



Patterns of Life



Stefan
Niculae



Brandon
Wexler



Madhuri
Jujare



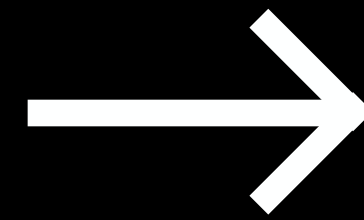
Dubem
Nwoji



Lauren
Becker



"Patterns of Life"



Actual tool



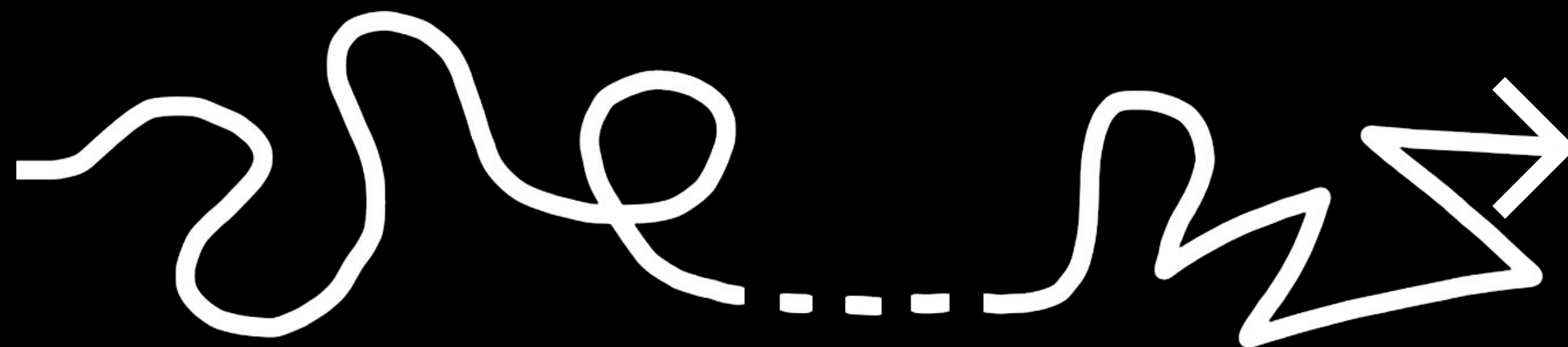
"Patterns of Life"



Actual tool



"Patterns of Life"



Actual tool

The background is an abstract composition of flowing, wavy lines in various shades of orange and red. These lines create a sense of movement and depth, resembling a stylized landscape or a close-up of a textured surface. A small, clear blue sky is visible at the top center, providing a contrast to the warm tones of the foreground.

the problem

REMOTE PILOTED AIRCRAFT



control

Creech, Nevada

Afghanistan



PILOT & SENSOR OPERATOR

live video

SCREENER



provide
intel ↓

REMOTE PILOTED AIRCRAFT



should
not hit ↓



PILOT & SENSOR OPERATOR



CIVILIANS

current approach:

TOOLS, TRAINING,

EXPERIENCE

NAR
WHT 1
RATE
34/117
1133
26C

60
-120

KIAS

109

-57

105

96

-147

Laser ARMED

100%

ACFT

N 36°39'03"

W 115°39'53"

7,474 HGT

10 500

472

314

222

9970

N 36°40'05"

W 115°39'53"





7178

WEAPONS RELEASED

4121

CIVILIAN CASUALTIES

by the US Air Force in Afghanistan, in 2018

CONSEQUENCES

1. Civilian lives
2. Retaliation
3. Foreign relations
4. Public image
5. Personnel morale

current approach:

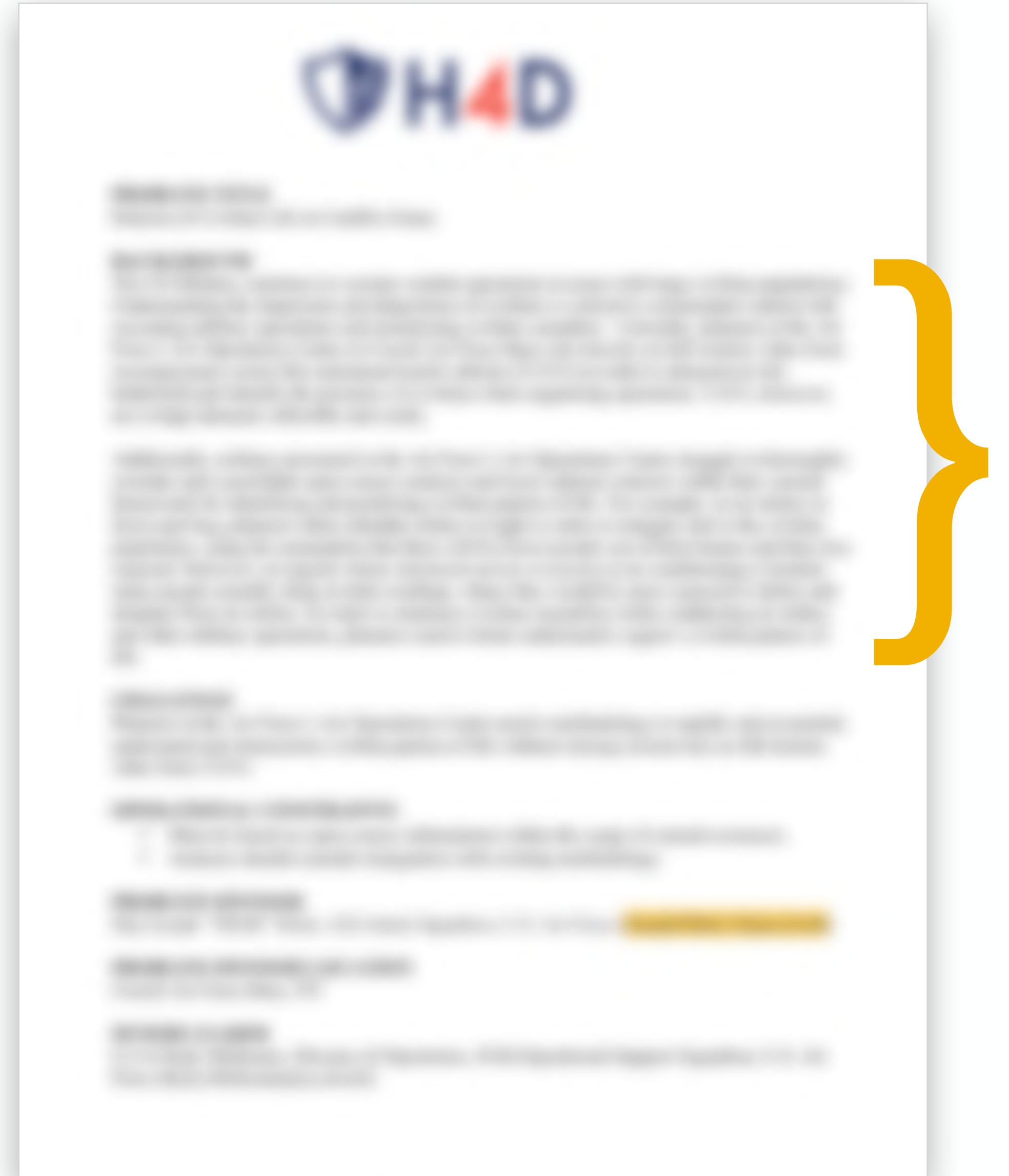
TOOLS, TRAINING,

NOT TRANSFERRABLE



The background is a complex, abstract geometric pattern. It consists of a dense network of intersecting lines that form a series of irregular, overlapping triangles and polygons. The lines are primarily in two colors: a deep purple on the left side, which transitions into a warm, golden-orange on the right side. The overall effect is a sense of depth and movement, with the lines appearing to recede into the distance. The text 'the journey' is centered horizontally and vertically, written in a clean, white, lowercase sans-serif font. The letters are slightly shadowed, giving them a three-dimensional appearance as if they are floating or resting on the geometric surface.

the journey



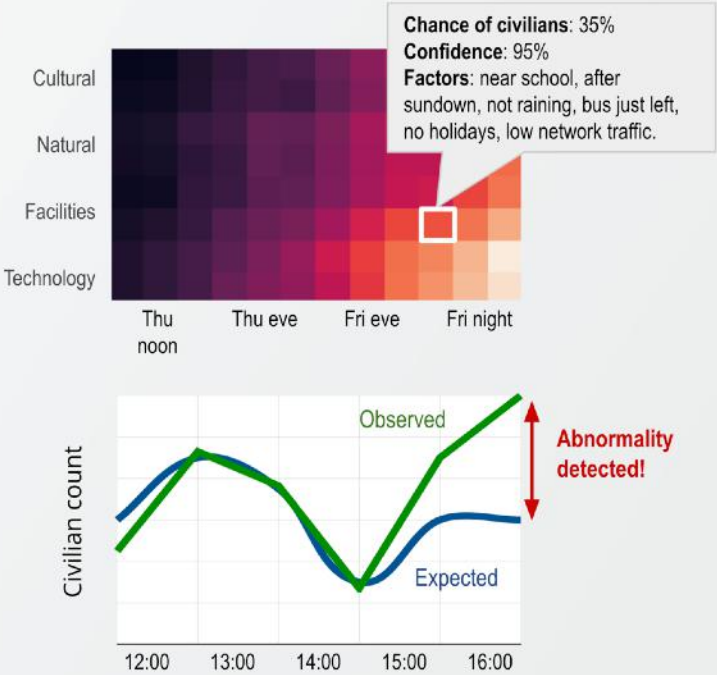


مجلسین وزارت معا
لامی تشکیل ملت اسلامی را
وقاطعت

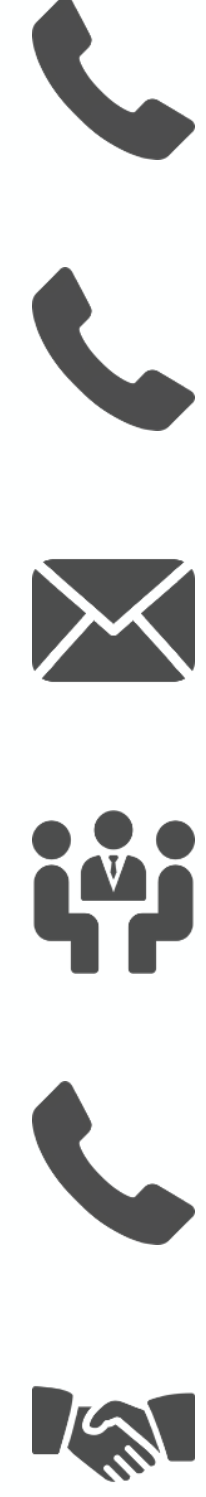
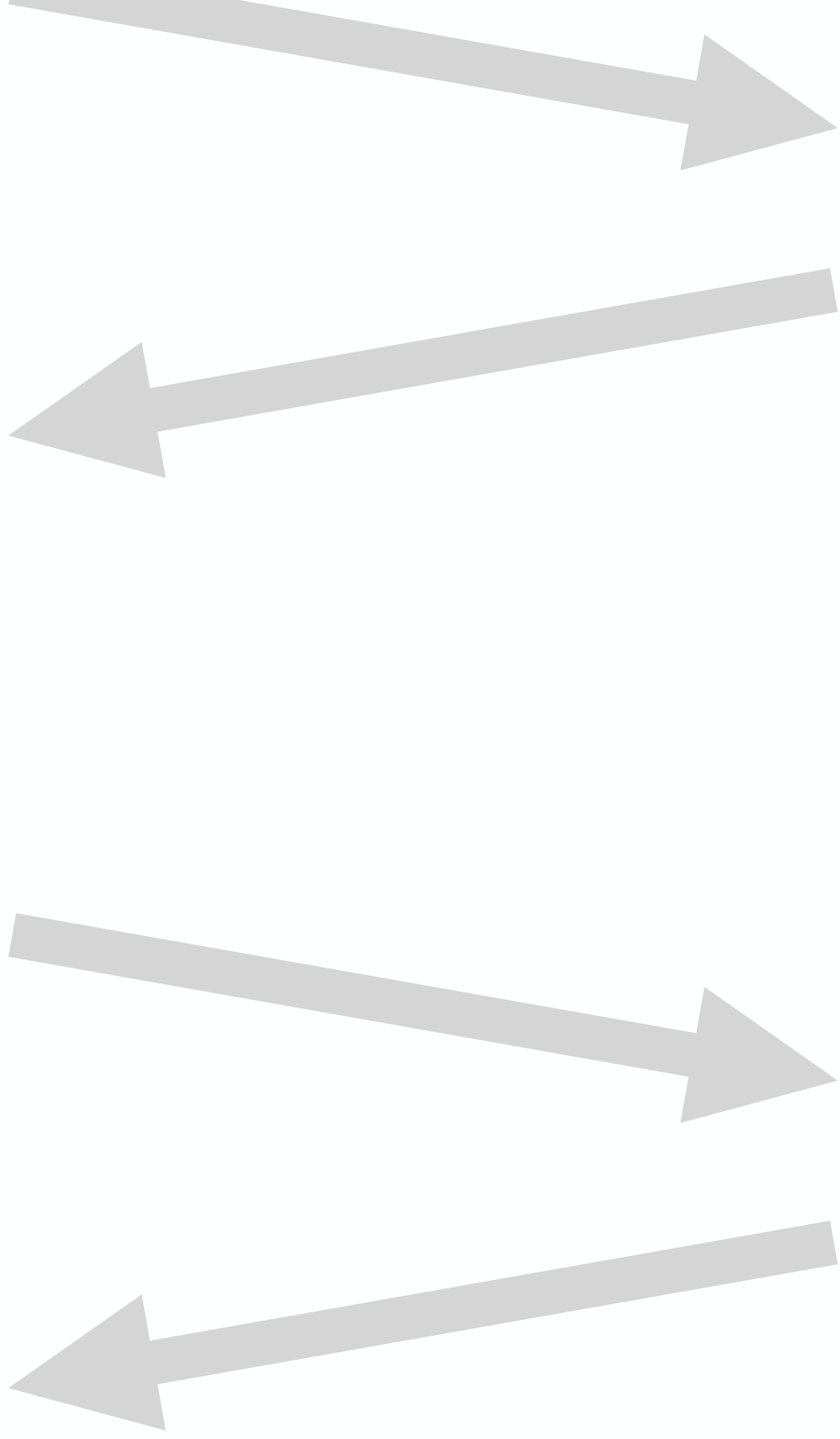
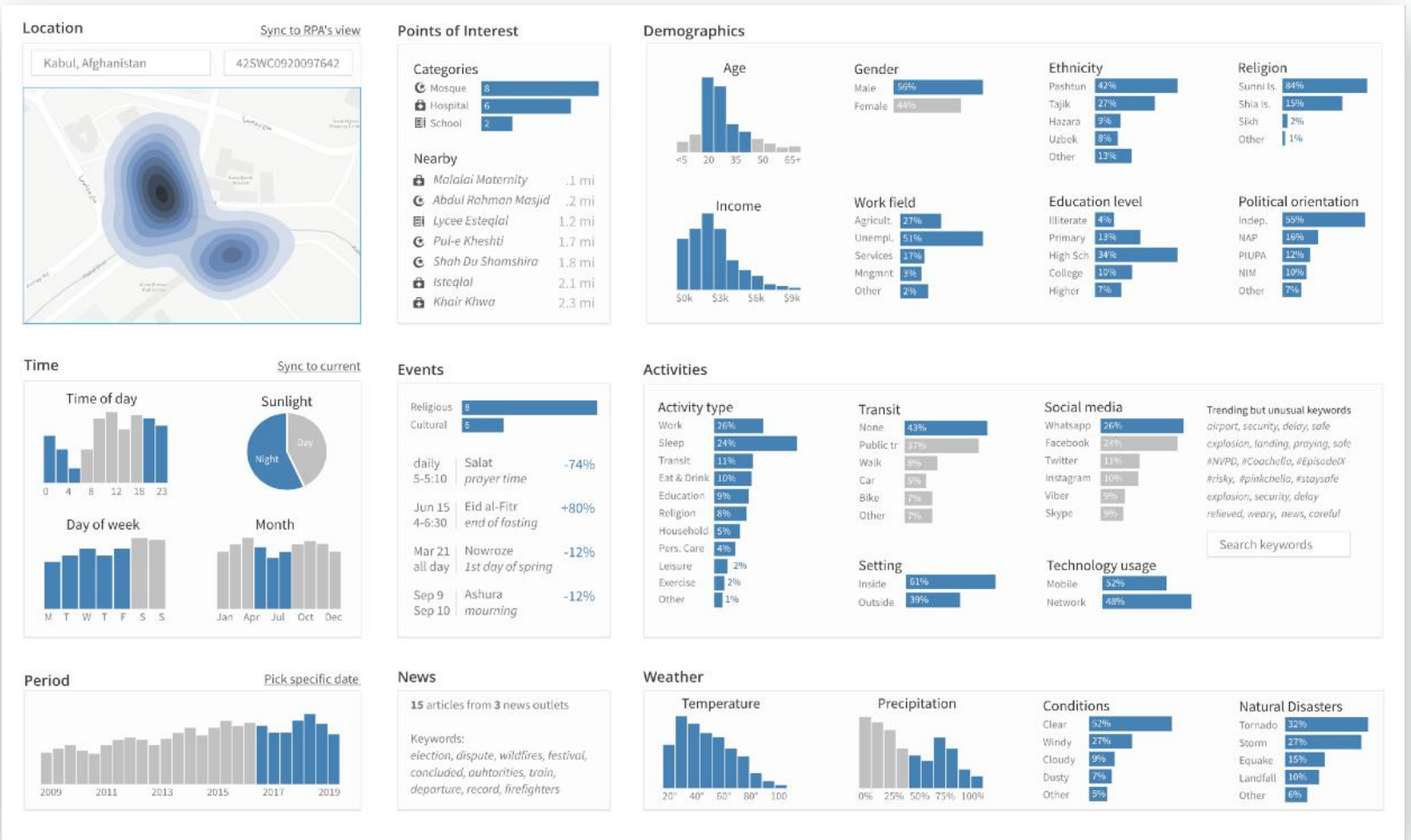
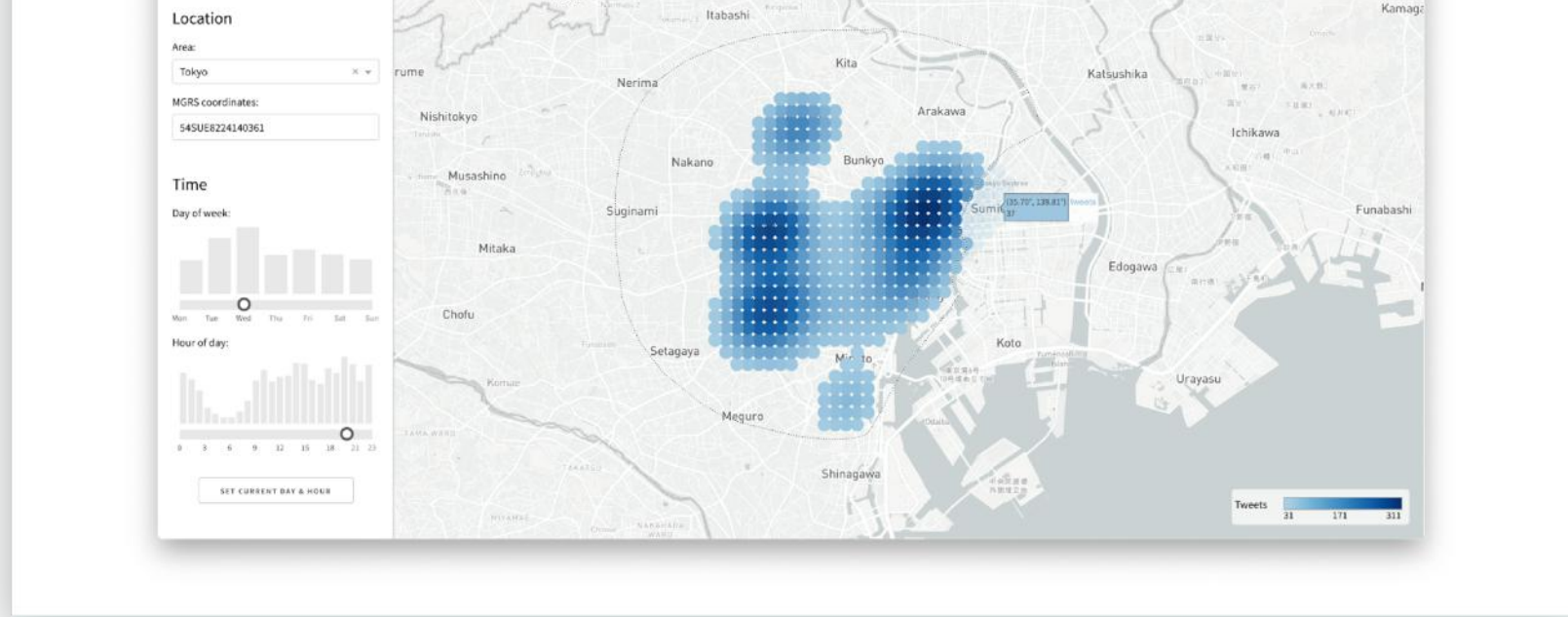
Minimal Viable Product

