ADHAWK

UNSEEN DATA, VISIBLE PROTECTION

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Meet the Team

Name: Chris Luczywek
Title: Data Engineer
Speciality: Machine Learning

Name: Ana Kritikos
Title: Technical Engineer
Speciality: Adtech Data

Name: Bryan Clark
Title: Analyst
Speciality: Intelligence Collection

Name: Alex Fink
Title: Consultant/Analyst
Speciality: IT Infrastructure/ Anti-human trafficking

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Problem and for Whom

Human Trafficking

- $150–$300 Billion industry worldwide.
- 27 million people are exploited for labor, services, and sex annually.

Ineffective Crime Detection

- Traditional crime data is often limited and fragmented
- Existing solutions lack comprehensive data integration

Our Solution

- **Unique Data Source:**
  - Vast, rich dataset not typically utilized
- **Machine Learning Integration:**
  - Analyzes large volumes of data & identifies subtle patterns
- **Proactive Detection**:
  - Detect early indicators for proactive intervention
- **Comprehensive Analysis:**
  - Holistic view of potential criminal activity

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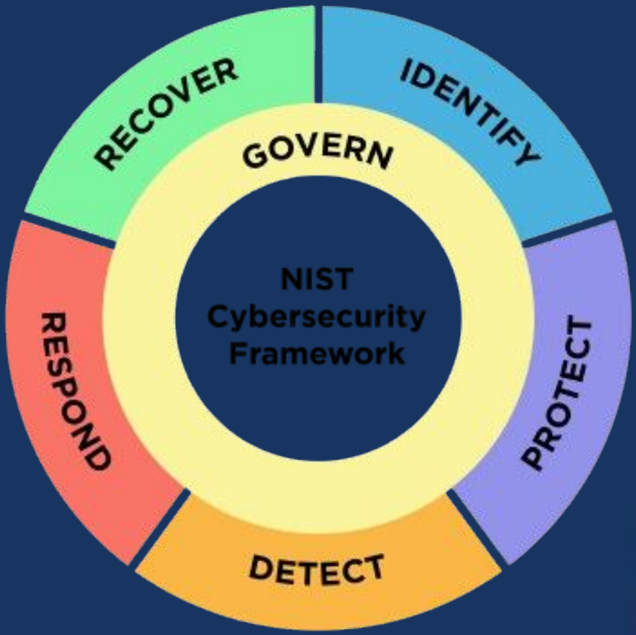
Cyber Security Relation

- Data Protection and Privacy
  - Highly sensitive data
  - Can be attributed to victims as well
- System Security
  - Secure by design
  - Threat Modeling
- Ethical use of Technology
  - SLA
  - Data Regulations



