

**STAY SAFE
WITH
“WATCHOUT”**



TEAM A

AGENDA

-
- 1. The Problem**
 - > High crime rate in city of Chicago
 - 2. The Idea**
 - > „WATCHOUT“ App for greater safety
 - 3. The Architecture & Demo**
 - > Data flow & visualization
 - 4. The Business Case**
 - > Local police departments use-case & product features
 - 5. The Future**
 - > Ideas for future product versions

THE

SITUATION



CHICAGO CITY

43%

CRIME RATE PER
1.000 RESIDENTS

80%

OF CRIMES
ARE VIOLENT

EXPLORE THE HOOD

Eva likes to explore her new neighborhood by foot.

WORK COMMUTE

She doesn't have a dedicated parking lot and needs to walk the last meters to her home.



MEET EVA

TAKE THE DOG FOR A WALK

No matter how tired she is after work, her dog Bella needs a walk outside. Even if it's dark and late.



Notify Chicago

@NotifyChicago

Automatic alerts from Notify Chicago on everything from weather to traffic. Account will not respond. Visit bit.ly/gcfNID for more information.

[Biografie übersetzen](#)

📍 Chicago, IL 🌐 cityofchicago.org/oemc 📅 Seit Juni 2009 bei Twitter

0 Folge ich 4.363 Follower

Gefolgt von niemandem, dem du folgst

Tweets

Tweets und Antworten

Medien

Gefällt mir



Notify Chicago @NotifyChicago · 10. Juli 2018

SKY vs. Las Vegas tonight at Wintrust Arena starting at 7:30 pm. Expect additional traffic in the area.



1



Notify Chicago @NotifyChicago · 10. Juli 2018

Sox vs. St Louis tonight at Guaranteed Rate Field starting at 7:10 pm. Expect additional traffic in the area.



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CURRENT INITIATIVES TO MAKE CHICAGO SAFE

[NotifyChicago](#)

- > Not location-based
- > Not personalized
- > Not real-time

THE
IDEA



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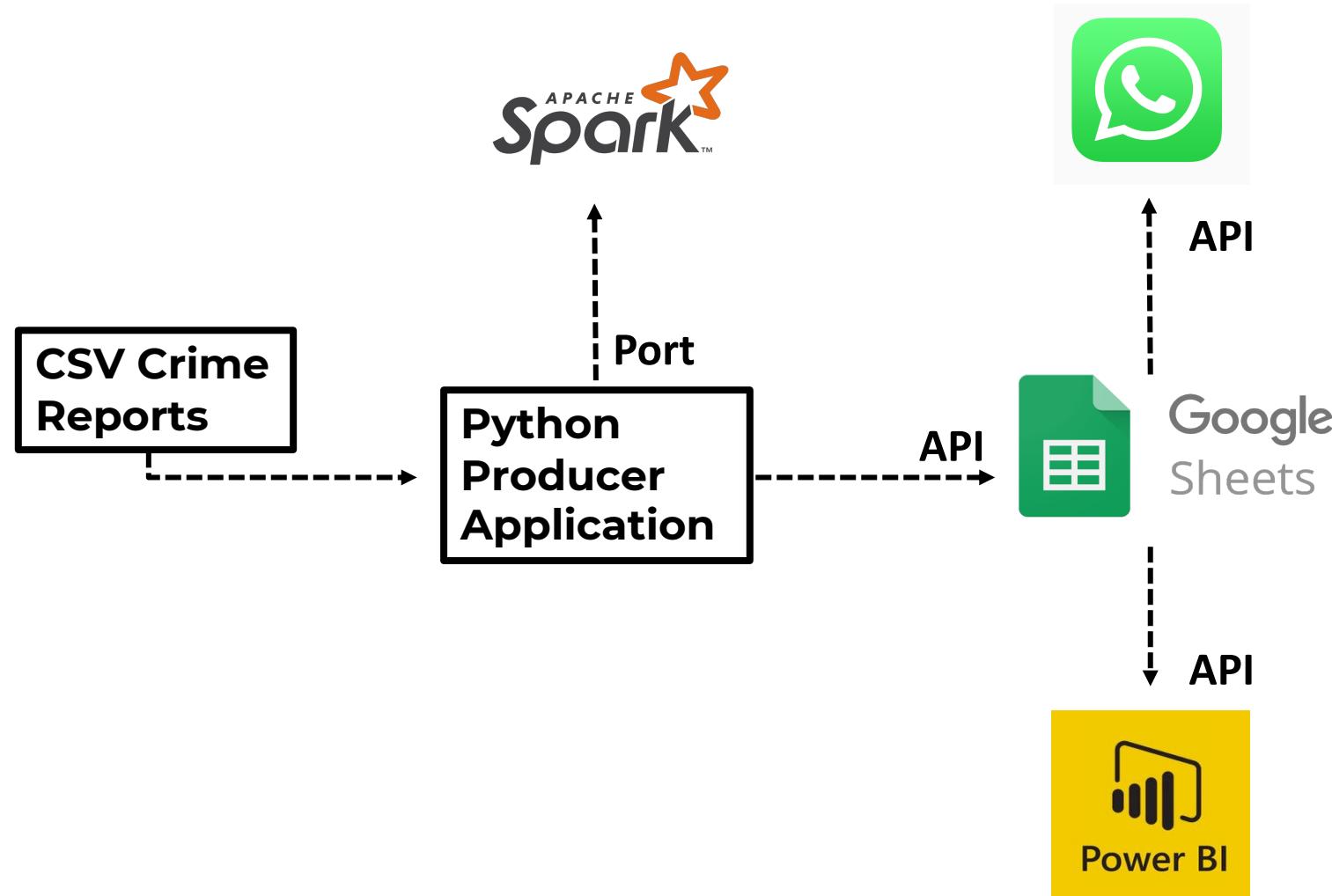
WATCHOUT's purpose is to make the neighborhoods of the City of Chicago safer, help citizens to get early warnings of threats and suggest alternate routes.