- Population density baseline estimator
(used by AOC Planners for long-term planning)
- Input: previous operation logs
 - Output: how factors influence civilian density
 - Used in various stages of development

- Civilian count normality classifier
(used by RPA Pilot for short-term confirmation)
- Input: instant observations
 - Output: normal/expected behavior



Maj. Ritter
2nd Lt. Daugherty
2nd Lt. Michaela
SCapt. Carter
Capt. Hutchinson
Dr. Morstatter
Maj. Rhodes
Lt. Elliot
Capt. Hutchinson
SFC Huynh
Maj. Ritter

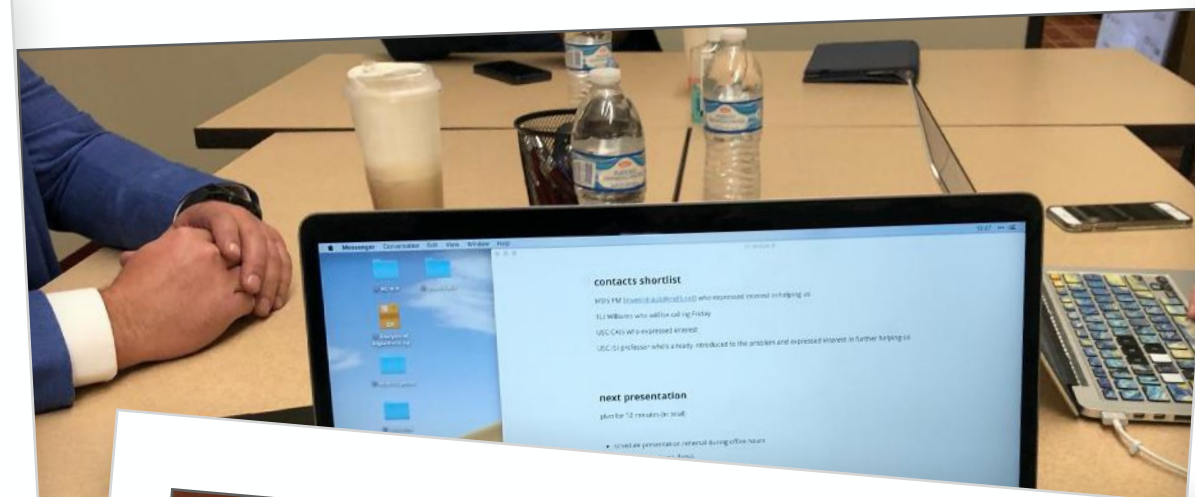


A1C Sassman
2Lt. Daughterty
Lt. Col Ashok
Dr. Becker
Maj. Ritter
1Lt. Murphey
SCapt. Adams
A1C Sassman
2Lt. Daughterty
SSgt. Brown
Dr. Morstatter
Lt. Elliot
Capt. Davis
SrA. Weyland
1Lt Dutcher
A1C Sassman

91
INTERVIEWS



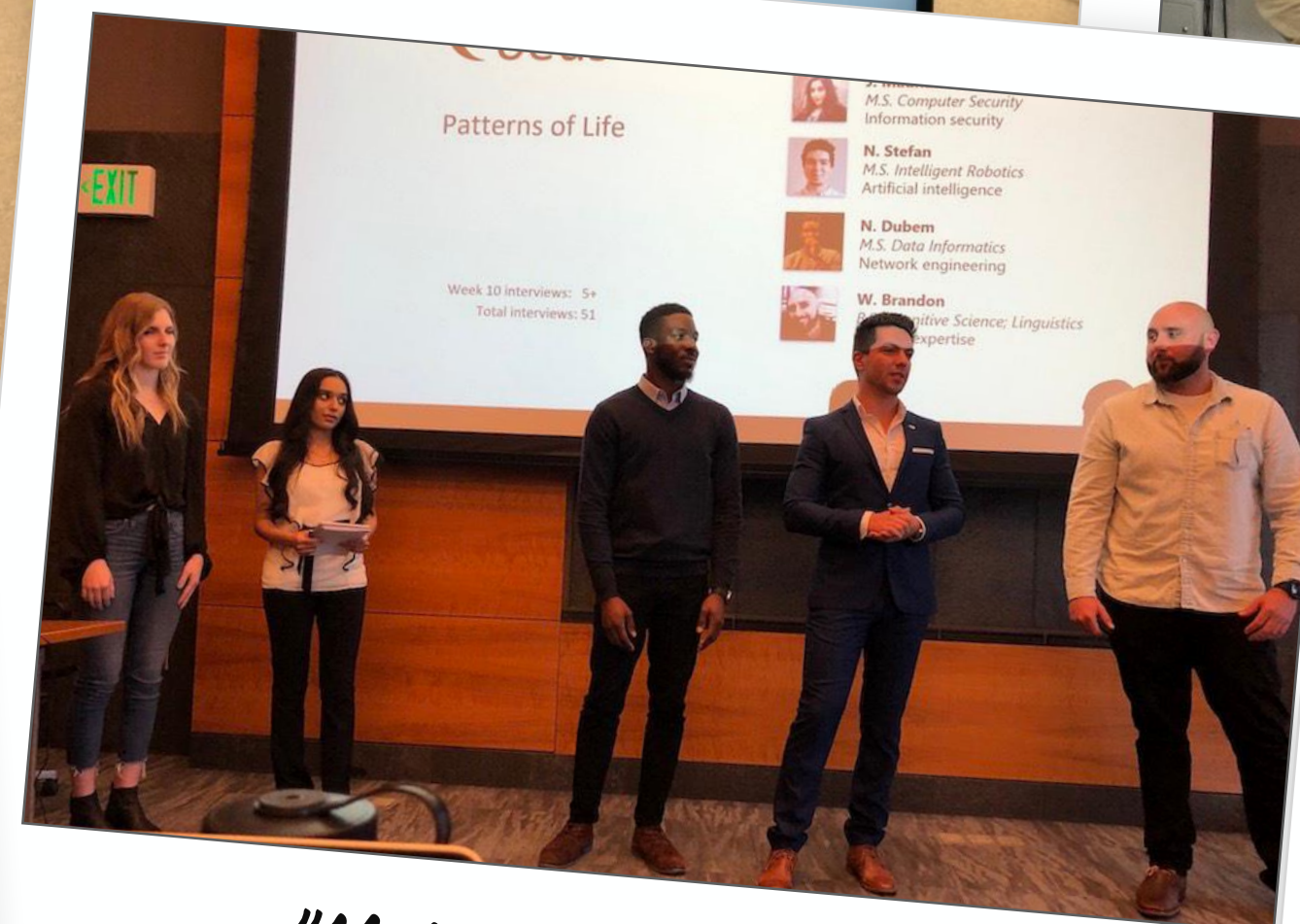
Thinking about



Breakthrough: op logs!



