

# Intelligence Gathering



**Amit kumar**  
**Associate Professor,**  
**IGNFA**

101010010001011011110011011010100101110101101010111110110100111010011101001011010  
10110101001010101010110110101001010101011011010100101010101011011010100101010110110101001010  
1101101010010101010110110101001010101011011010100101010101101101010010  
1010100100010110111100110101101010010111010110101011111011010011101001011010  
10110101001010101011011010100101010101101101010010101010110110101001010  
110110101001010101011011010100101010101101101010010101010101101101010010



- Intelligence is the product resulting from the collection, collation, evaluation, analysis, integration, and interpretation of collected information.



# Intelligence Gathering Cycle



# Need

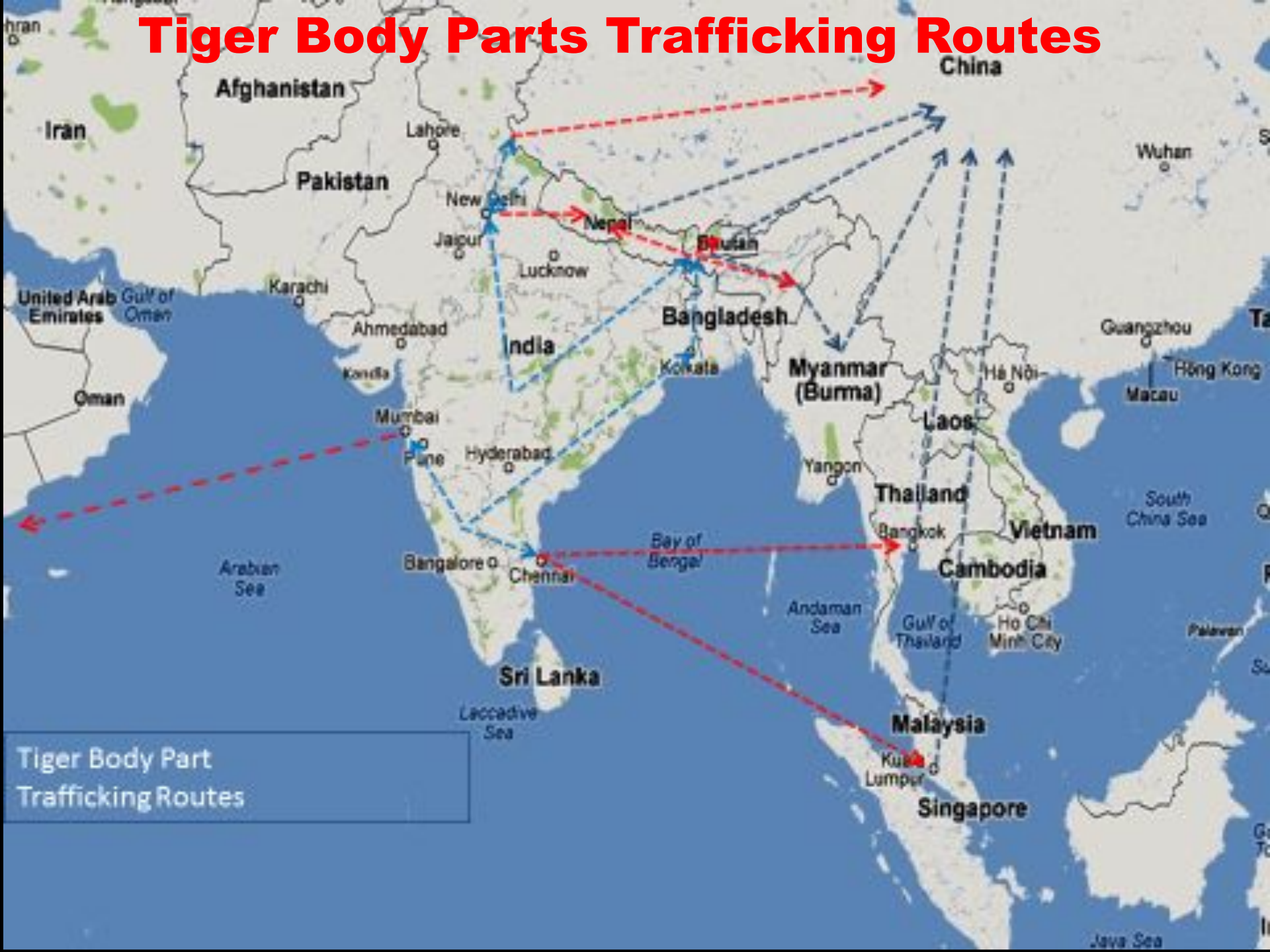
- To Combat various situations like,
- Poaching
- Illegal Mining
- Illicit Felling
- Encroachment
- Forest Fire
- Disease Spread etc.