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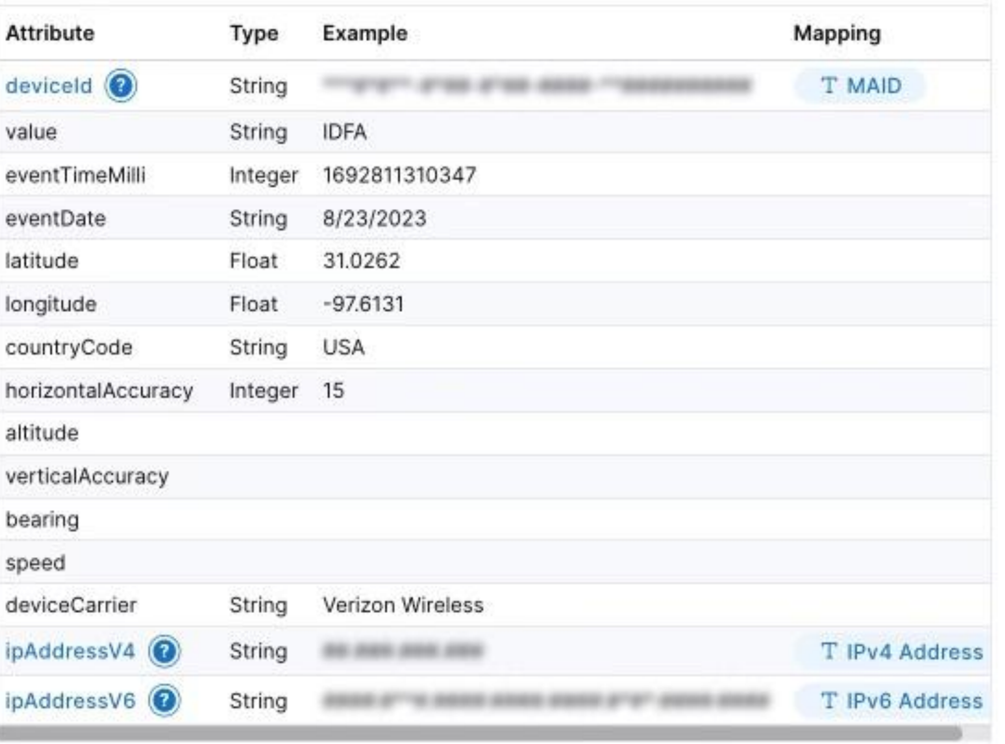
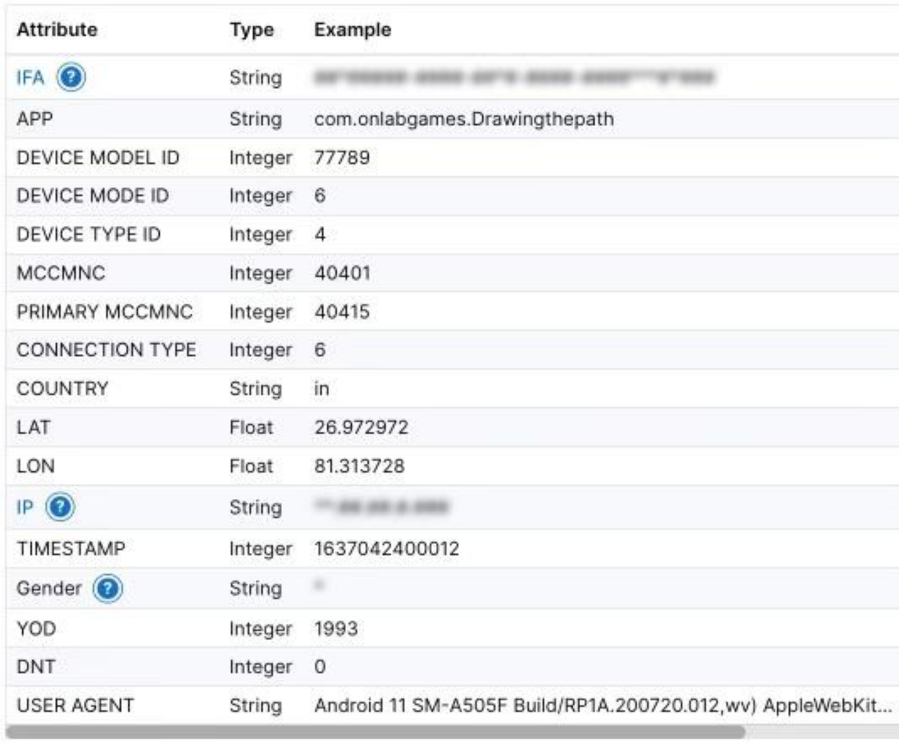
What is AdTech?

- Consent based, anonymized data utilized for advertising
- Generated via a device and attached to bundles of data generated through apps and websites used – this creates a marketing profile
  - Locations, cookies, ad clicks, etc. (all websites collect different information)



Attribute	Type	Example	Mapping
deviceId	String	[redacted]	MAID
value	String	IDFA	
eventTimeMilli	Integer	1692811310347	
eventDate	String	8/23/2023	
latitude	Float	31.0262	
longitude	Float	-97.6131	
countryCode	String	USA	
horizontalAccuracy	Integer	15	
altitude			
verticalAccuracy			
bearing			
speed			
deviceCarrier	String	Verizon Wireless	
ipAddressV4	String	[redacted]	IPv4 Address
ipAddressV6	String	[redacted]	IPv6 Address