Driving to Creech



"Midterm" presentation



Hijacking classrooms



Taking a snack break

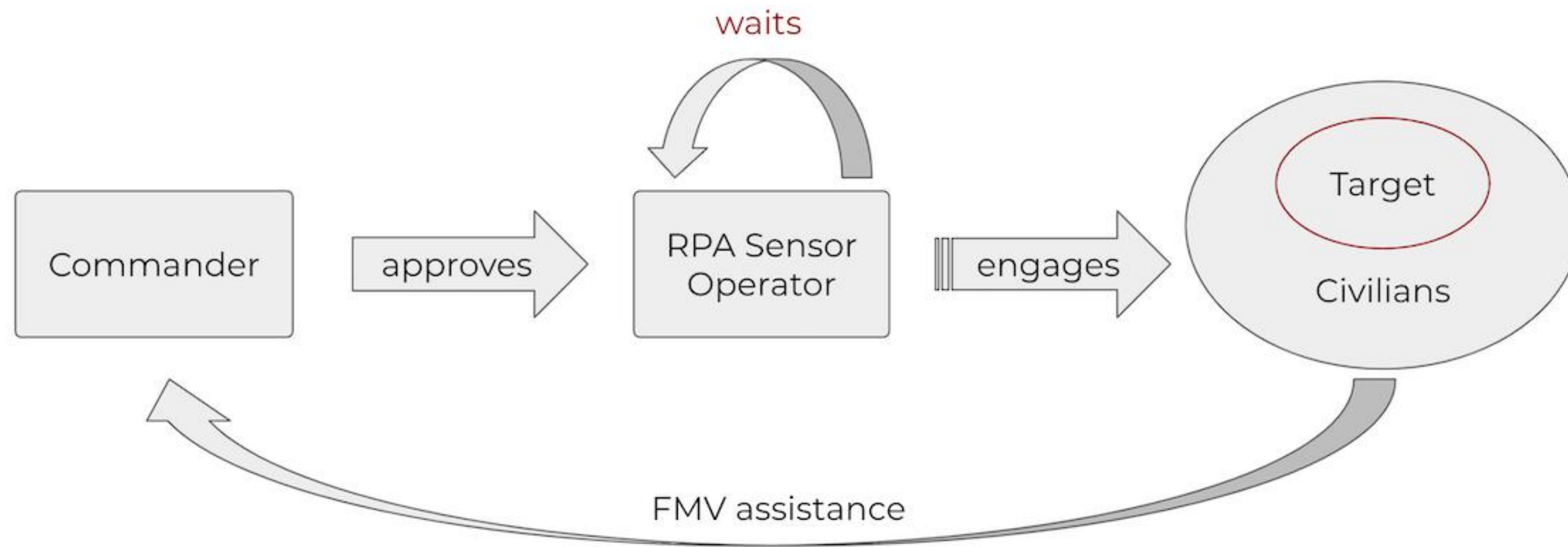


Presenting our problem sponsor



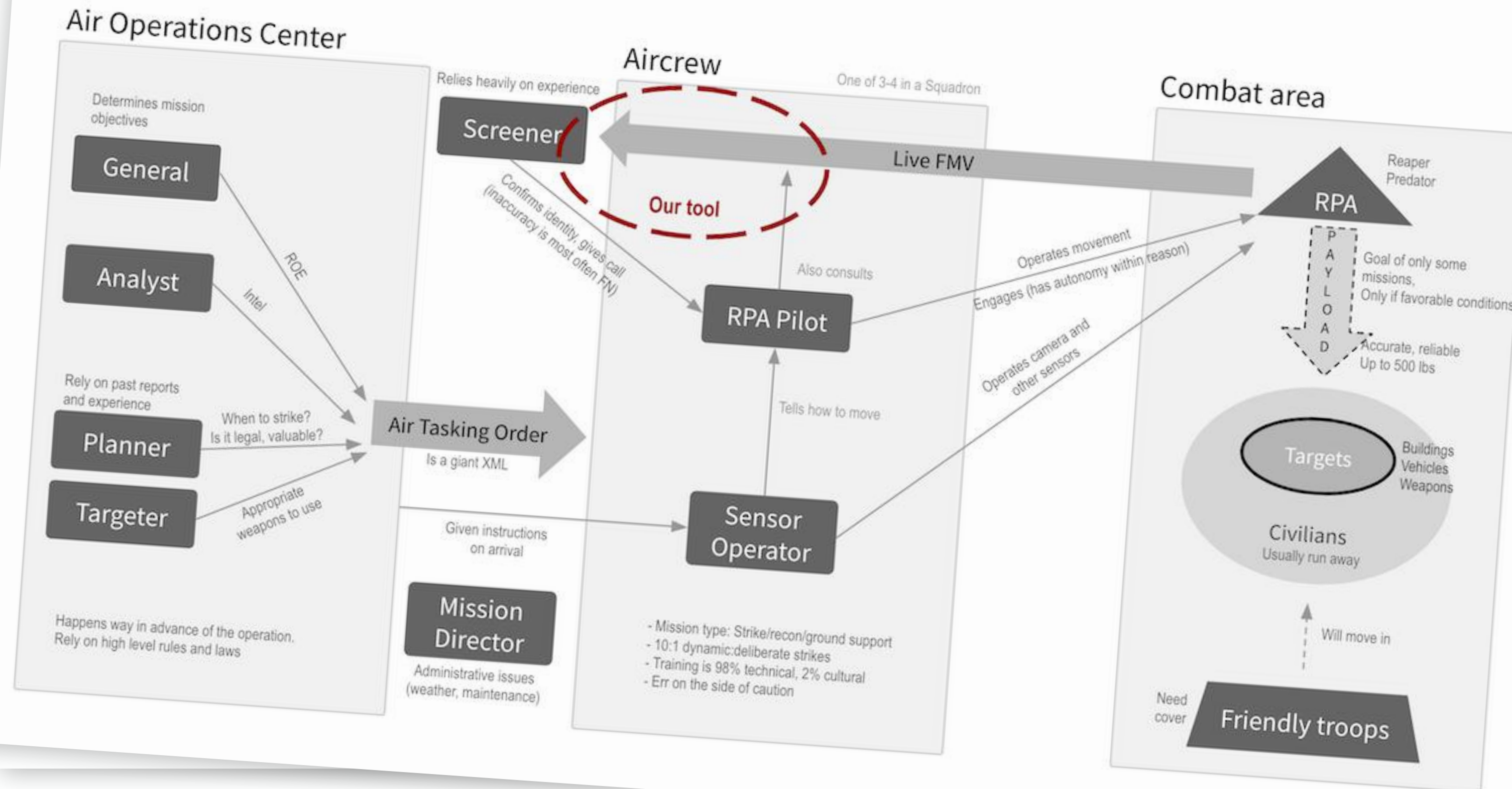
Presenting to Gen. Petraeus

Choice Diagram



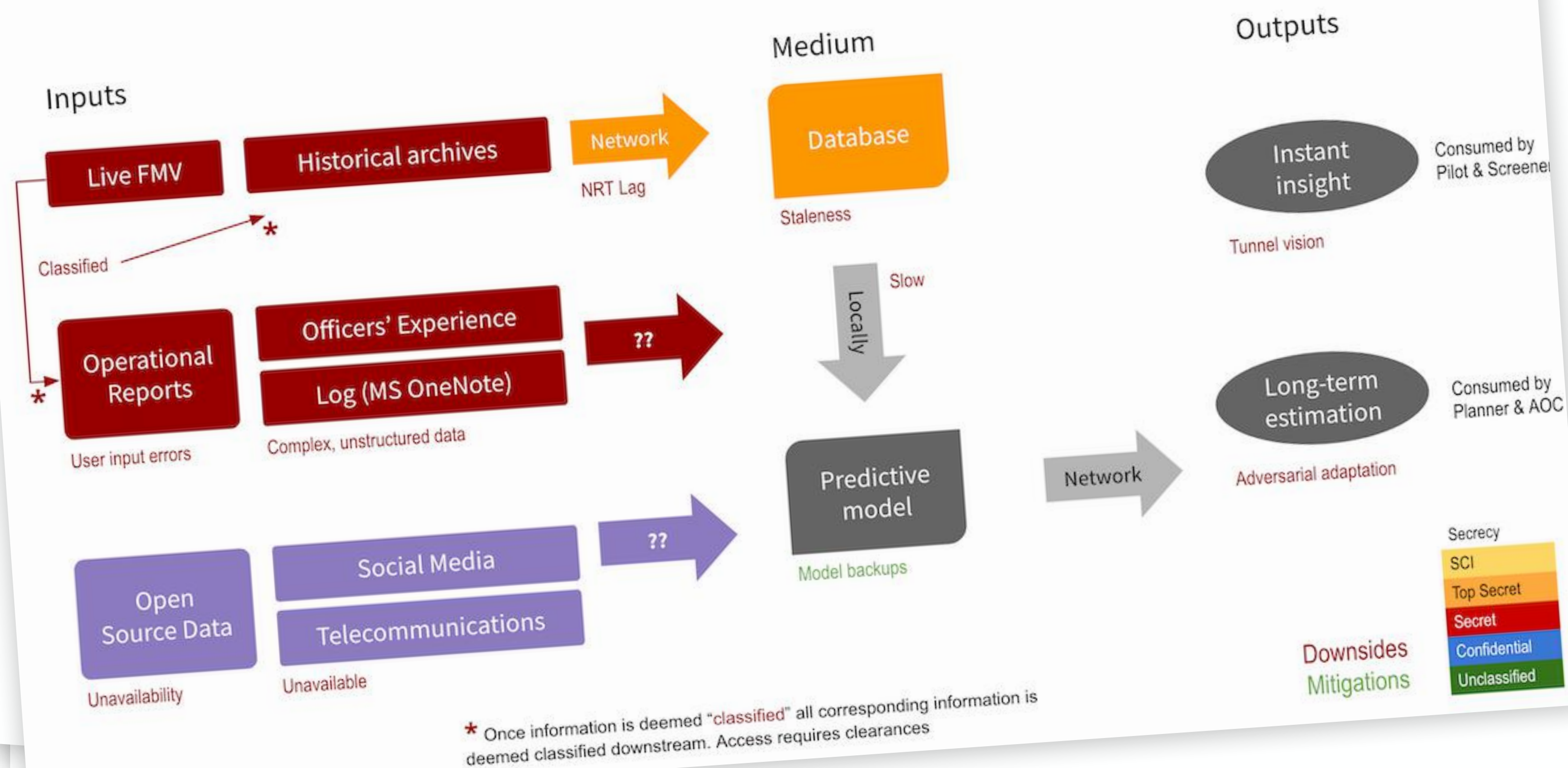
AND

Beneficiary Workflow



AND SOME

Information Architecture Diagram



AND SOME PLANNING

Beneficiary Archetypes

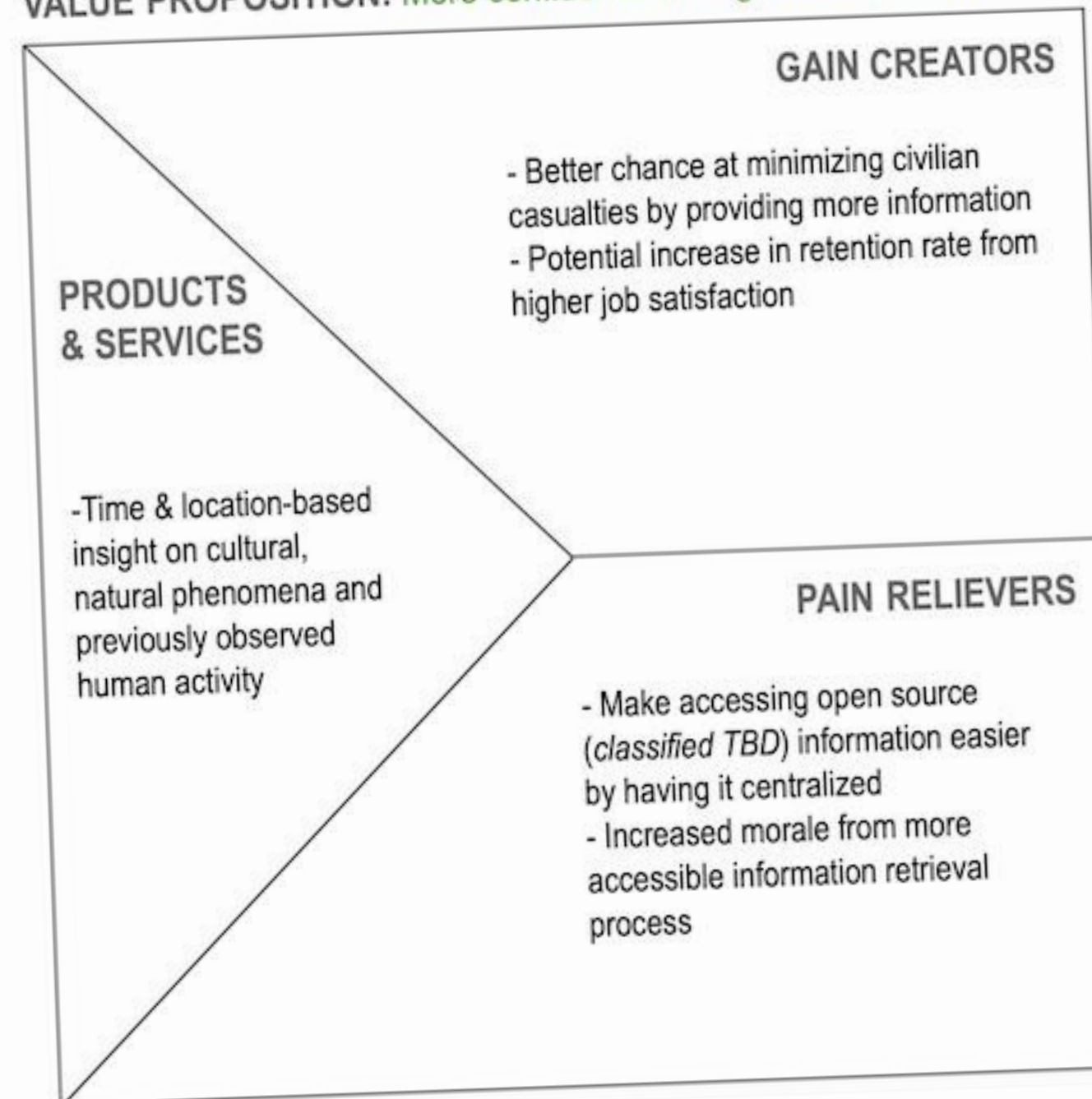


Job	RPA Pilot	Director of Operations	Intelligence Analyst
Demographics	81% men 35% minorities		78% men 27% minorities
Upbringing	[Officer] College degree, SAT	[Executive] BS degree in business administration (MBA preferred), 5+ years experience managing finances, operations/strategies	[Officer] College degree, SAT
Wants	A successful mission with decisions made efficiently	Growth and profitability of organization	Provide the most accurate information
Personality traits	Adaptable, dynamic thinker	Stellar management/people skills, ability to think outside the box	Investigative, multicultural, dynamic thinker
Reports to	Mission Director	AFWC (Air Force Warfare Center)	AOC Supervisor

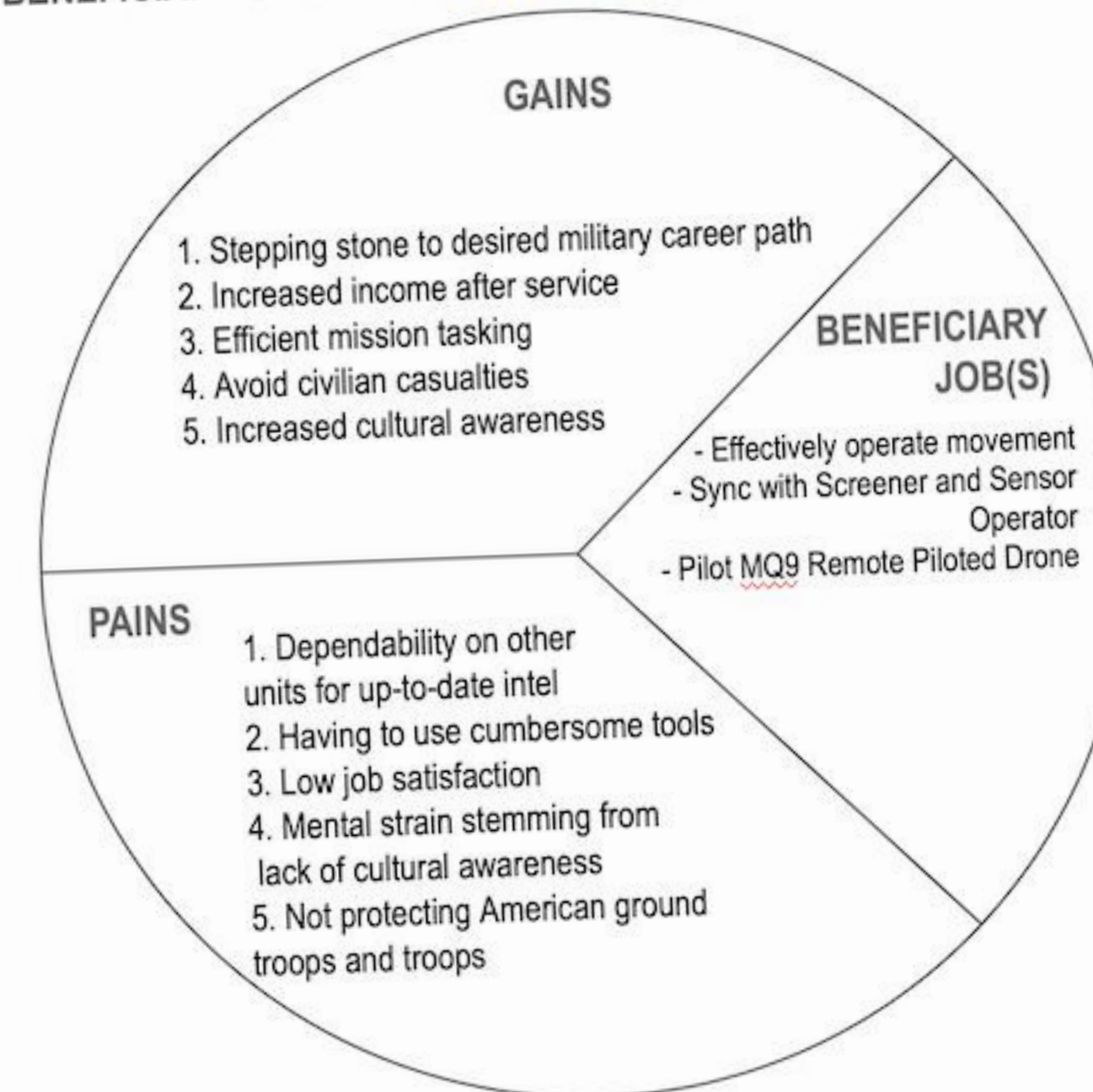
AND SOME PLANNING.