THE

ARCHITECTURE



DEMO SOFTWARE ARCHITECTURE



1. Python app ingests data from JSON file & simulates streaming by sending lines to Spark App & Google Sheets
2. Spark Consumer receives data, applies transformations & creates a dataframe
3. Google Sheets is connected via API to WhatsApp and PowerBI
4. Push-notifications will be sent to users via WhatsApp, data visualizations on PowerBI give a location-based overview of crimes

Backend Overview

Spark Producer.py

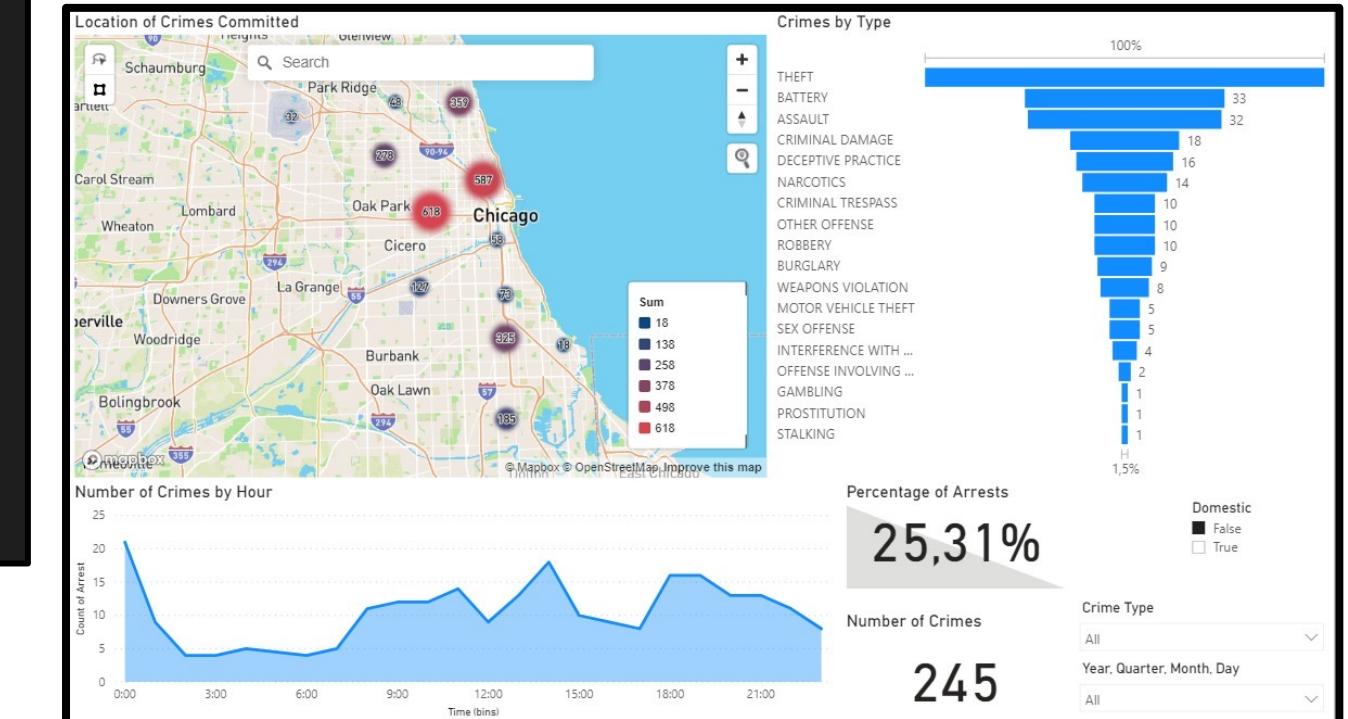
- ❖ Simulating real-time streaming data
- ❖ Sending filtered data from csv to Spark Consumer every 2 seconds
- ❖ Sending unfiltered data to Google Sheets