# Tiger Cases 2010-2015



# Tiger Body Parts Trafficking Routes



Tiger Body Part Trafficking Routes



# Multiple Agencies

- WCCB
- TRAFFIC INDIA
- Others like : CBI, Interpol, SSB, Local Police etc.



# Methods

- Art and Science.
- Liaisoning with local works well.





# Technology in **Prevention** of Wildlife Crime



# Electronic E-eye



- Monitoring the movement of wild animals of a specific size.
- Monitoring the movement of staff
- Monitoring the movement of poachers.

# UAV- Drone



- Monitoring the movement of wild animals of a specific size.
- Monitoring the movement of staff
- Monitoring the movement of poachers.



# Mikroopters



Mikroopters are universal aerial platforms that hover. They can identify a position and hold it as long as necessary to identify images, collect data, or calculate distances. They are equipped with GPS, compasses, altitude control, telemetry

# Camera Traps



- Capturing images of Wildlife.
- Capturing the images of staff passing through the camera
- Capturing the images of poachers passing through the camera



# Acoustic Traps



Acoustic Traps use “echo technology” to monitor sharp disturbances such as gun shots, chain saws, truck engines, blasts etc. using monolithic sensors.



# Metal Detectors



Metal Detectors used in the protected areas help locating leg hold traps and wire snares fixed by poachers.

# Use of Automated Spray Gun



Use of automated spray guns using odorless mist which is not visible otherwise. Handheld Scanners are used to detect the suspects in a mob when needed.

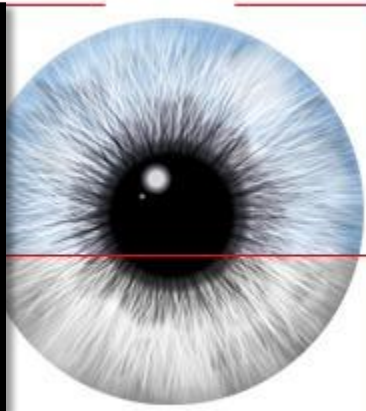
# Video/CCTV camera



Use of Video Camera/CCTV Camera attached to matching software to detect habitual offenders moving within the vicinity of protected areas.



# Biometric Details



Biometric database of habitual offenders on a shareable server would become handy for enforcement officials to detect habitual offenders when detected.

# SMART- Spatial Monitoring and Reporting Tool



One Solution

SMART empowers protected area managers by converting patrol data and intelligence into useful information about poaching and helping to plan a strategic response.