Value Proposition Canvas: **Unit-Level Crew (and Intel Analyst)**

VALUE PROPOSITION: **More confidence in target identification**

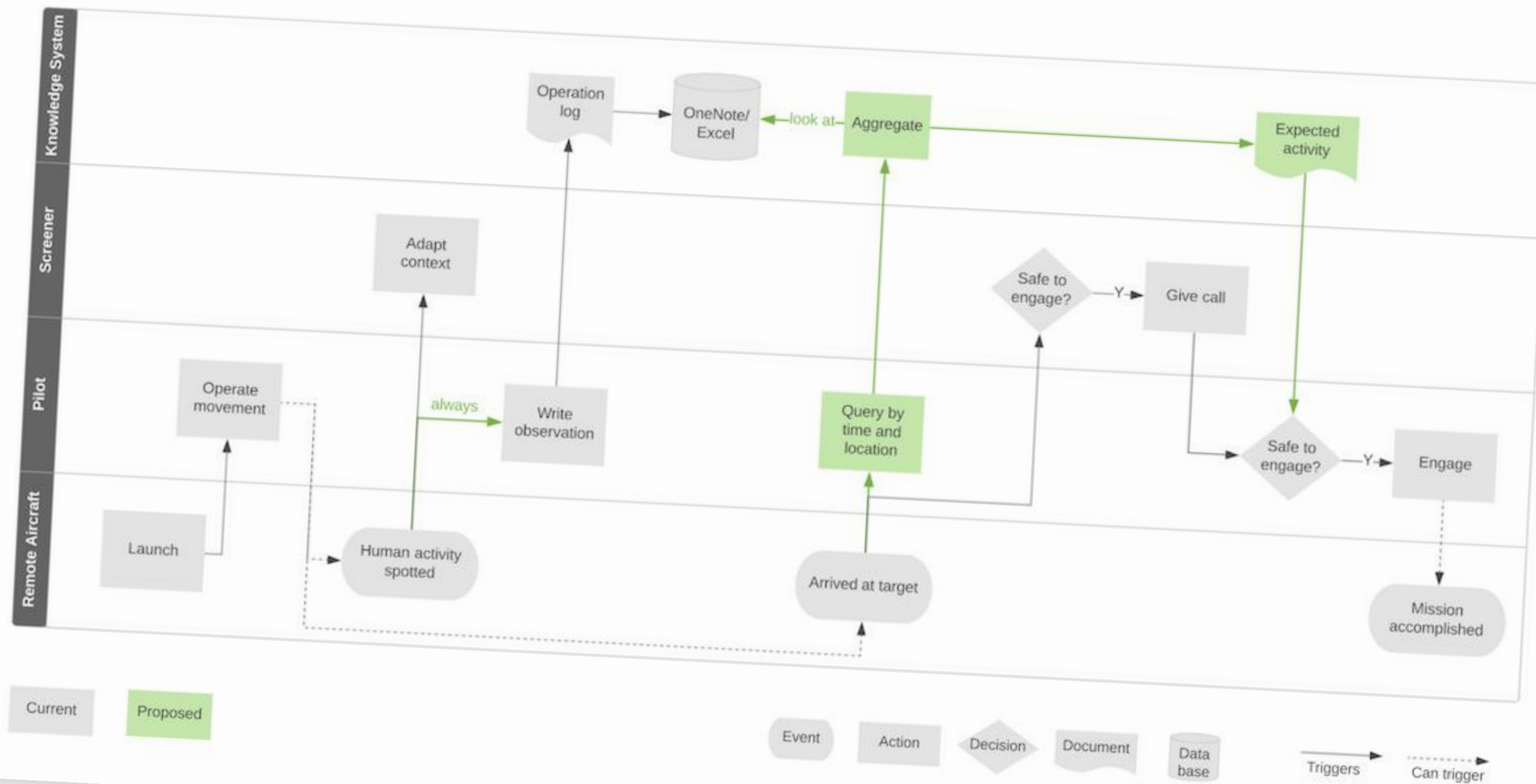


BENEFICIARY SEGMENT: **42nd Attack Squadron (and 9th Intel Op Grp)**



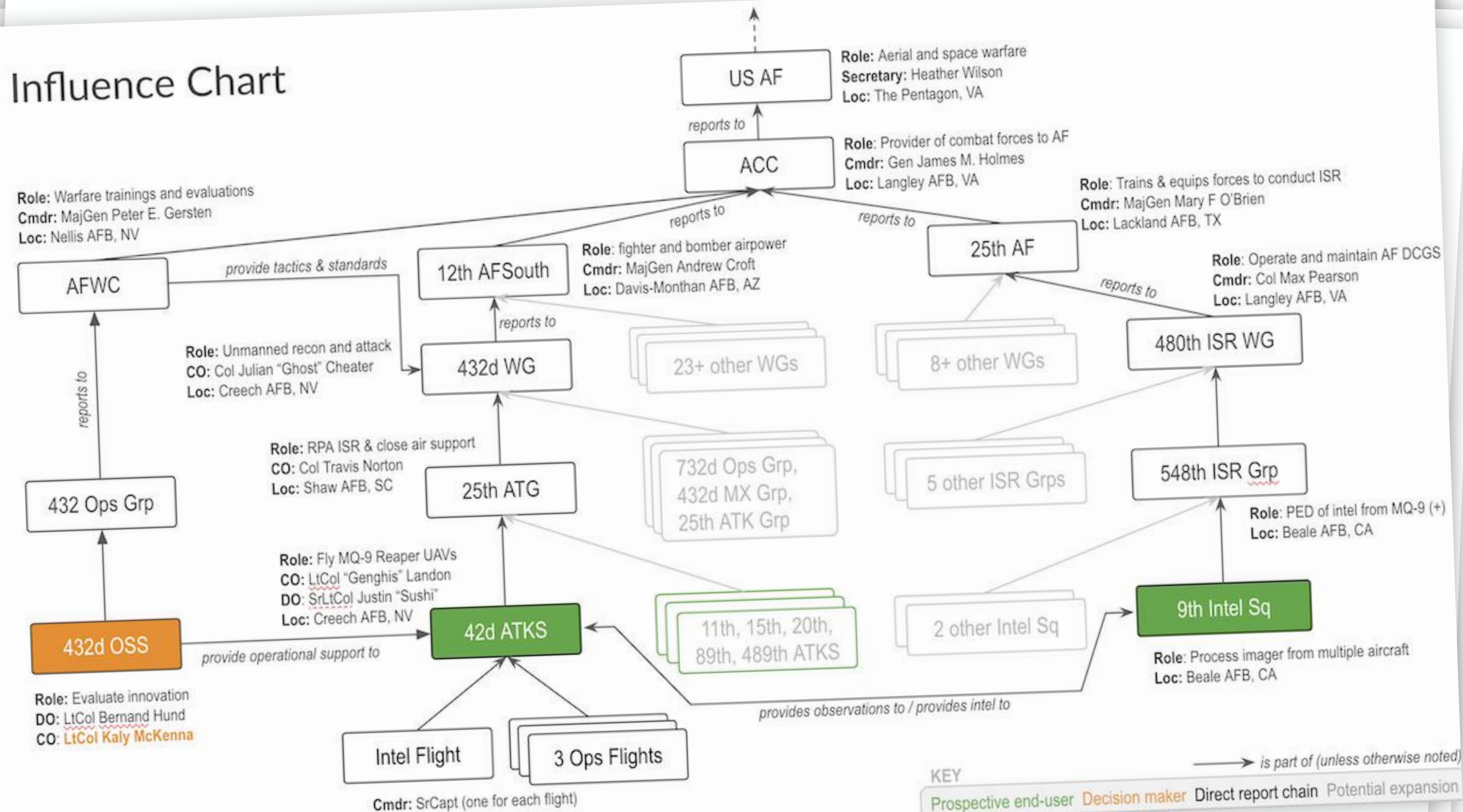
AND SOME PLANNING..

Proposed Workflow



AND SOME PLANNING...

Influence Chart



AND SOME PLANNING....

Mission Model Canvas

Tactical

Operational

Strategic

KEY PARTNERS Maj Ritter (42 ATKS, Operations Administration, past: Mission Director, our problem sponsor) MSgt Sjöholm (89 ATKS, Sensor Operator/Instructor) BG Cheater (432nd Wing, Commander) Lt Col Kaly McKenna (432nd Wing, Second in Command; DO of OSS) Captain Rusinko (42 ATKS Flight Commander / Pilot) SCapt Carter Adams (42 ATKS, Pilot) SrA Weyland (432 WG, Sensor Operator)	KEY ACTIVITIES Understand current working conditions Understand current Military efforts Understand Afghan patterns of life Clarify informational, operational constraints KEY RESOURCES Operation log entries Open source information	VALUE PROPOSITION More confidence in target identification More efficient use of time during periods of high stress Minimize civilian casualties during troop operations Stronger foreign relations Better domestic public image	BUY-IN / SUPPORT Tailored specifically to their workflow Interpretability Consistency with military regulations DEPLOYMENT Software solution that can be integrated into the existing mission system	BENEFICIARIES 42nd ATKS of the 432nd Wing RPA Pilot RPA Sensor Operator Electronic Combat Officer Director of Operations (DO) 9th Intel Squadron Intelligence Analyst/Officer Imagery Mission Supervisor Air Forces Central Mission Director Flight Commander AOC Target Effects Coordinator US Military Public Affairs Officer Decision makers adverse to change (<i>saboteur</i>)
MISSION BUDGET/COSTS Our team: developer, PM wages, working space, working equipment Changing workflow during mission to introduce our tool Technical integration in their systems		MISSION ACHIEVEMENT Number of troops saved Insight into foreign cultures Foreign relationships maintained		

AND ~~SOME~~ PLANNING....

Mission Model Canvas

Tactical

Operational

Strategic

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MISSION BUDGET/COSTS Our team: developer, PM wages, working space, working equipment Changing workflow during mission to introduce our tool Technical integration in their systems			MISSION ACHIEVEMENT Number of troops saved Insight into foreign cultures Foreign relationships maintained	

AND **MUCH** PLANNING...