Spark Consumer.py

PrimaryType	Block	Description	LocationDescription	Arrest	Domestic
ASSAULT	0000X N PINE AVE	SIMPLE	RESIDENCE PORCH/H...	true	true
ASSAULT	021XX W 21ST ST	SIMPLE	SIDEWALK	false	false
ASSAULT	033XX N WESTERN AVE	SIMPLE	BANK	false	false
THEFT	082XX S EBERHART AVE	\$500 AND UNDER	STREET	false	false
ASSAULT	022XX N MAJOR AVE	SIMPLE	ALLEY	false	false
BATTERY	072XX S ST LAWREN...	SIMPLE	APARTMENT	true	false
ASSAULT	028XX W FULLERTON...	SIMPLE	GAS STATION	false	false
GAMBLING	019XX S ST LOUIS AVE	GAME/DICE	SIDEWALK	true	false
ASSAULT	017XX E 69TH ST	SIMPLE	RESIDENCE	false	false
THEFT	107XX S WABASH AVE	OVER \$500	STREET	false	false
ASSAULT	049XX W OHIO ST	SIMPLE	APARTMENT	false	false
THEFT	005XX N KINGSBURY ST	\$500 AND UNDER	OTHER	false	false
ASSAULT	015XX W FARGO AVE	SIMPLE	STREET	false	false
ASSAULT	069XX S CALUMET AVE	SIMPLE	APARTMENT	false	true
THEFT	034XX S CALUMET AVE	OVER \$500	RESIDENCE	false	false
BATTERY	056XX S HARLEM AVE	SIMPLE	RESTAURANT	true	false
THEFT	012XX S MICHIGAN AVE	OVER \$500	RESIDENCE	false	true
BATTERY	008XX E 48TH ST	SIMPLE	SIDEWALK	false	false
BATTERY	011XX N LECLAIRE AVE	SIMPLE	APARTMENT	true	false
BATTERY	021XX S HOMAN AVE	DOMESTIC BATTERY ...	RESIDENCE	true	false

User Interface

Watch out Milan there has been an RECKLESS FIREARM DISCHARGE at 008XX N CICERO AVE and the person hasn't been arrested yet. Here you can find the exact location:
<https://www.google.com/maps/place/41%C2%B0053'02.7%22N+87%C2%B0043'18.2%22W/@41.8846857,-87.7233207,17.24z/data=!4m5!3m4!1s0x0:0x0!8m2!3d41.8840768!4d-87.7217238>