# GPS instrument



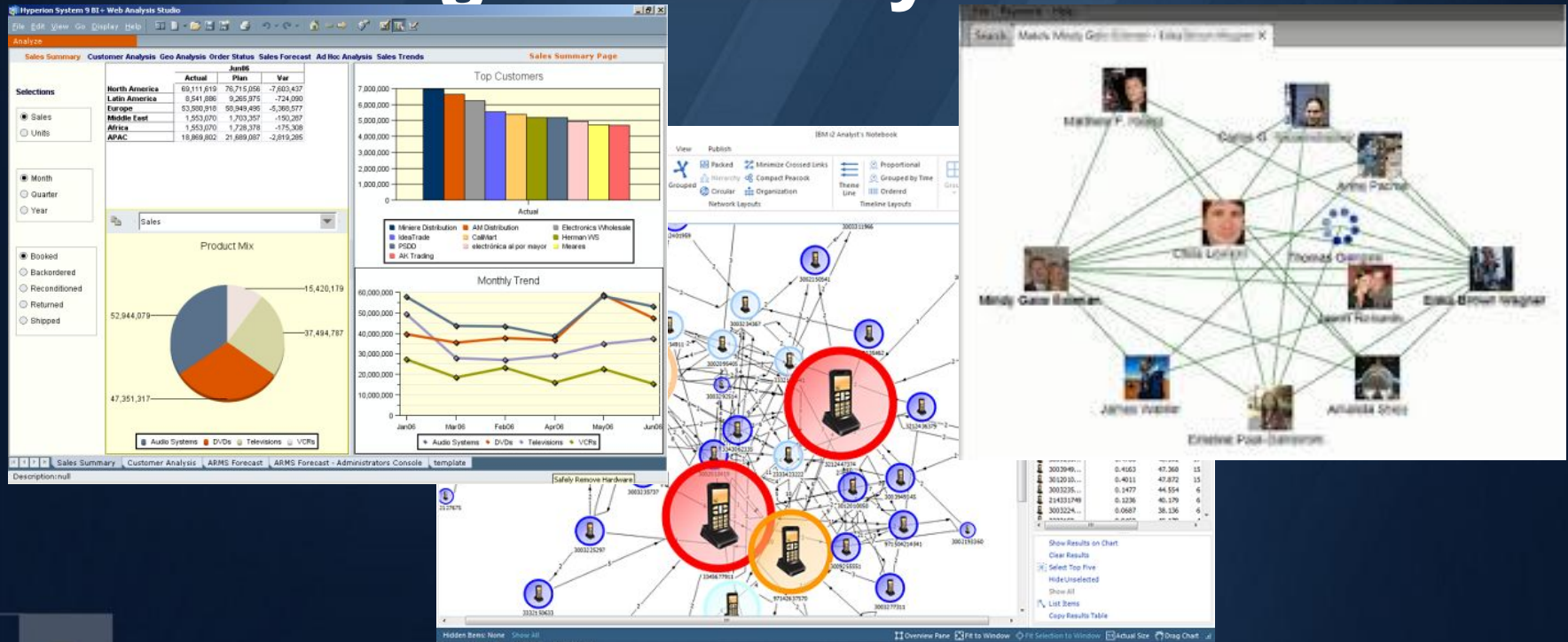
Hand held GPS instruments are used to locate geographical locations on the ground



# Illegal Trade Database

- Database on illegal trade, crime and criminals are essential to initiate preventive steps. Most of the database available are from voluntary contributors limited to specific countries.
- ERIS- Elephant Trade Information System (Managed by TRAFFIC on behalf of the CITES Parties) is used to track confiscated records involving elephant products.

# Intelligence Analysis Software



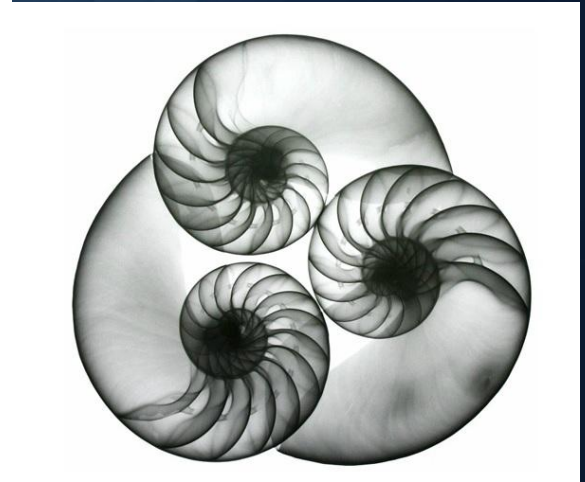
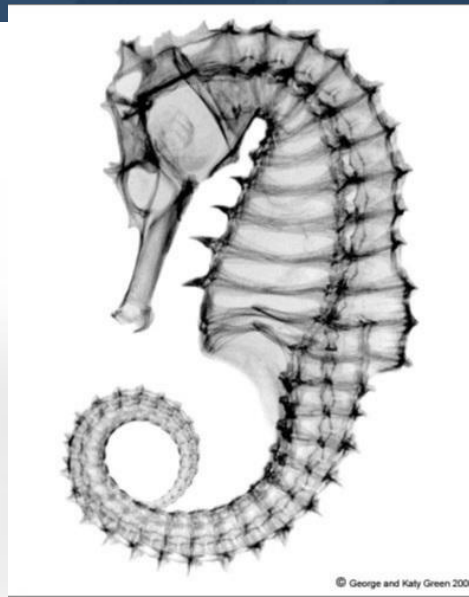
Intelligence Analysis Software is used to analyze information collected from overt and covert sources to actionable intelligence which can be used to prevent crime