Key Partners

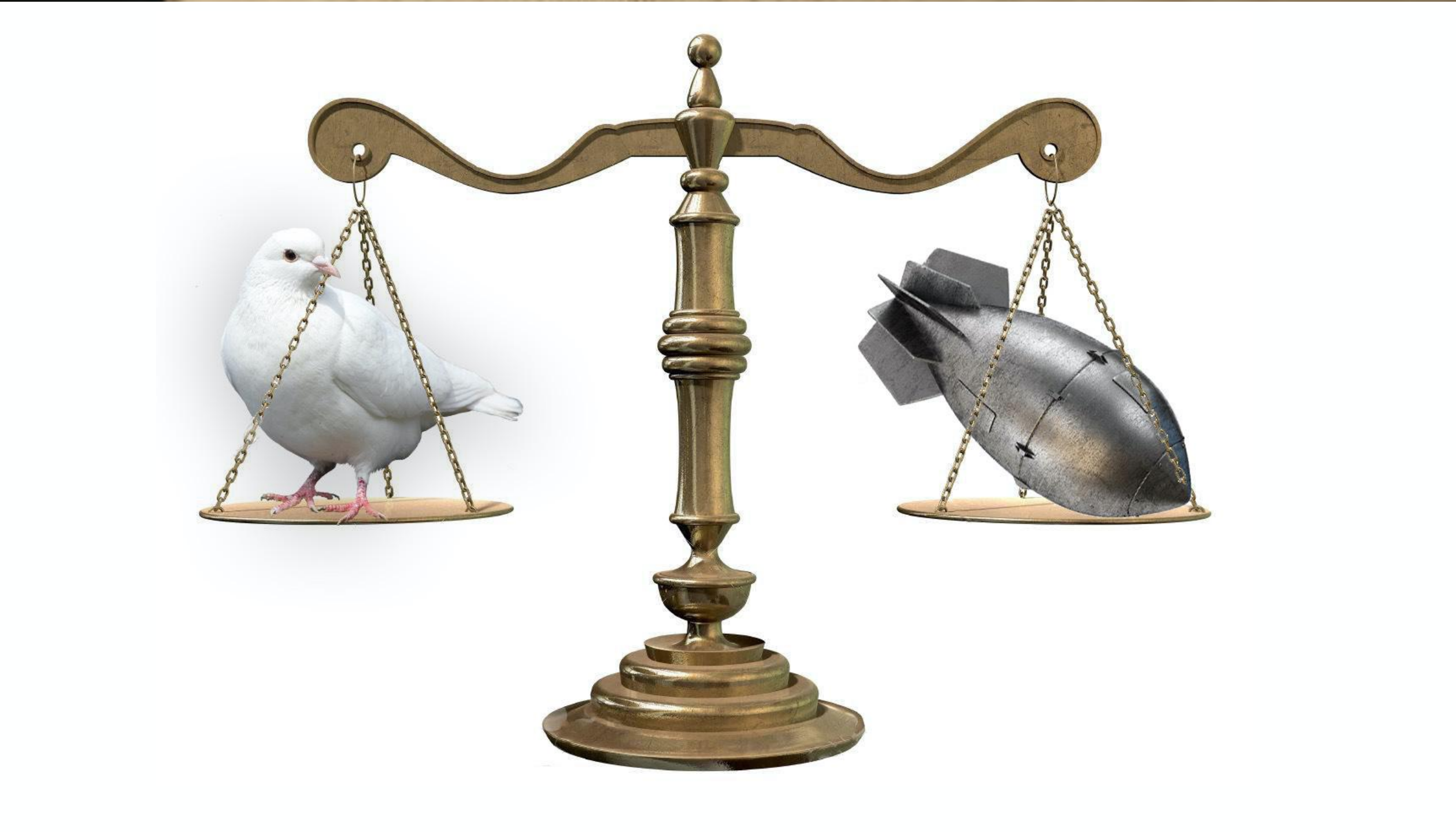
Maj. J. Ritte

NOT EXPLOITED



NOT EXPLOITED

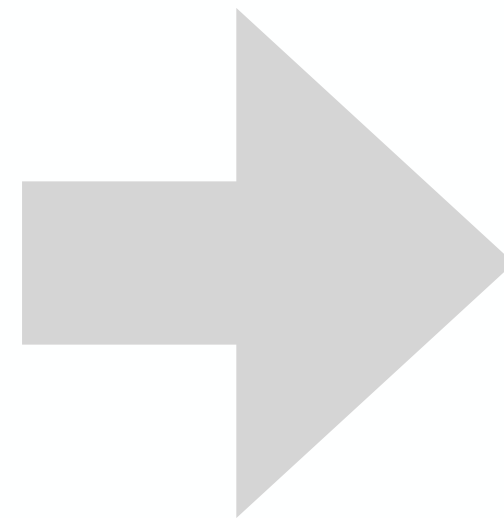






our solution

- Inefficient logs search
- Untapped open source



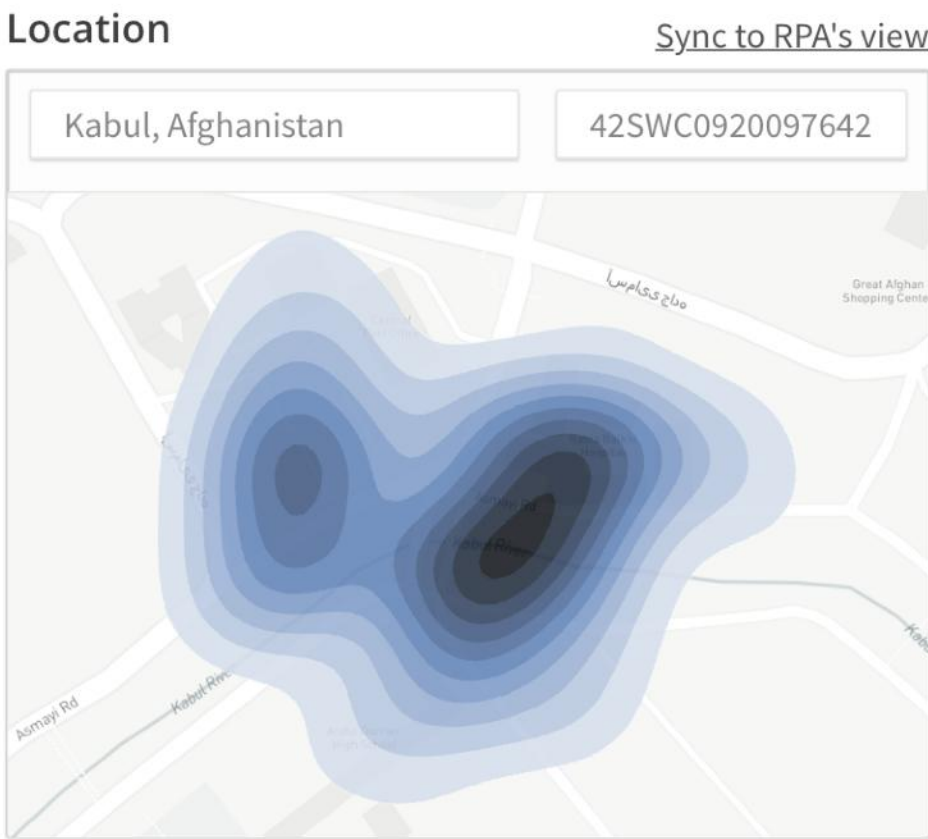
- Faster checking
- More confidence



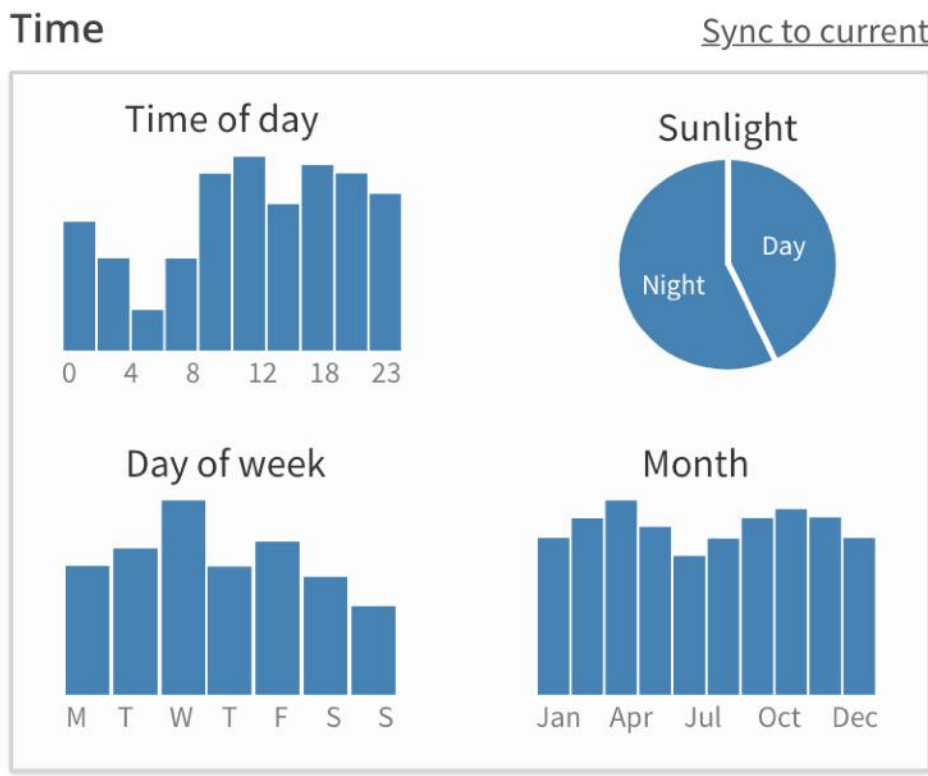
expected activity, parameterized

INTEREST

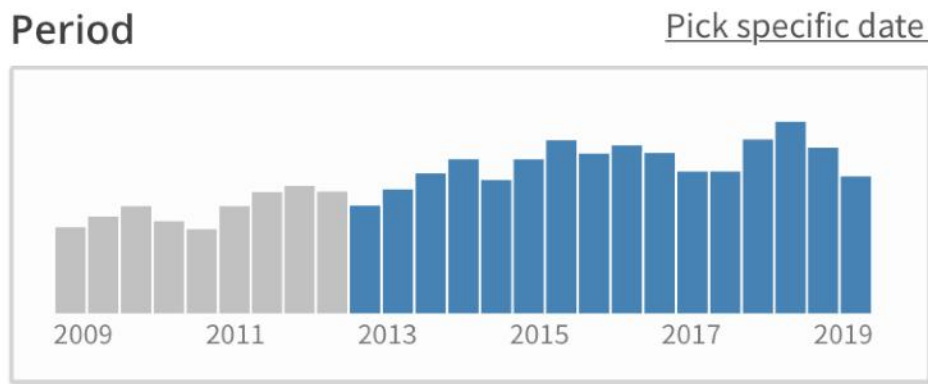
Place →



Time →



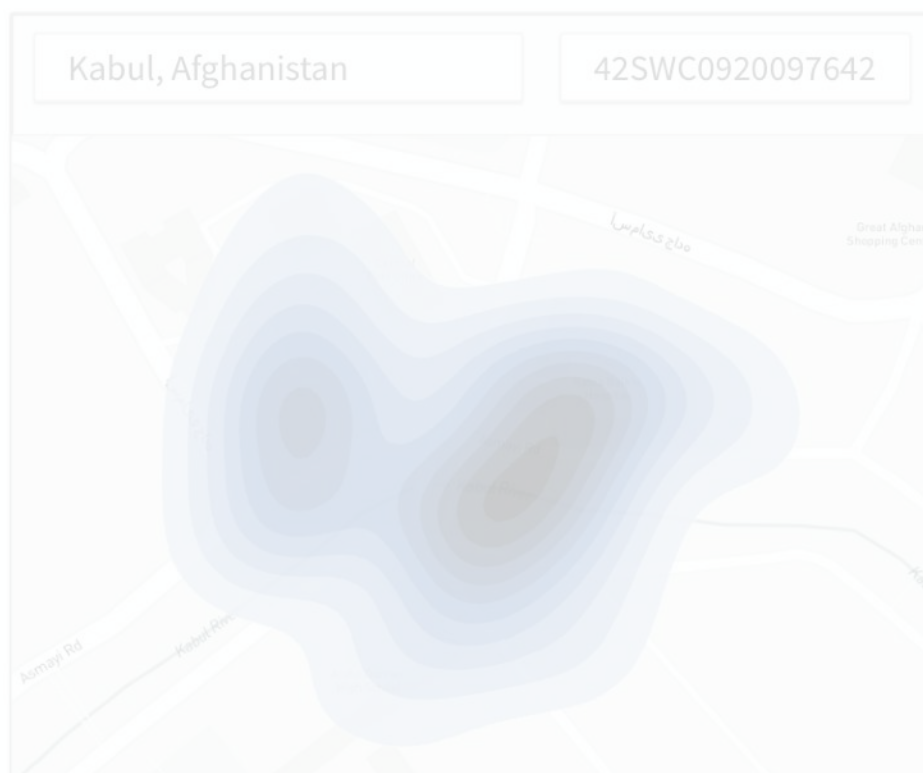
Recency →



CERTAIN

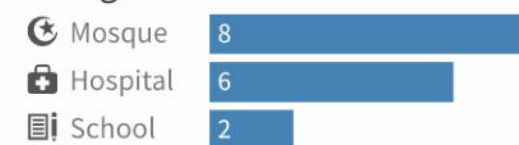
Location

[Sync to RPA's view](#)

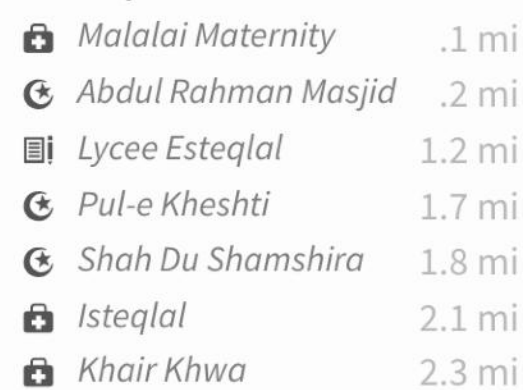


Points of Interest

Categories

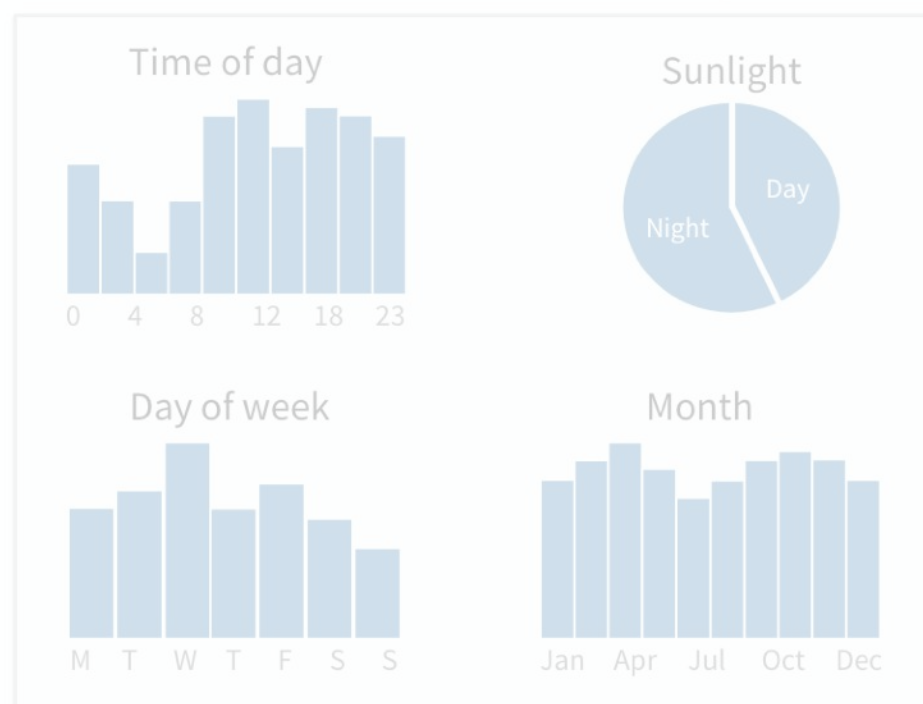


Nearby



Time

[Sync to current](#)



Events



Period

[Pick specific date](#)



News

15 articles from 3 news outlets

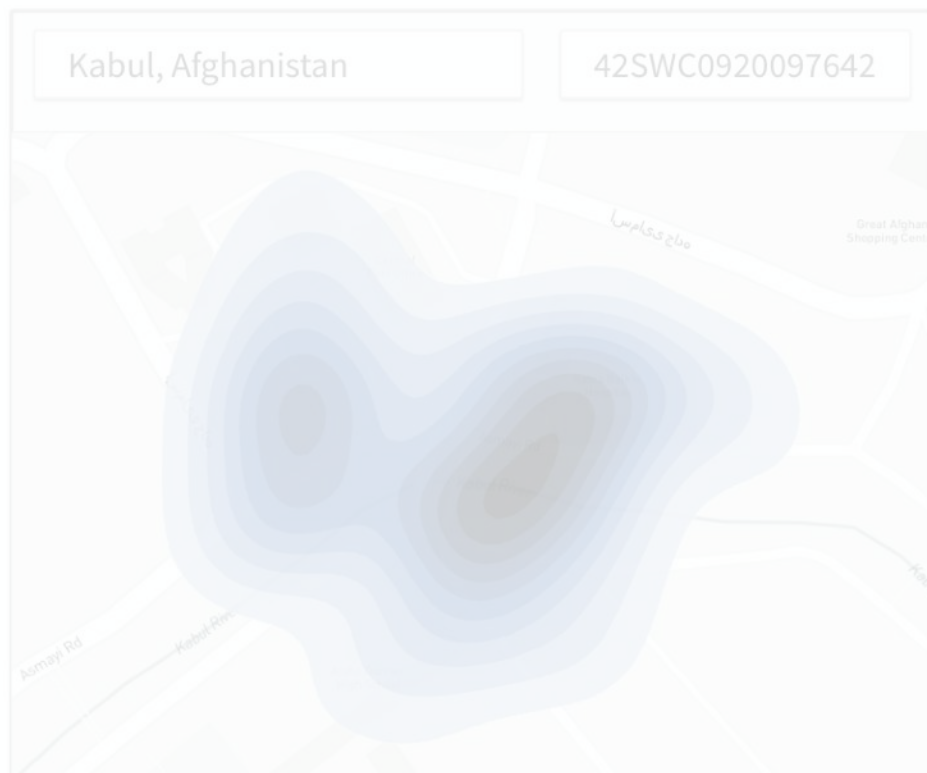
Keywords:

election, dispute, wildfires, festival,
concluded, authorities, train,
departure, record, firefighters

DETAILS

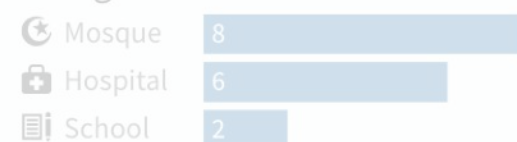
Location

[Sync to RPA's view](#)

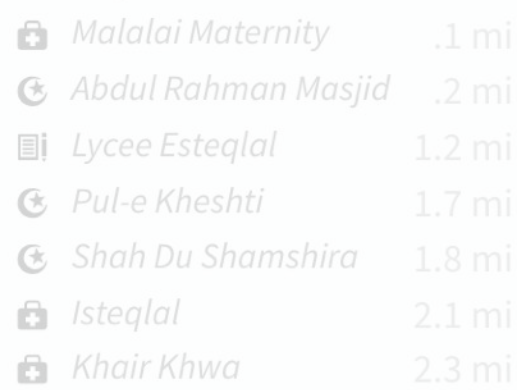


Points of Interest

Categories

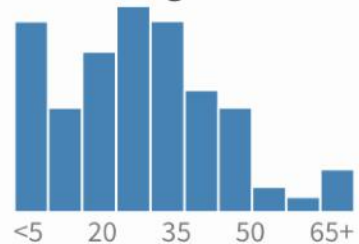


Nearby

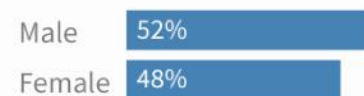


Demographics

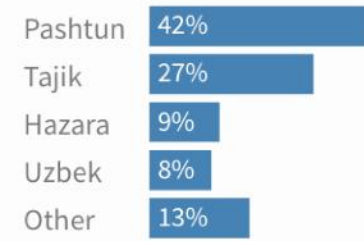
Age



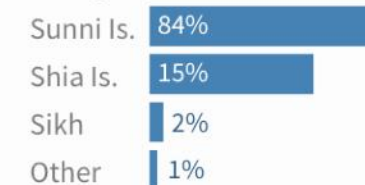
Gender



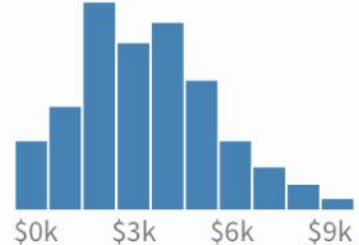
Ethnicity



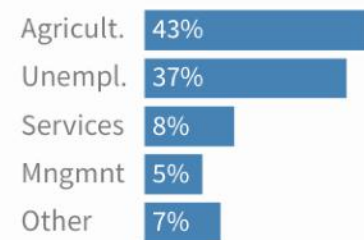
Religion



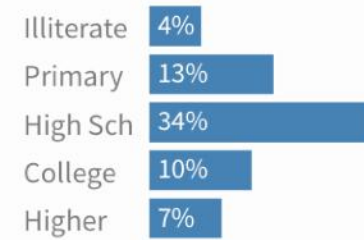
Income



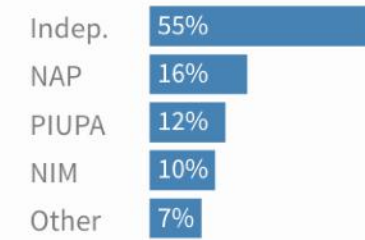
Work field



Education level

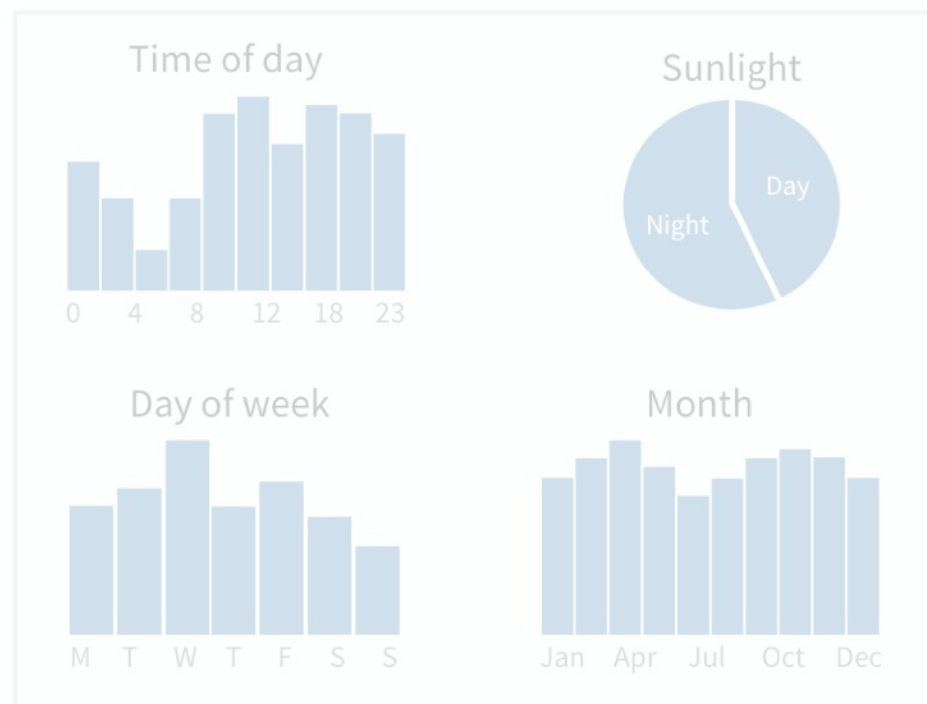


Political orientation

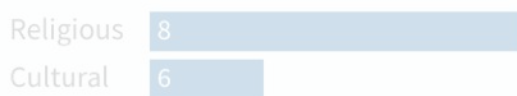


Time

[Sync to current](#)