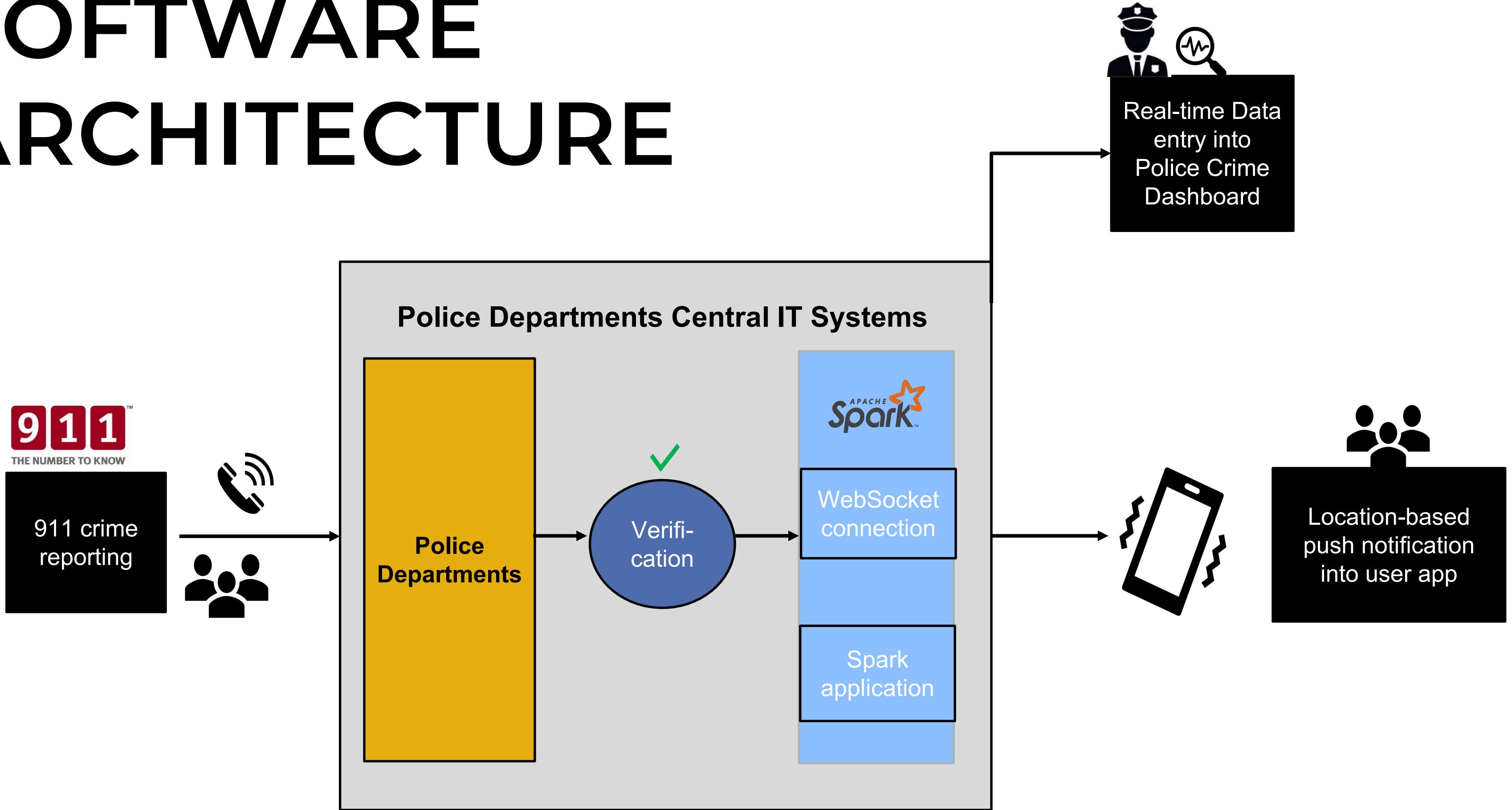


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SPARK – GOOGLE
SHEETS – POWER BI



SOFTWARE ARCHITECTURE



BUSINESS CASE



LOCAL POLICE DEPARTMENTS CASE SECURE



ENSURE A SAFE NEIGHBORHOOD

Help citizens to be aware of their surroundings and suggest alternative routes to stay safe



QUICKLY ACT UPON SPECIAL INCIDENTS

Increase police officer's presence for areas with sudden jumps in crime incidents



