

Crimes associated with the Mobile Phones



Omveer Singh, GCFA
Additional Director / Scientist 'E'

Cyber Forensics Lab
Indian Computer Emergency Response Team (CERT-In)
Department of Information Technology
Ministry of Communications & Information Technology
Government of India
New Delhi

Mobile phone v/s computers

- Advanced mobile phones have the facility of e-mail & internet
- Smartphones are having the most used features of a small computer
- Most of the cyber crimes being carried out by using computer can also be carried out by an advanced mobile phone or smartphone
- Portability and easy connectivity of mobile phone makes it a versatile tool in the hands of criminals

Some common cyber crimes

- Cyber bullying – calls, SMS, chats
- Cyber stalking
- Cyber harassment
- Cyber frauds
- Identity theft
- Net extortion
- Charity frauds
- Credit card frauds
- Nigerian / 419 frauds

Charity Frauds

- Preys on the kindness of the society
- Take advantage of sympathies for the victims of national tragedies & natural disasters
 - floods, droughts, earthquakes, sunami, cyclones, etc.
- Seek donation for the charities for the victims through SMS, e-mails & internet

Mobile Phones and Crimes

- There are 3 ways that a mobile phone can be linked to crimes
 - It can be used as a communication tool in the process of committing a crime
 - It can be a storage device which contains a digital evidence related to a crime
 - It can be a means of committing a crime
 - SMShing
 - (Sexual) Harassment

Mobile Phones: Traditional Crimes

- Mobile devices theft
- Phone call details between accomplices
- Phone calls for (sexual) harassment
- Phone Cloning
 - subscribers' information stolen from a mobile phone carrier was used to create cloned phones in Korea (2004)

Mobile Phones: Cyber Crimes

- Data stored in mobile phones
 - Phone call lists, contacts, SMS, images, etc.
- SMSing (SMS + Phishing)
- SMS circulating via cell phones contains a link to a site that downloads a Trojan horse

Cellphone Stalking

- Threatening SMS / Calls
- Sending Obscene SMS / MMS / images
- Abusive/excessive phone calls
- Harassment over SMS / calls
- Physical assault
- Cloning of SIM Cards

Theft of mobile phones

- Financial loss
- Free calls till disconnection
- Money from resale of mobile phones
- SMS to contacts in phonebook – in distress abroad, transfer money in my friends given account

Rechipping of Mobile phones

- Easy resale of stolen cellphones
- Can be used by criminals to make anonymous & untraceable free calls
- New ESN (CDMA) / IMEI (GSM) No. is installed on the stolen handset, so its identity is changed, almost impossible to trace
- Using key combination from keyboard (ESN) or by connecting to a computer and using relevant software to reprogram the chip

Cloning of a mobile phone

- Programmed to impersonate a mobile phone owned by a legitimate subscriber
- It's ESN No. and Mobile Phone No. is installed in the cloned mobile phone (CDMA) or SIM Card is cloned
- Fraudulent calls made over the cloned mobile phone are billed to the legitimate subscriber

Subscription frauds

- user subscribe a mobile phone with false identity
- May use and pay the bills under complete anonymity
- May make free calls till disconnection due to non payment

Cellphone Camera

- Taking other's photos without consent
- Making obscene MMS
- Capturing photos of other's credit card (for fraudulent use later)

References

- “Mobile Forensics: Guidelines and Challenges in Data Preservation and Acquisition” by Shivankar Raghav and Ashish Kumar Saxena
- Wikipedia – The Free Encyclopedia
<http://en.wikipedia.org/>
- “Forensic Analysis of Mobile Phones” by Paul McCarthy
- “Forensics – Tools”; <http://www.forinsect.de/index.html>
- <http://www.mobileforensicsworld.org>
- An Overview of Cyber Crime in India – February 2012 by Michela Menting (<http://www.academia.edu/>)

(Note: The information provided in this presentation has been compiled from the freely available online resources)

References (contd..)

- Guidelines on Cell Phone Forensics by Wayne Jansen, et al; a special publication by NIST
- Cell Phone Forensic Tools: An Overview and Analysis by Rick Ayers, et al; NIST
- Mobile Phone Forensics: Challenges, Analysis and Tools by Amjad Zareen, et al; 5th IEEE International Workshop (2010) on Systemic Approaches to Digital Forensic Engineering (pp. 47-55)
- Mobile Forensics: an Overview, Tools, Future trends and Challenges from Law Enforcement perspective by Rizwan Ahmed, et al. (2008, pp. 312-323)

(Note: The information provided in this presentation has been compiled from the freely available online resources)