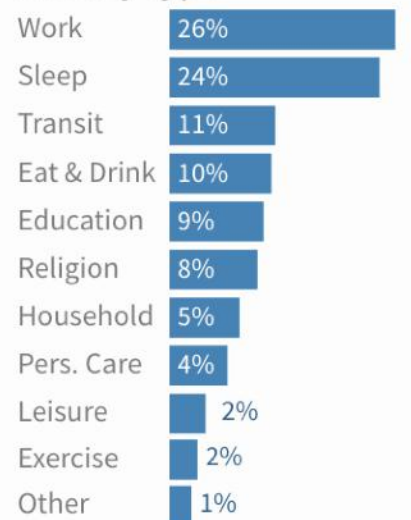


Events

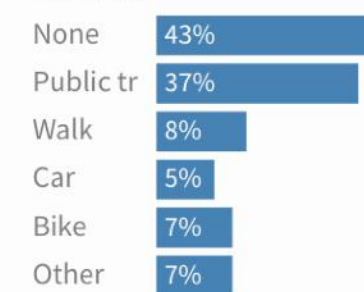


Activities

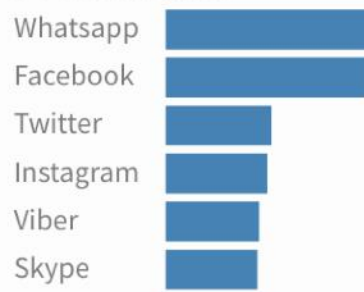
Activity type



Transit



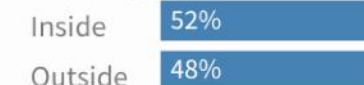
Social media



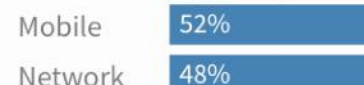
Trending but unusual keywords

airport, security, delay, safe
explosion, landing, praying, safe
#NVPD, #Coachella, #EpisodeIX
#risky, #pinkchella, #staysafe
explosion, security, delay
relieved, weary, news, careful

Setting



Technology usage



Period

[Pick specific date](#)



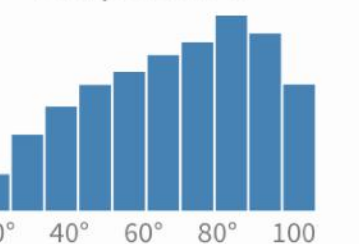
News

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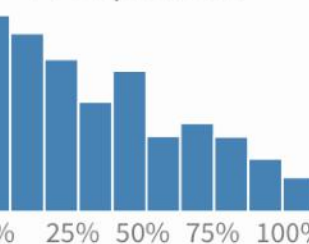
Keywords:
election, dispute, wildfires, festival,
concluded, authorities, train,
departure, record, firefighters

Weather

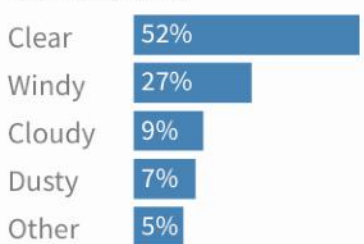
Temperature



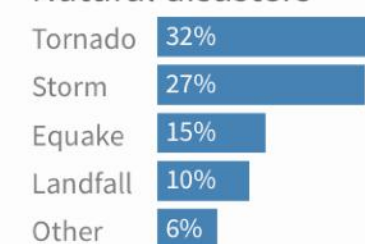
Precipitation



Conditions



Natural disasters



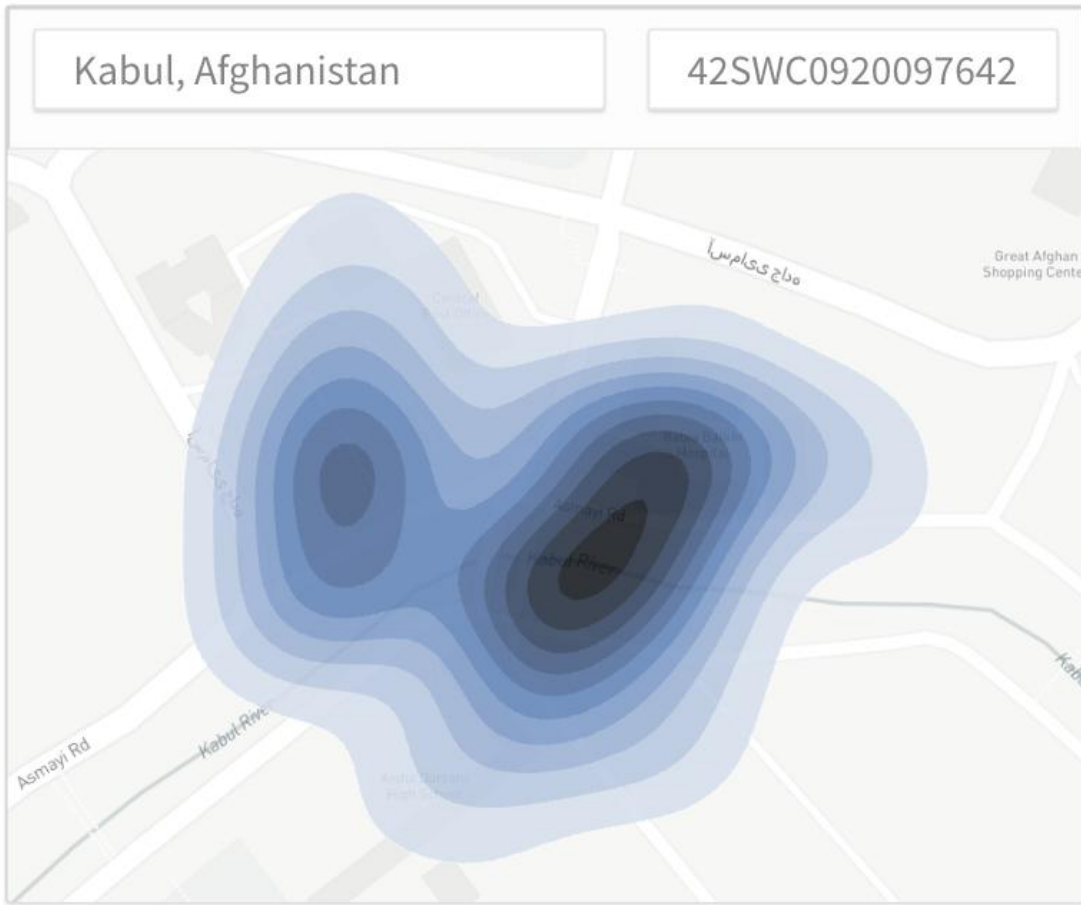
← Who

← What

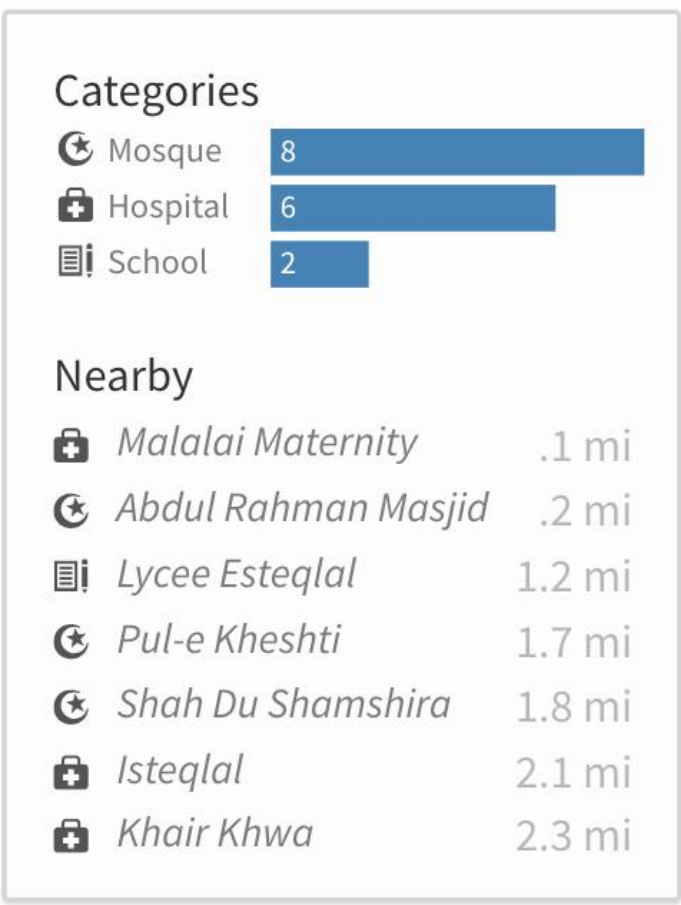
← Nature

Location

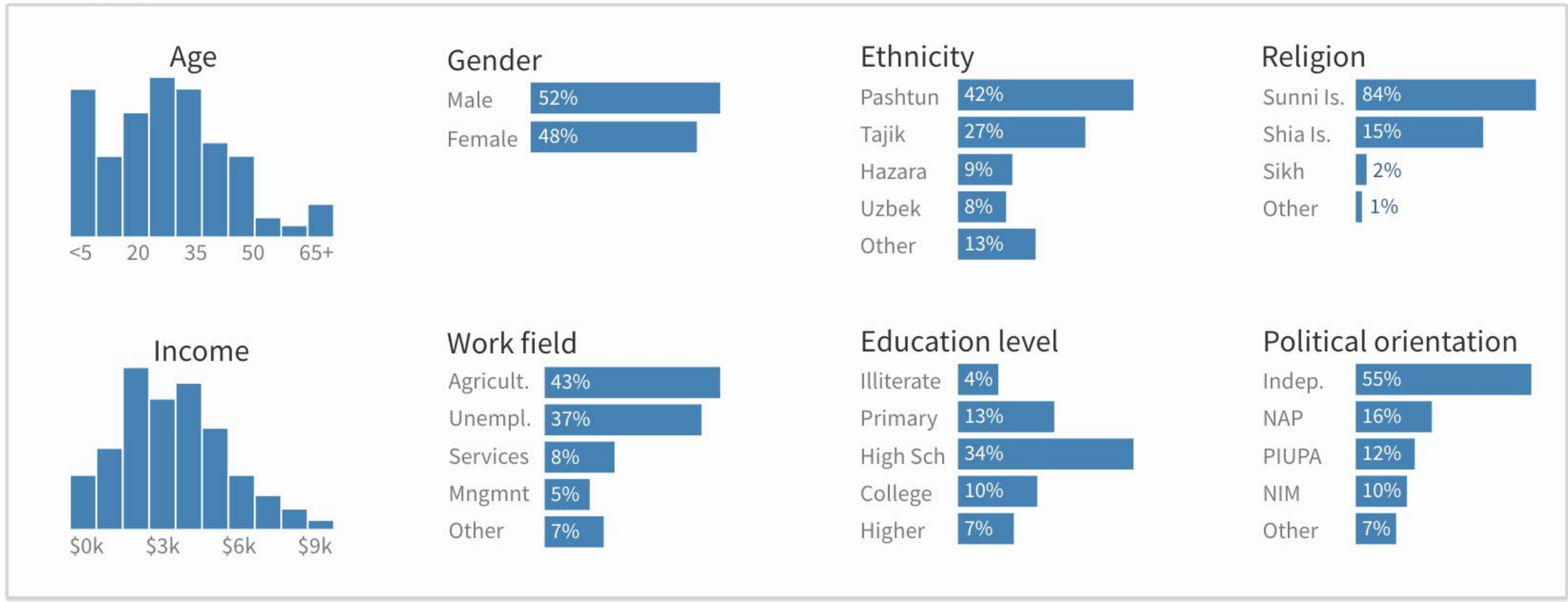
[Sync to RPA's view](#)



