Kuukibot Air Quality Twitter Alerts: A Proposal

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3PPROJECTS,LLC: PROCESS, PILOTS, BEST PRACTICES

What problem are you solving?

Atmospheric Release of Hazardous Chemicals are a Public Safety Issue

Present alerts catch one's attention; but, do not give laypeople actionable information:

*   Public (including public officials)   live and/or work close to areas where chemicals/power is manufactured, transported, or used in other facilities.*

*   TCEQ has invested a lot of resources in the documentation of its information. However, the public does not that the time nor the inclination to read online manuals after receiving a Twitter alert.*

Plan for Incorporating Actionable Information

Kuukibot
@kuukihouston

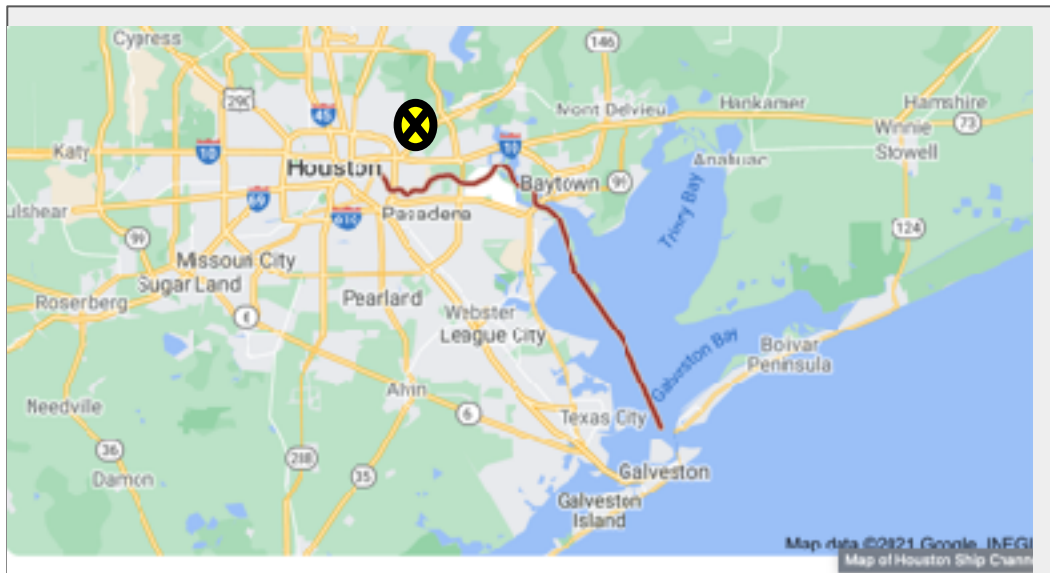1,3 Butadiene levels are high at Houston Milby Park A169 [K]! 4.04 ppb. This may cause respiratory issues.

What?

When, Where?

How much?

What is your solution? kuukibot_info.com

Map with sensor location

MSDS
1,3 Butadiene

Historian

Hourly Updates

Hot Link to
Material Safety
Data Sheet

Time-series plot with previous data
points, Monthly Average, Min, Max,
and Permit Violation Trigger

Request hourly
updates until
toggled off

MSDS

Historian/"Watch List"

Chemical	Notebook	Last Trade	Change Since Close	Change Since Close (%)	Day High	Day Low	Volume	52Wk High
Benzene		$230.17	-$1.47	-0.63%	$233.12	$229.74	4,329	$275.87
Ammonia		$83.93	-$0.65	-3.77%	$85.62	$83.04	161	$90.6137
H2S		$86.92	+$0.75	+3.87%	$87.66	$86.12	999	$91.775
NOx		$190.00	-$0.00	-0.42%	$191.00	$189.74	15	$197.23
SOx		$341.34	-$0.03	-3.34%	$345.0507	$341.34	3,914	$367.04
1,3 Butiedene		$26.83	-$0.41	-1.51%	$27.51	$26.765	8,376	$36.00
	.2 ppb	+.1	10%	.2	-.1	X	10	-.1

J.P. Oppenheim,9/24/2021

What is your business model?

- *How will your social enterprise be sustainable*
  - *Grants,*
  - *Subscribers (charge for watch list archives)*

- *How much does your solution cost?*
  - *Cost of Website + Cost of Development + Cost of Maintenance*

- *How do you measure success?*
  - *Responsiveness of: Regulators, Regulated*

What is your projected impact, if you succeed?

What is the potential market of clients and beneficiaries?

- *AirNow, EPA site of US emissions including smoke from wildfires*
- *Neighborhoods and major thoroughfares in vicinity of manufacturing sites*

How many can you reasonably reach and serve?

- *Equal to the number of people currently receiving kuukibot alerts*

Is there growth potential?

- *Yes, with Climate Change (more storms, more extreme weather events)*
- *Aging infrastructure and growing population*

How will you track and measure your impact?

- *Benchmark against other public data of this kind*

Who will help you?

- *Who is on your team?*
    - *Recruit 2 individuals (Experience in app development, geocoding)*
- *Looking to solicit feedback from*
    - *Current kuukibot Team (January Advisors, Rice University Intern & Professor*
    - *Houston Air Alliance,*
    - *Neighborhood Groups,*
    - *TCEQ, First Responders*
- *Why is your team the best group to create/execute this solution?*
    - *As project facilitator, I have a background in Air Control Technology, Sensors, Data Science, "Citizen Science" projects, and Best Practices for Data Visualization*

What is your "ask"?

- *Access to TCEQ Data, mapping resources*
- *$60.5k = $1k (Website + Access to kukkibot script, documentation) +*

   $48k ($100/hour, 6 weeks @ 40 hour/week, 2 coders)

+

   $11.5k (legal, marketing, troubleshooting)