# Technology in **Detection** of Wildlife Crime





# X-Ray Scanners



X-Ray Scanners at the transit areas are placed to scan baggage's to detect any contraband in transit

# Detection using Mobile Phones



Call Detail Records

LATITUDE	LONGITUDE	DATE	TIME	NUMBER	NAME	DURATION
44.50880 N	73.18223 W	1/28/2008	0917	802-555-1234	Chittenden Bank	0:10:17
44.50880 N	73.18223 W	1/28/2008	0942	802-555-8673	Poopsie LaRue	0:01:03
44.50880 N	73.18223 W	1/28/2008	0945	802-555-9201	Hanley Strappman	0:05:32
44.27834 N	73.21263 W	1/29/2008	2205	802-555-7758	Verizon Voice Mail	0:01:13
44.27834 N	73.21263 W	1/29/2008	1532	802-555-4492	Widgets LLC	0:03:47
44.27834 N	73.21263 W	1/29/2008	2209	802-555-7758	Verizon Voice Mail	0:00:36
44.50880 N	73.18223 W	1/30/2008	0830	202-555-1818	British Embassy	0:18:12
44.27834 N	73.21263 W	1/30/2008	2208	802-555-7758	Verizon Voice Mail	0:00:53
44.27834 N	73.21263 W	1/30/2008	2211	802-555-8673	Poopsie LaRue	0:06:18
44.50880 N	73.18223 W	1/31/2008	0903	202-555-1843	British Embassy	0:03:21
44.50880 N	73.18223 W	1/31/2008	0908	416-555-9834	British Embassy	0:22:04
44.4143 N	73.03561 W	1/31/2008	1047	802-555-9201	Hanley Strappman	0:01:02
44.4143 N	73.03561 W	1/31/2008	1050	213-555-2761	M. Fendell	0:09:06
44.25295 N	72.58229 W	1/31/2008	1127	802-555-9201	Hanley Strappman	0:05:38

Technical Surveillance and Call Data Records used to detect suspects involved in illegal wildlife crime