Points of Interest

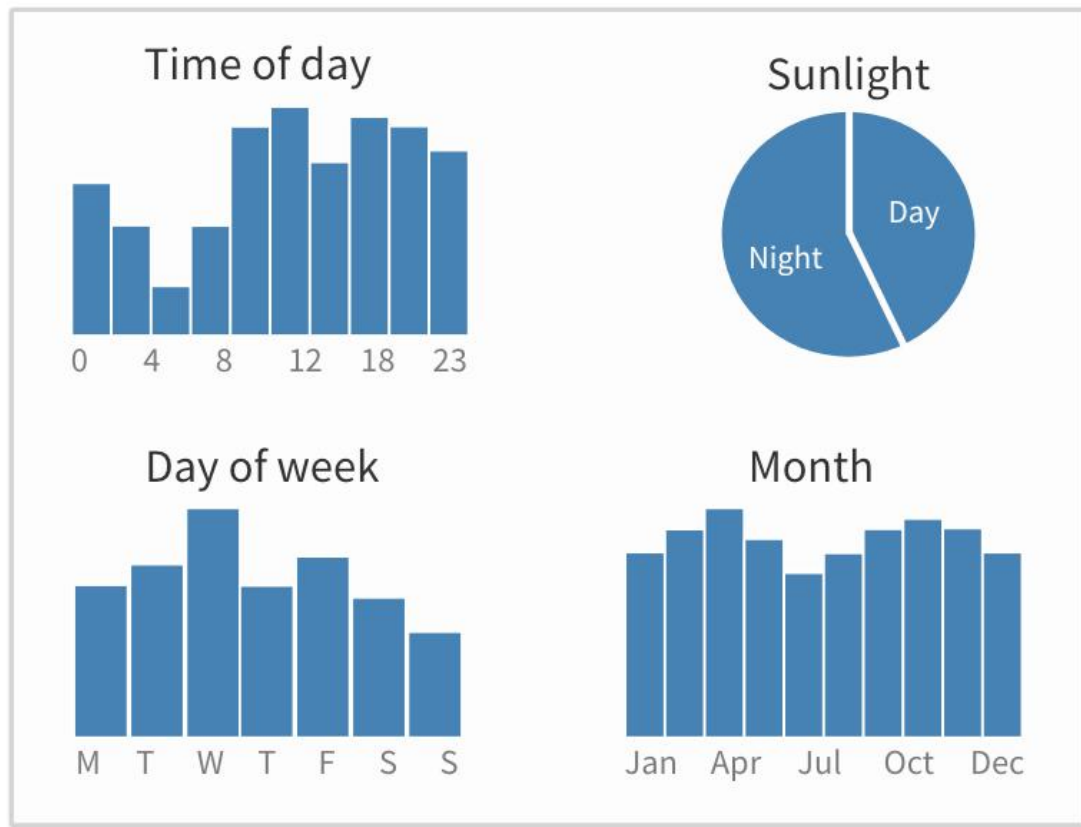


Demographics

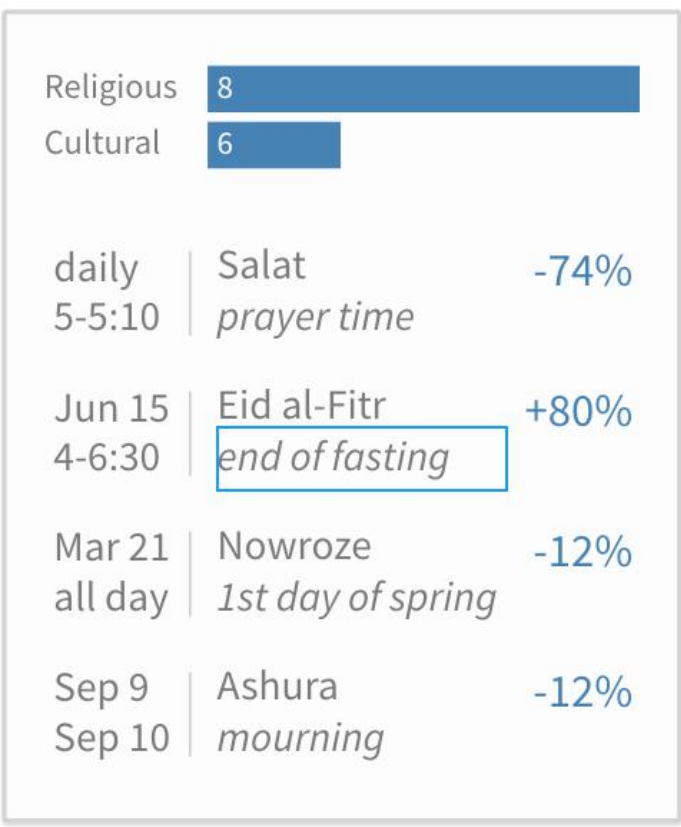


Time

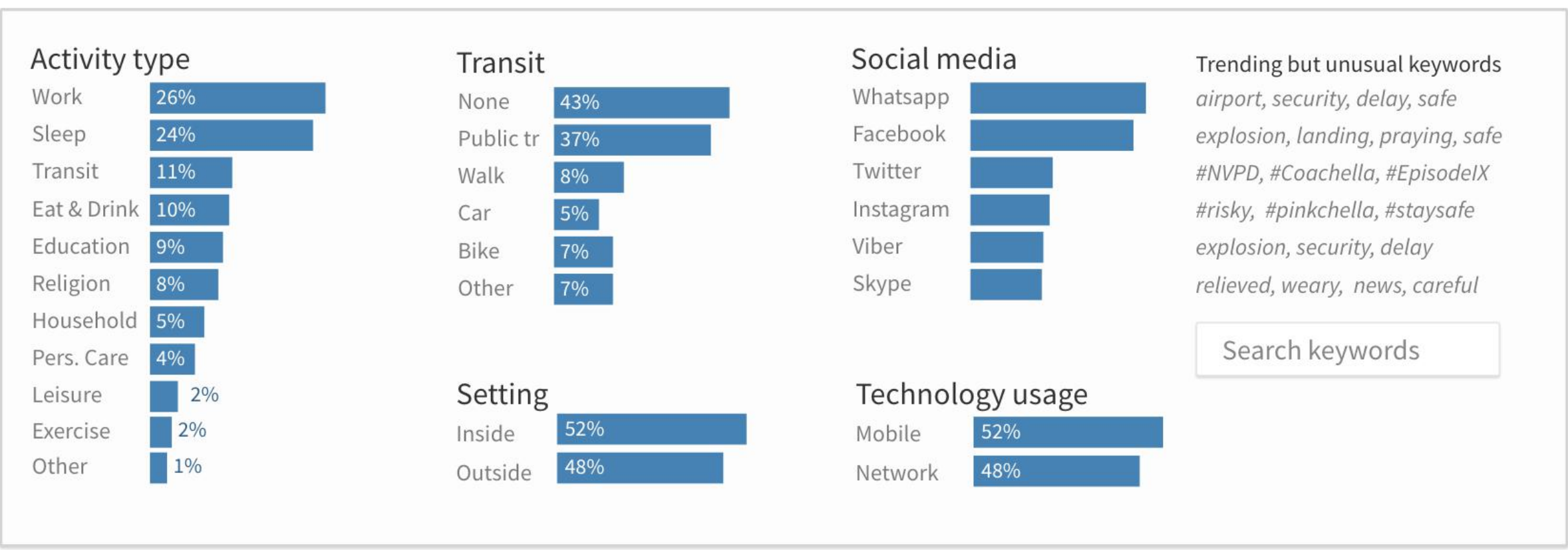
[Sync to current](#)



Events

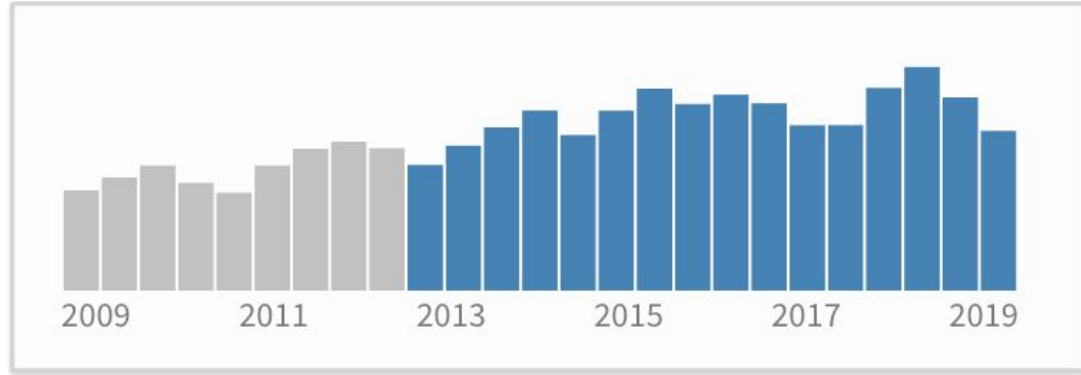


Activities

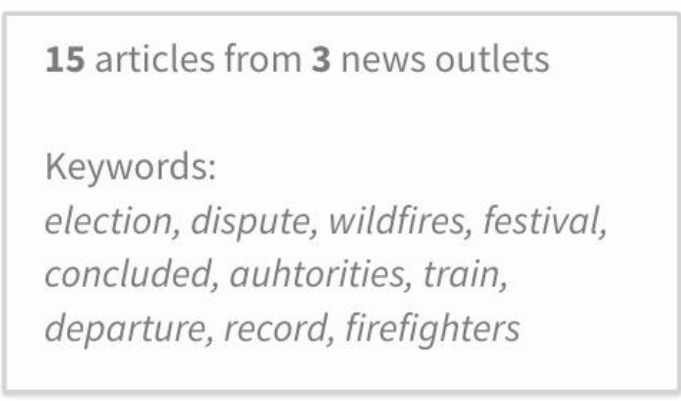


Period

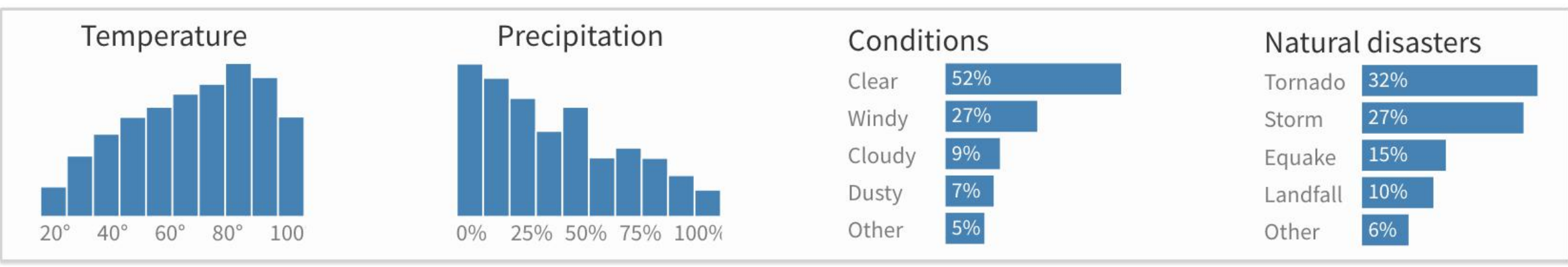
[Pick specific date](#)



News

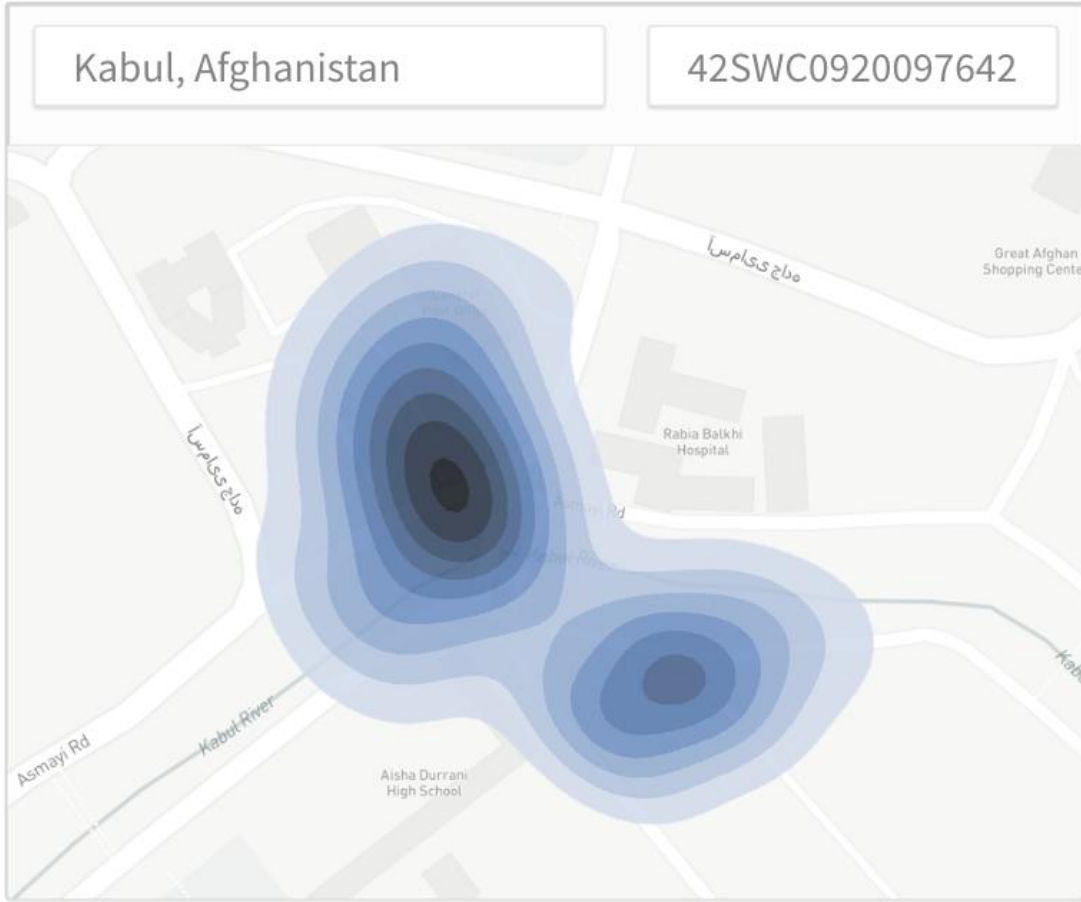


Weather

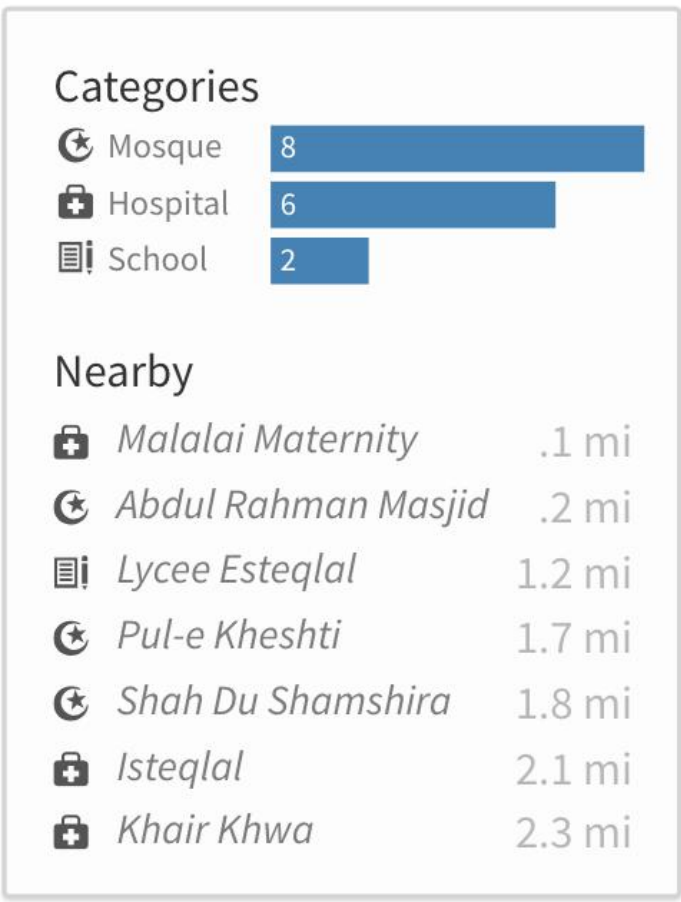


Location

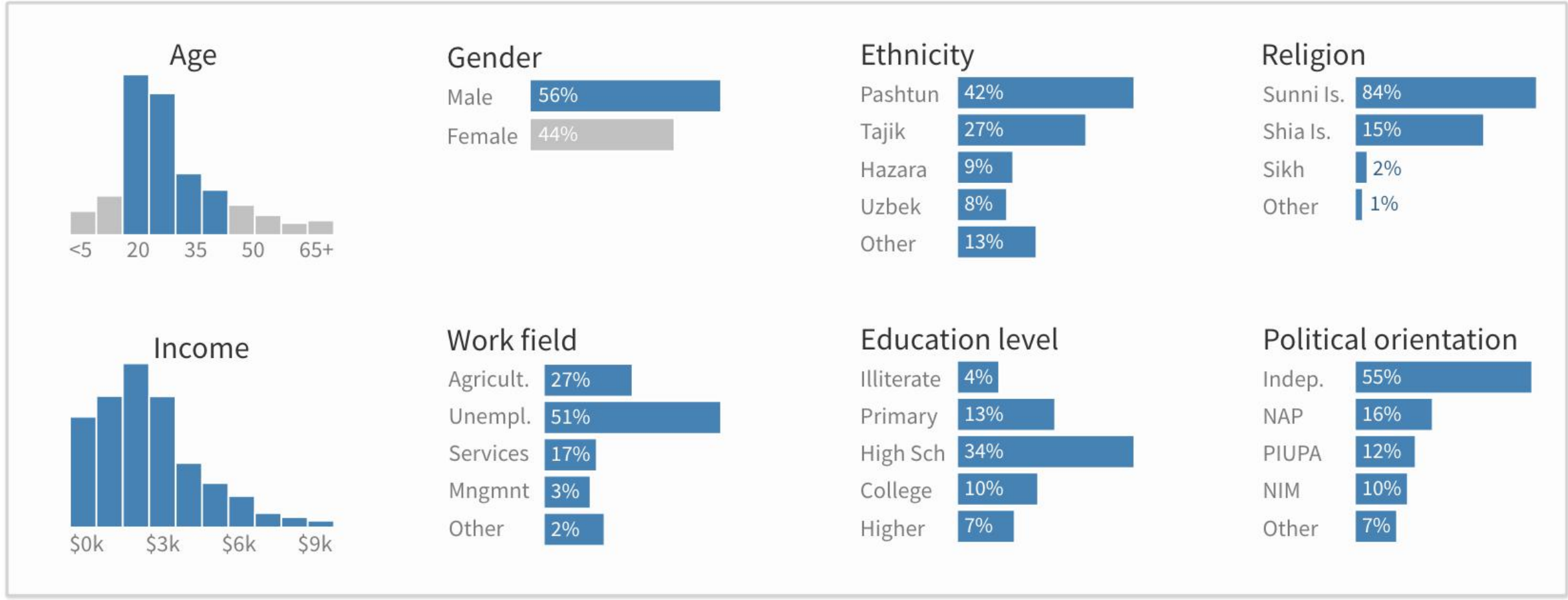
[Sync to RPA's view](#)