BUILD TRUST AND TRANSPARENCY

Real-time dashboard to monitor and analyze the situation and share with government

STAY SAFE WITH “WATCHOUT”

CROSS-PLATFORM

Intuitive user interface,
compatible with all types
of smartphones

USER-FRIENDLY

Plan your journey like
with Google Maps

PERSONALIZED

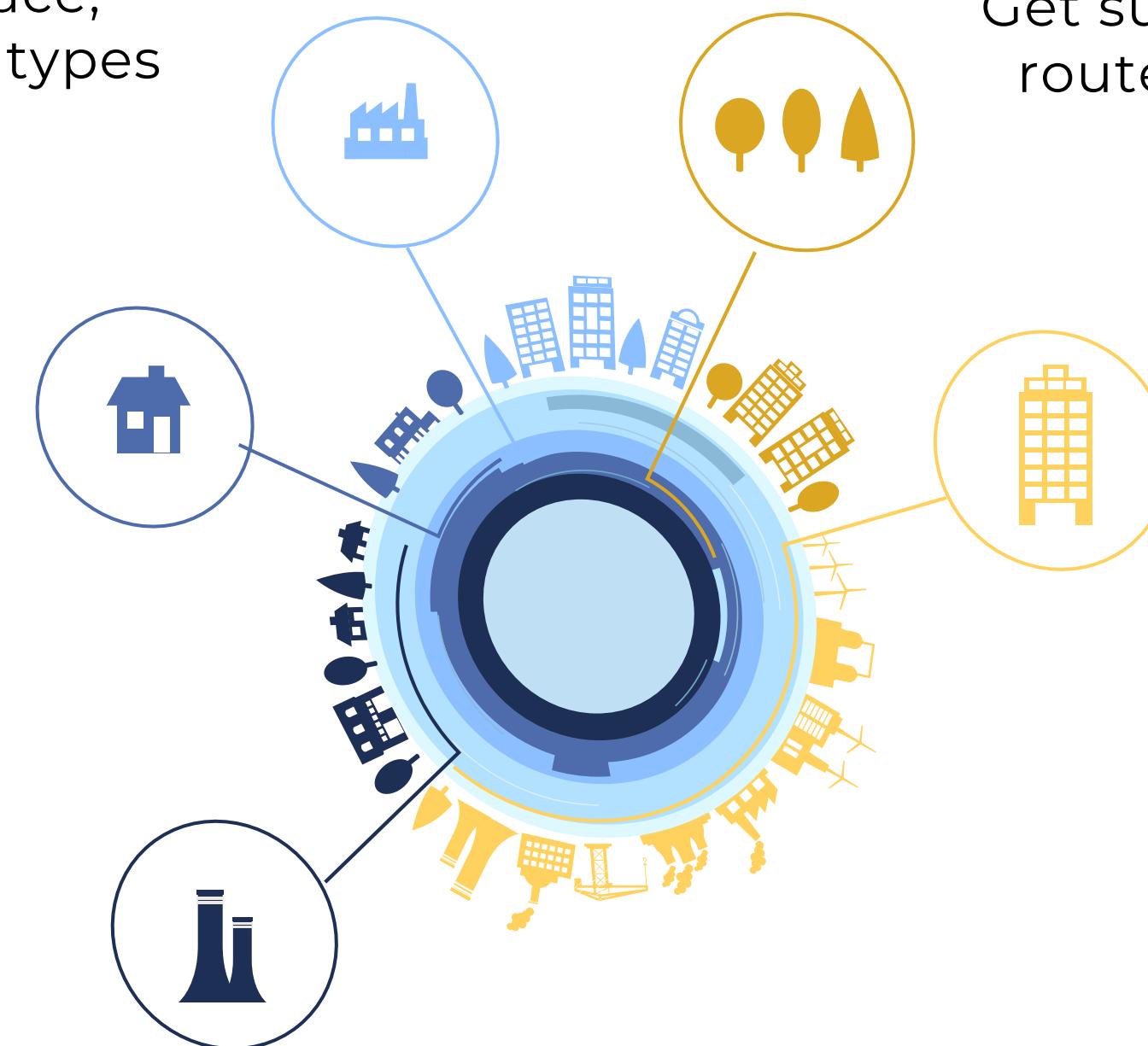
Get push notifications
based on your individual
GPS-location