Attribute	Type	Example
IFA	String	[redacted]
APP	String	com.onlabgames.Drawingthepath
DEVICE MODEL ID	Integer	77789
DEVICE MODE ID	Integer	6
DEVICE TYPE ID	Integer	4
MCCMNC	Integer	40401
PRIMARY MCCMNC	Integer	40415
CONNECTION TYPE	Integer	6
COUNTRY	String	in
LAT	Float	26.972972
LON	Float	81.313728
IP	String	[redacted]
TIMESTAMP	Integer	1637042400012
Gender	String	[redacted]
YOD	Integer	1993
DNT	Integer	0
USER AGENT	String	Android 11 SM-A505F Build/RP1A.200720.012,wv) AppleWebKit...

Setting the Scene: The Scenario

- This demo is based on an analyst that has identified three points of interest
- AdHawk geofenced and pulled three months of data from each locations and fed to Machine Learning model
- Machine Learning model utilized an anomaly algorithm to identify suspicious behavior
- AdIDs highlighted by Machine Learning model are fed back to analyst dashboard

Persona Title	Responsibilities	Needs	Objectives
Analyst Alice	Monitoring and alerting on suspicious data for early warning signs and predictions; focused on identifying trends in human trafficking activities	Near real-time data; ability to export reports; in-depth analysis	Analyze historical adtech data to find criminal patterns

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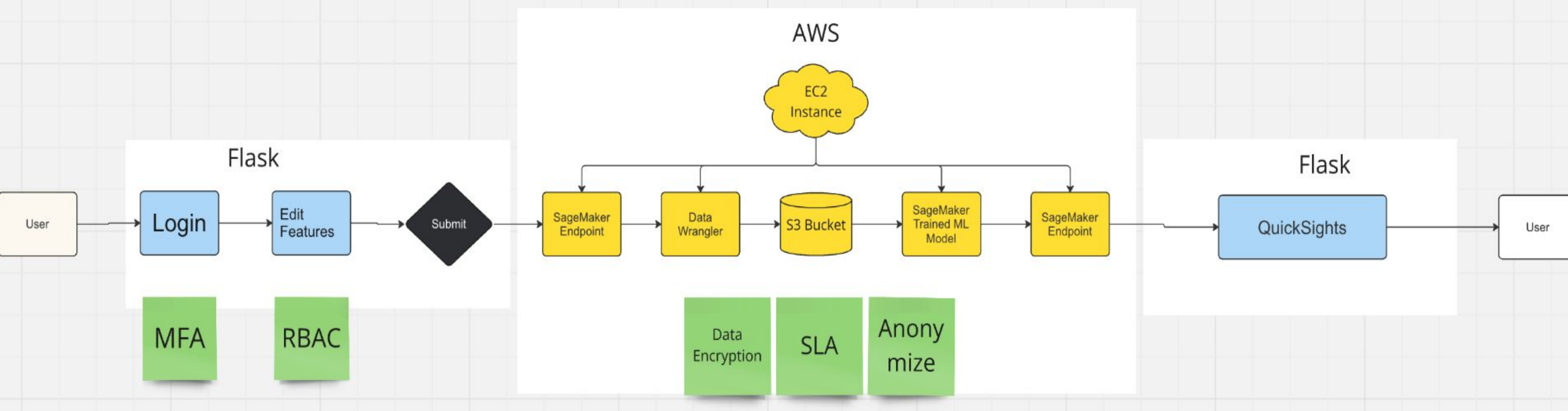
Architecture & Secure by Design

STRIDE

- Implement MFA to mitigate unauthorized access
- Data encrypted in transit and at rest to prevent data leakage
- Role-based access control (RBAC) and regular audits to prevent data manipulation
- Zero trust architecture that verifies every access request and data upload
- Automated incident response



Future Vision

Automated data integration that provides real-time actionable insights, bridging the gap between physical surveillance and digital data

- Beyond Human Trafficking:
  - Detect patterns in various crimes and identify unusual activities or behaviors that could indicate threats
- Connecting Physical and Digital Footprints
  - Adding additional data sources to alleviate the need for the analyst to connect the two

Thank You!

Contact Us

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