Points of Interest

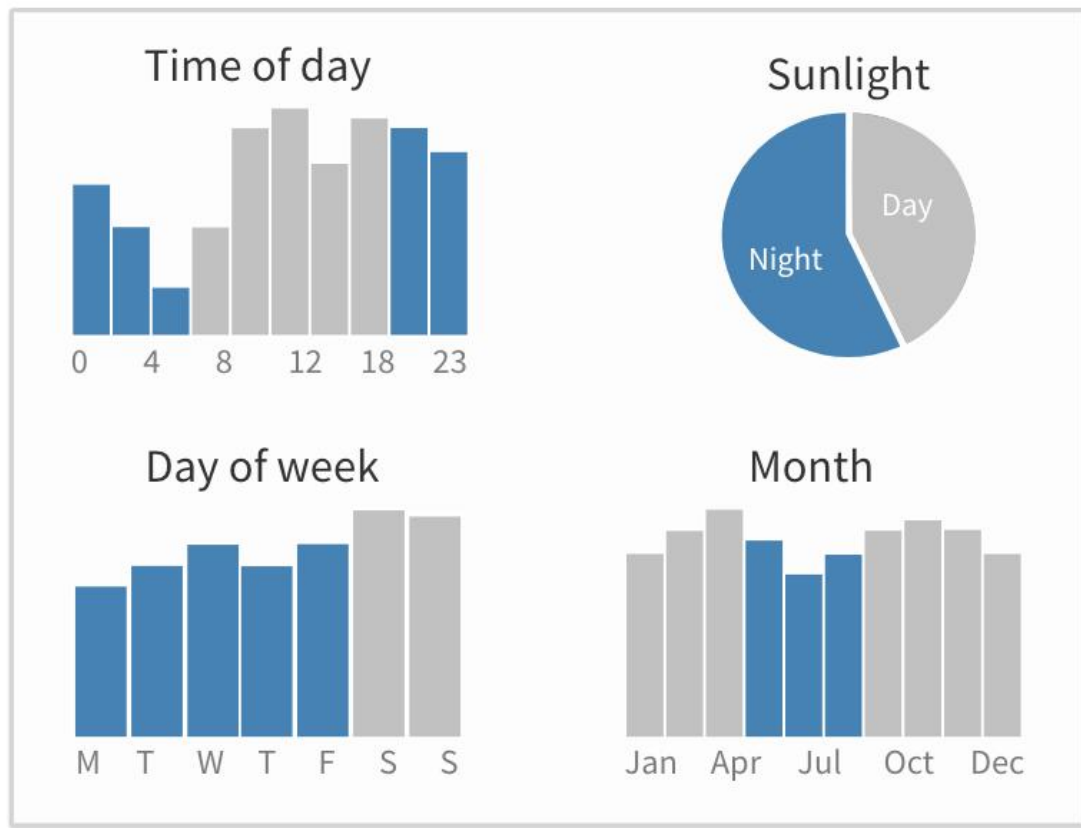


Demographics

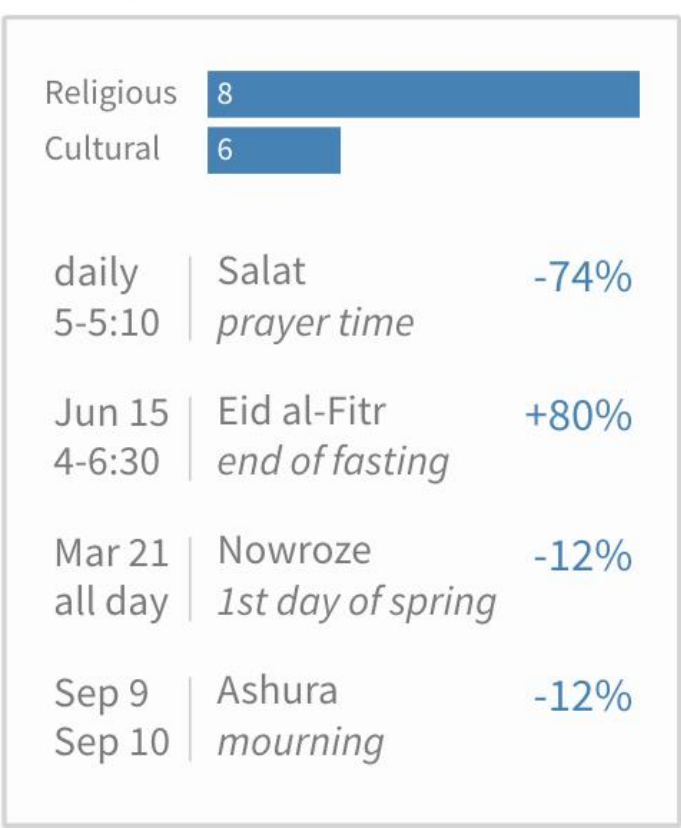


Time

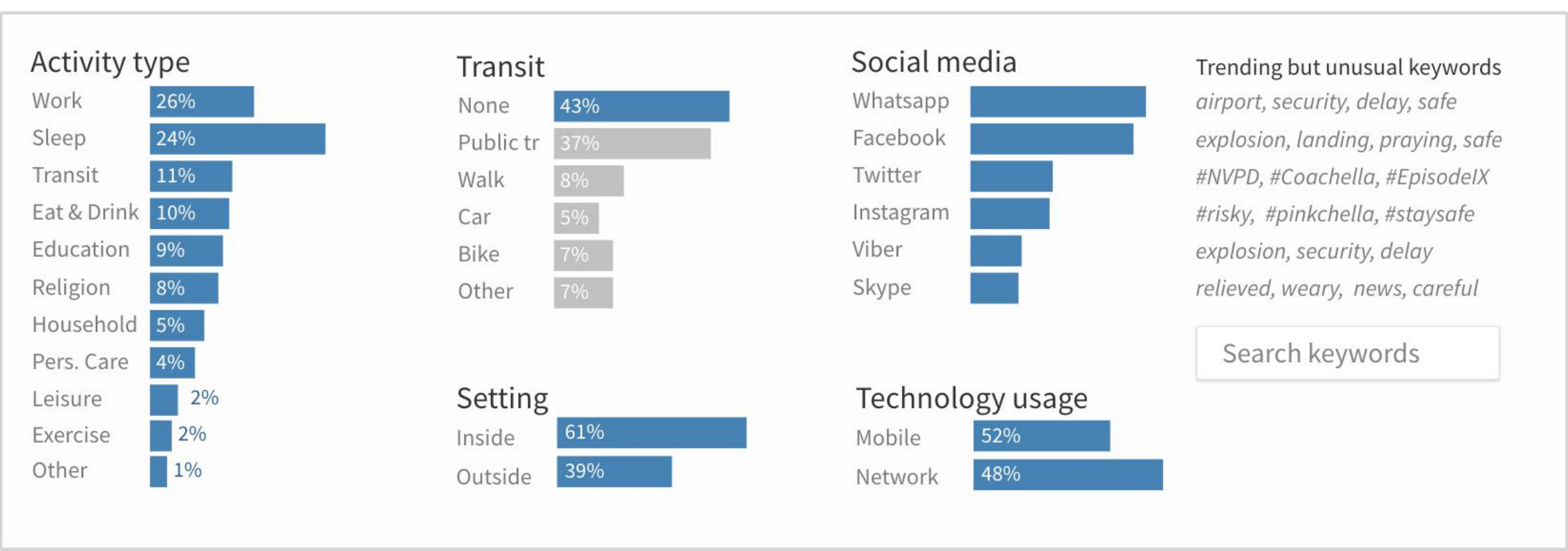
[Sync to current](#)



Events

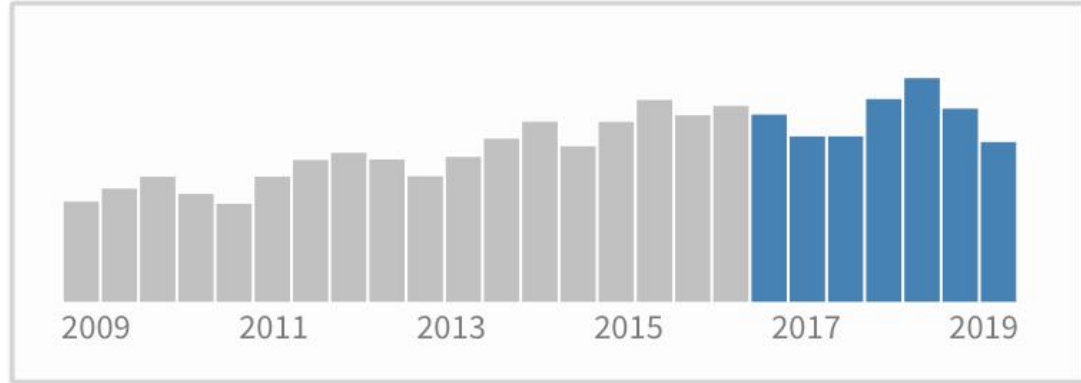


Activities

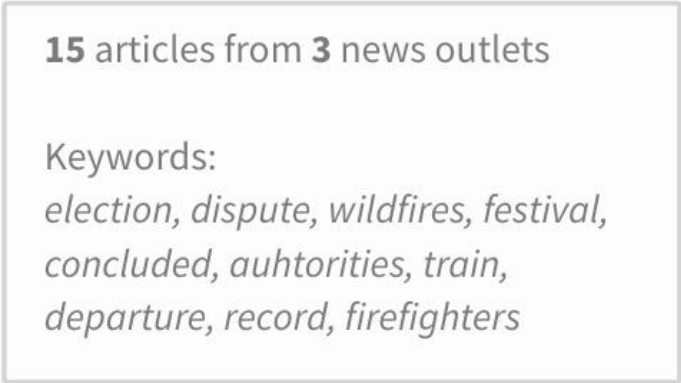


Period

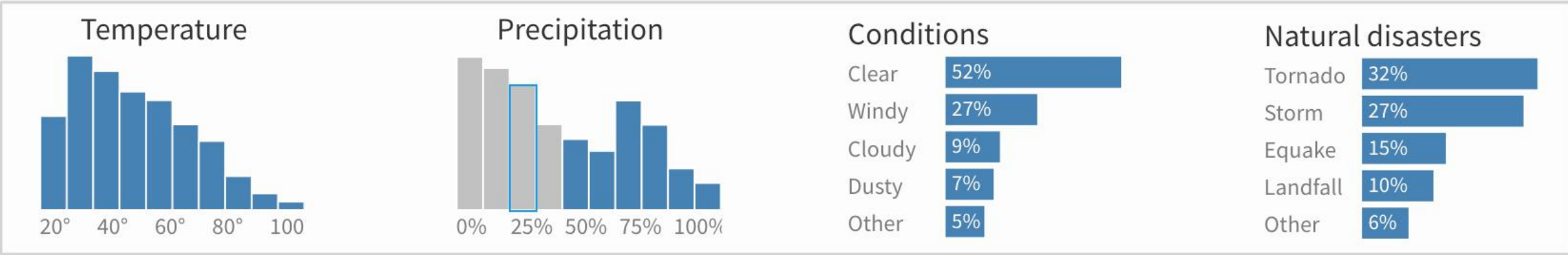
[Pick specific date](#)

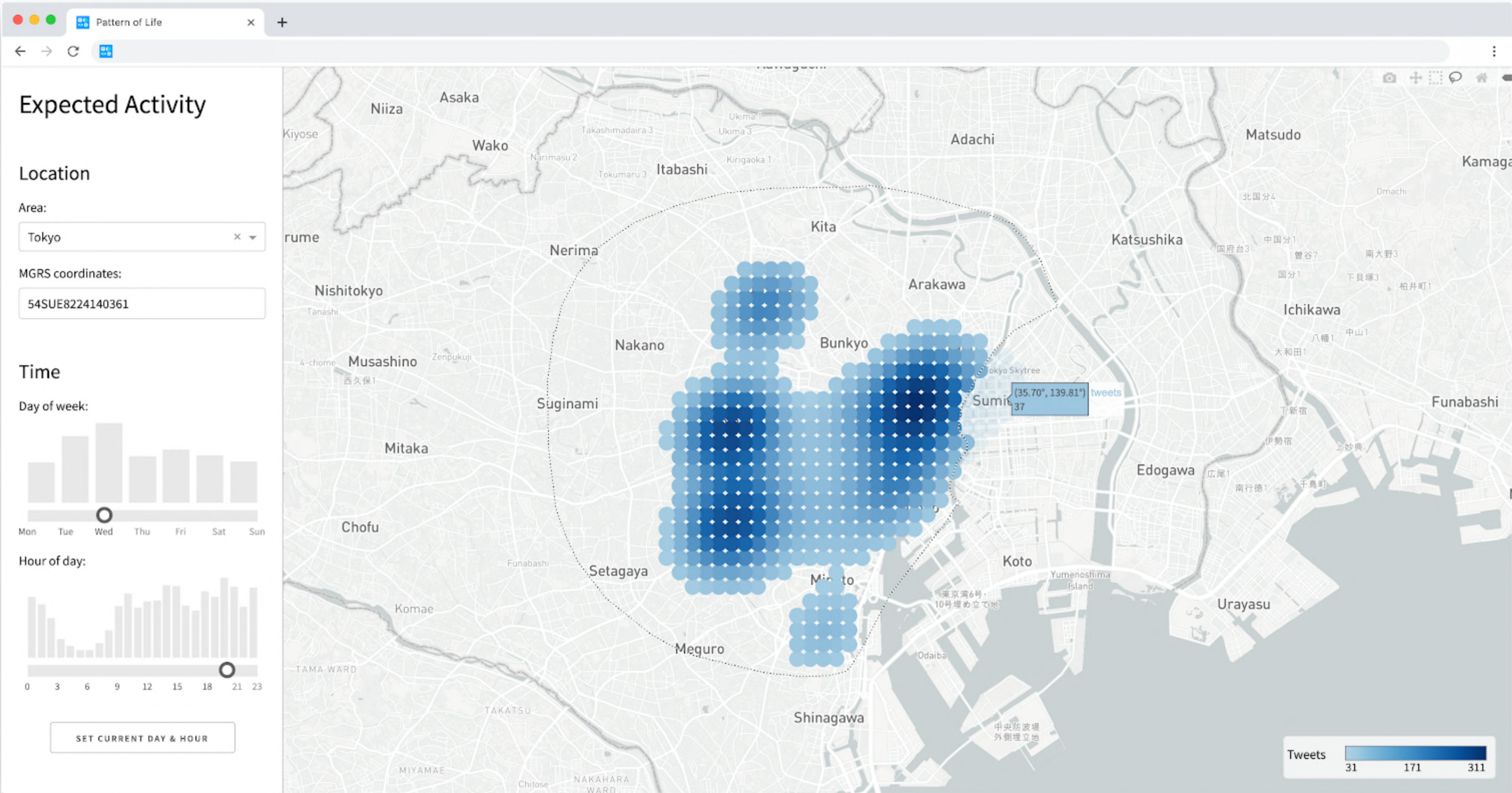


News



Weather







Age	▼	Activity type	▼
Gender	▼	Transit	▼
Ethnicity	▼	Setting	▼
Religion	▼	Social media	▼
Income	▼	Tech usage	▼





it's powerful

it's what I need

this is incredible

would cut time

easy to use

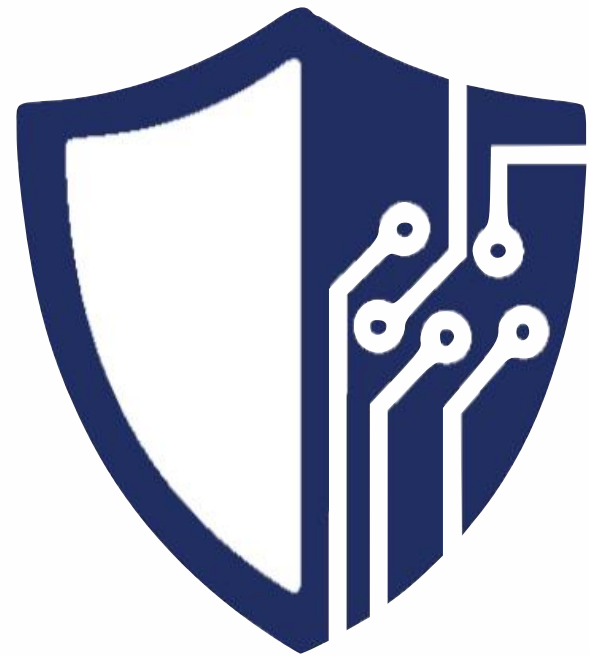
would love this

can't wait to use it

very useful

great job

Next steps:



Incubator



Integration



Present



Dual use

Thank you!