SMART

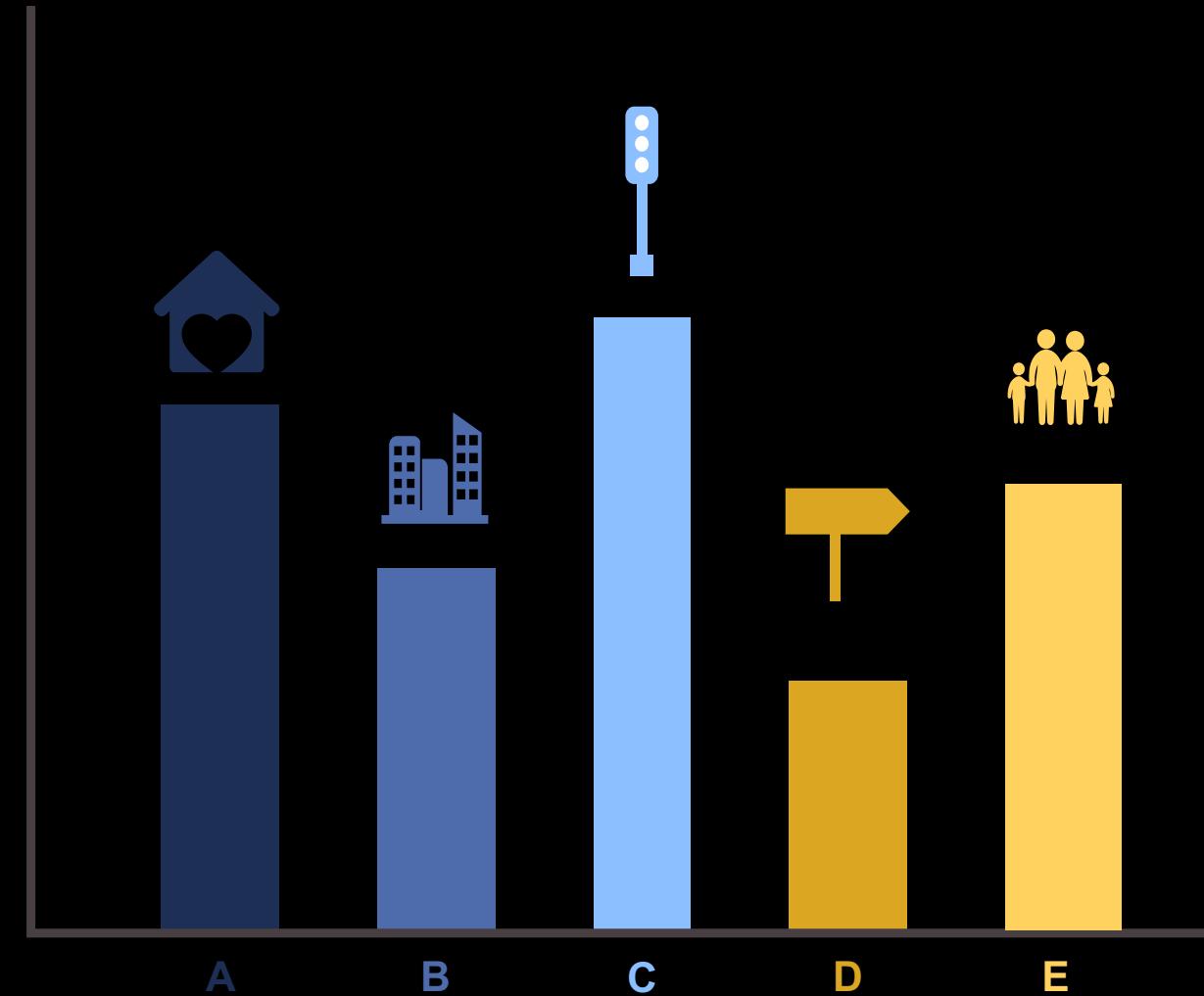
Get suggestions
SUGGESTIONS alternative
routes to bypass unsafe areas