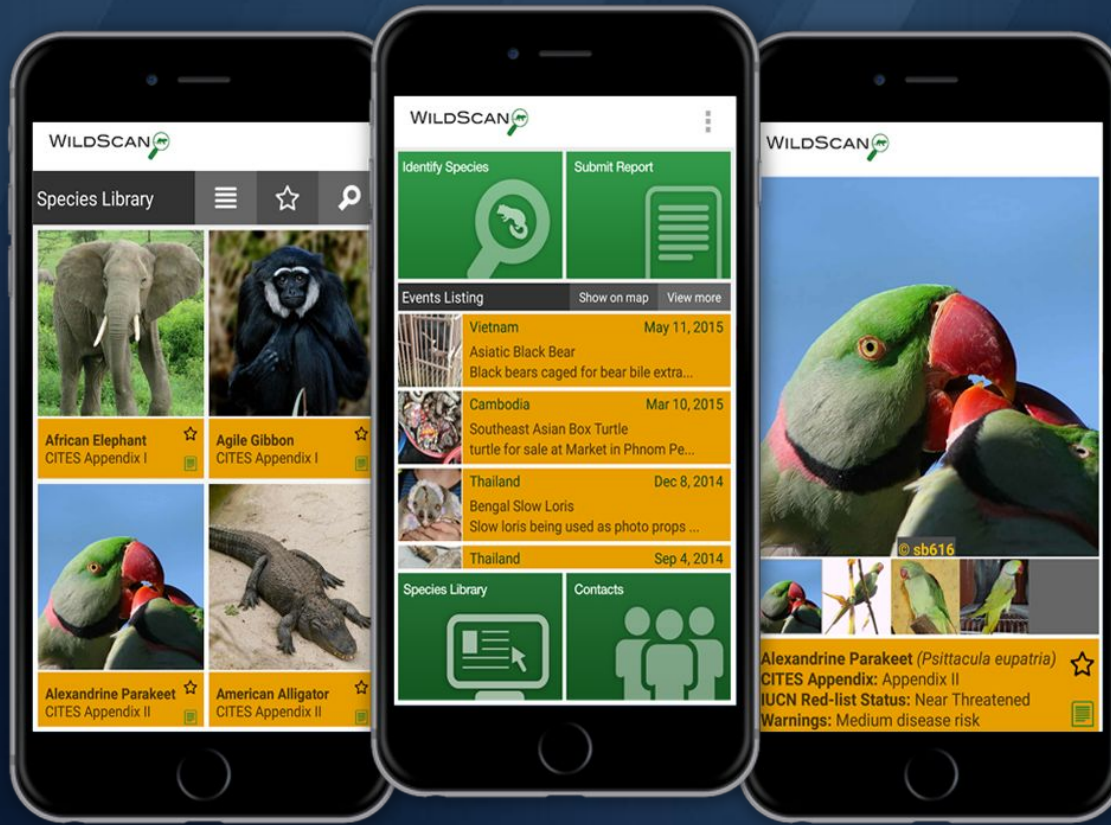
# Cyber Patrolling over E-Commerce sites



**Online illegal wildlife material offered for sale is detected using Cyber patrolling with keywords based search**



# Mobile based Applications



Mobile based application is used to identify species on detection of offence Eg. **WILDSCAN** App. By Freeland Foundation

# Illegal Wildlife Trade in the Darknet



- The **dark web** is the World Wide Web content that exists on darknets, overlay networks which use the public **Internet** but which require specific software, configurations or authorization to access.
- Darknet hubs and market place are used by illegal wildlife traders for illegal transactions

# Technology in Investigation of Wildlife Crime





# Detection using Mobile Phones



Call Detail Records

LATITUDE	LONGITUDE	DATE	TIME	NUMBER	NAME	DURATION
44.50880 N	73.18223 W	1/28/2008	0917	802-555-1234	Chittenden Bank	0:10:17
44.50880 N	73.18223 W	1/28/2008	0942	802-555-8673	Poopie LaRue	0:01:03
44.50880 N	73.18223 W	1/28/2008	0945	802-555-9201	Hanley Strappman	0:05:32
44.27834 N	73.21263 W	1/29/2008	2205	802-555-7758	Verizon Voice Mail	0:01:13
44.27834 N	73.21263 W	1/29/2008	1532	802-555-4492	Widgets LLC	0:03:47
44.27834 N	73.21263 W	1/29/2008	2209	802-555-7758	Verizon Voice Mail	0:00:36
44.50880 N	73.18223 W	1/30/2008	0830	202-555-1818	British Embassy	0:18:12
44.27834 N	73.21263 W	1/30/2008	2208	802-555-7758	Verizon Voice Mail	0:00:53
44.27834 N	73.21263 W	1/30/2008	2211	802-555-8673	Poopie LaRue	0:06:18
44.50880 N	73.18223 W	1/31/2008	0903	202-555-1843	British Embassy	0:03:21
44.50880 N	73.18223 W	1/31/2008	0908	416-555-9834	British Embassy	0:22:04
44.4143 N	73.03561 W	1/31/2008	1047	802-555-9201	Hanley Strappman	0:01:02
44.4143 N	73.03561 W	1/31/2008	1050	213-555-2761	M. Fendell	0:09:06
44.25295 N	72.58229 W	1/31/2008	1127	802-555-9201	Hanley Strappman	0:05:38

- Technical Surveillance and Call Data Records are used to investigate linkages involved in the criminal act.
- Identification of location of criminal using call data.
- Identification of suspects using call data.

