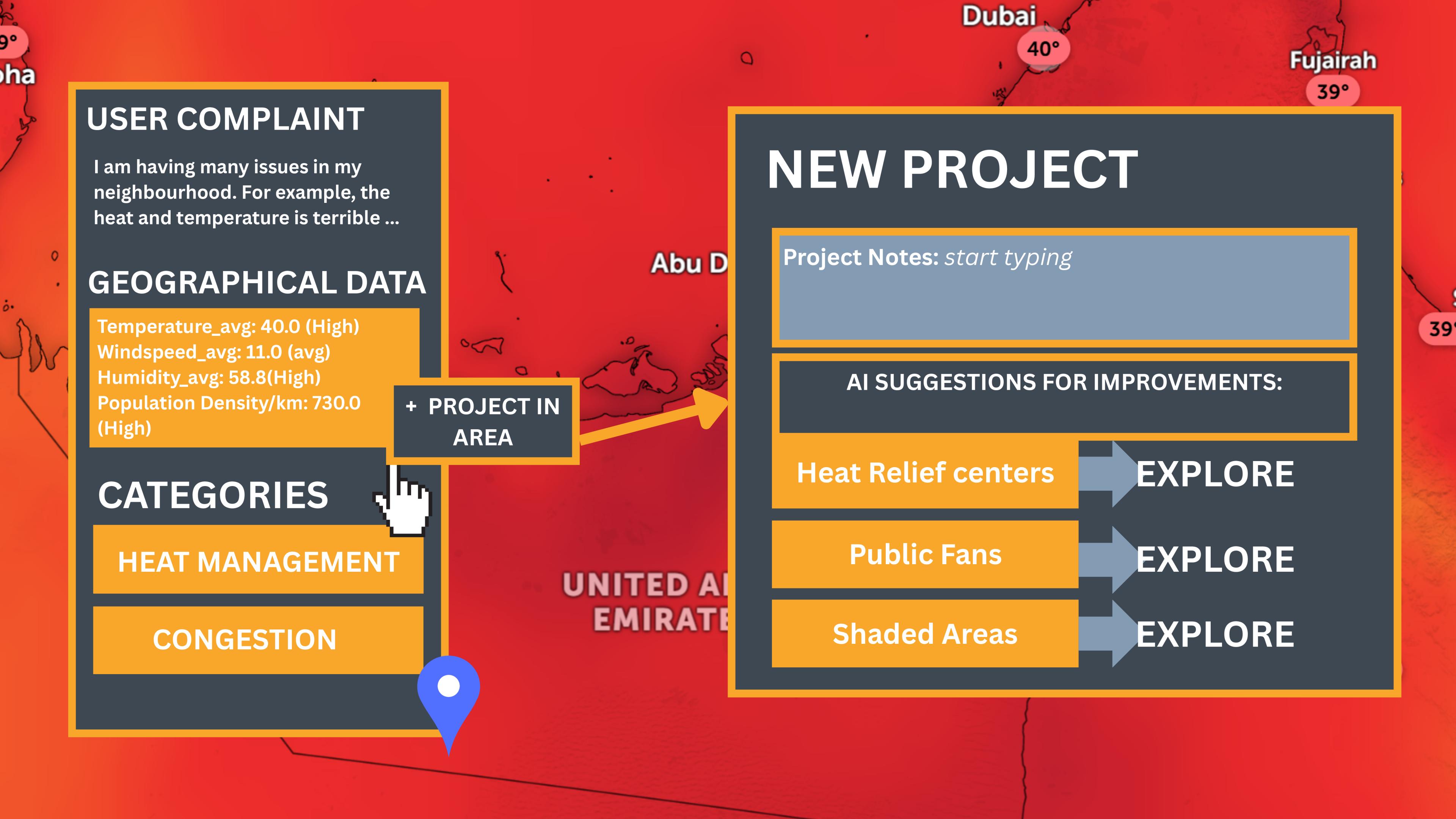
AI SUGGESTED CATEGORIES

COOLING

VIEW RELATED USER INPUTS

...we need AC units

... no cooling systems



# By Streamlining Sustainable Urban Development, many social injustices and issues could be solved...

Our solution makes sure that Urban developers make the  
RIGHT choices, and to not lose sight of the wider social and  
environmental implications of their work



# BRICKBYBIT

A prototype tool for city planners, architects & environmental engineers to assist the analysis and creation of sustainable cities, presented by NextByte.

Go to the Map

Your paragraph text

<https://kyra-anand21.github.io/brickbybit/index.html>

ABOUT Us

# Demo limitations

- Limited map
- Limited coordinates
- Unoptimized site
- Limited data
- Lack of integrated LLM
- Form responses are not live