STAY CONNECTED

Share your live
journey with
family & friends



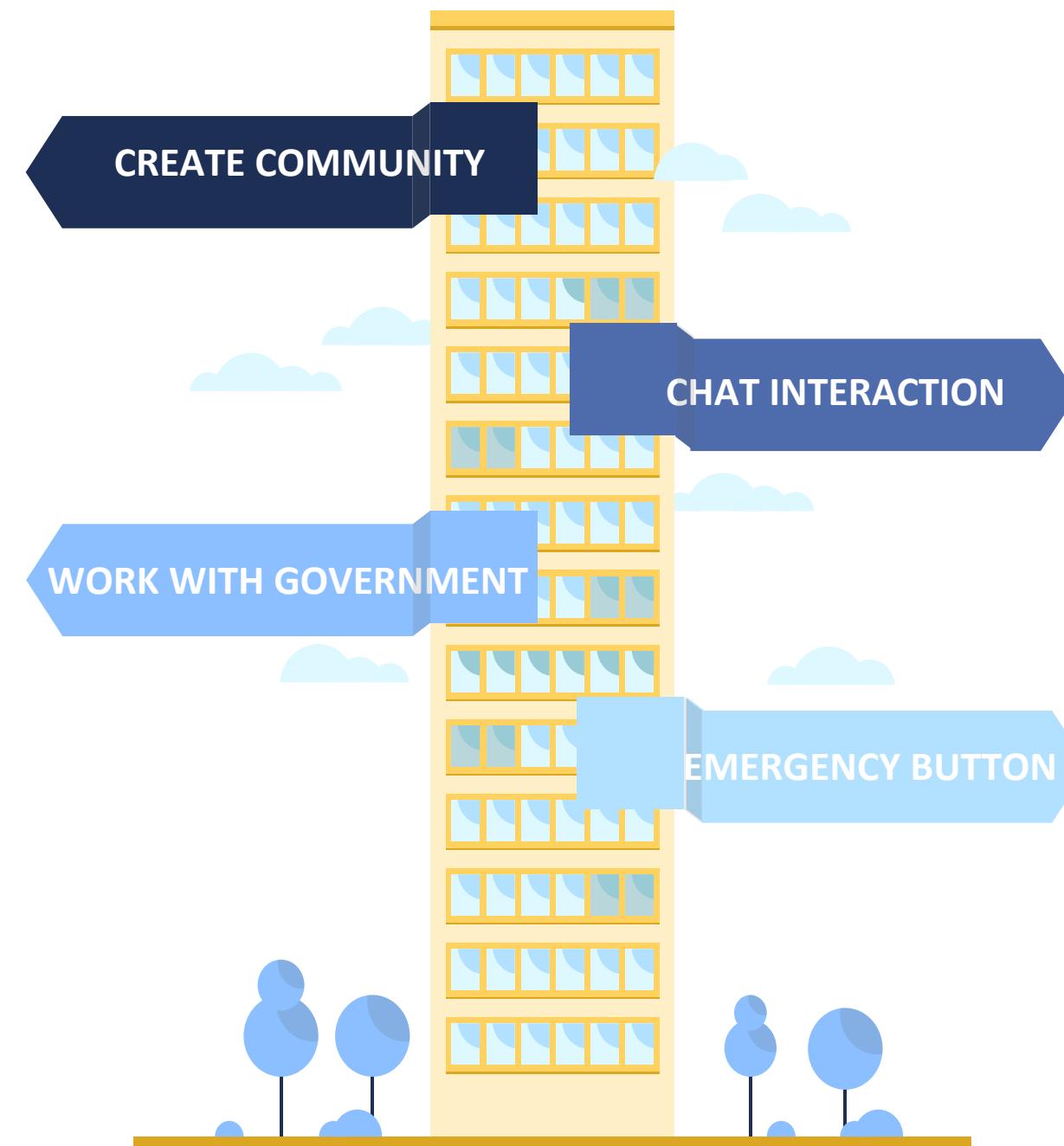
OUTLOOK



ENRICH PRODUCT FEATURES

Create a neighborhood community which looks after one another

Share insights with government to improve overall city development



Add chat functionality to share knowledge and images for missing & wanted reports

Add emergency dial button to directly connect to 911 and send a notification to a family member



Thank you.

Team A

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