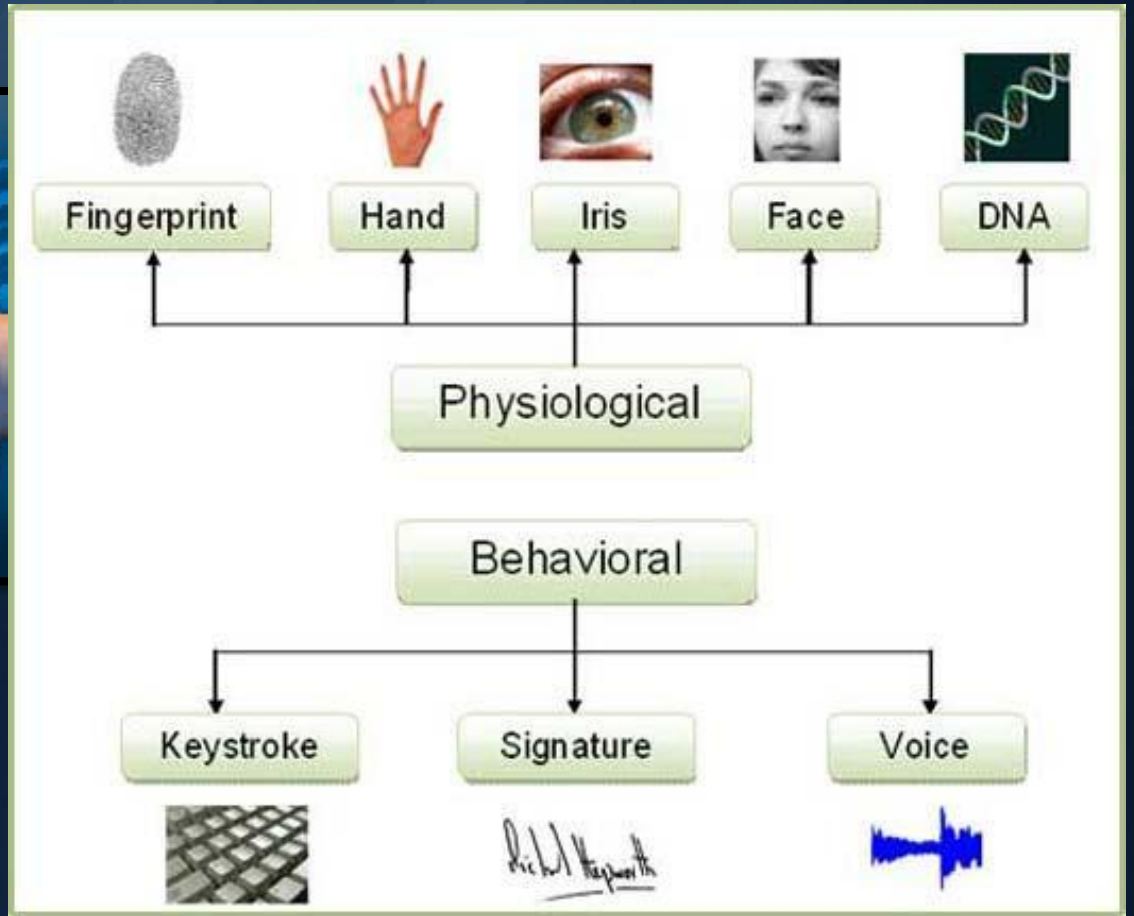
# Digital Forensics



Evidences are extracted from digital media during investigation of crime



# Biometrics for details of criminals





# GPS instrument



Hand held GPS instruments are used to map locations of scene of crime and movement location of the criminals

# DNA Finger printing

- DNA fingerprinting allows identification of an individual or species.
- Individual identification for matching tissue samples from an illegal kill site to samples associated with suspect.
- Species identification of unknown tissue samples involved in illegal commercialization and poaching.
- Includes identification of mixed game products – packed meats.
- Sex identification to enforce the violations of the wildlife Law.



**Thank You**

