Terrorist Attacks: Impact on Networks and Their Misuse

By:

Mrudula Putcha

Department of Electrical Engineering & Computer Science

EECS 983 Class Presentation

mrudula@ittc.ku.edu

Terrorist Attacks: Impact on and
Misuse of Networks

Terrorist Attacks
Abstract

This presentation deals with the effect of terrorist attacks on networks and how networks are some times misused to plan and carry out these attacks. This presentation covers major attacks such as the 9/11, 7/7 and 26/11.

Terrorist Attacks:
Outline

- Introduction
- 9/11 - United States
- 7/7 - London, England
- 26/11 - Mumbai, India
- Conclusion

Terrorist Attacks:
Introduction

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Terrorist Attacks:
Introduction

- Attacks cause extensive damage to infrastructure
- In major attacks preparedness
  - of the govt. to deal with the calamity tested
  - of the emergency teams to coordinate is tested
- A good interoperable radio system most helpful
- Abuse of networking technology- the new trend
- Stricter norms and monitoring required

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Terrorist Attacks: Impact on and Misuse of Networks

Terrorist Attacks:
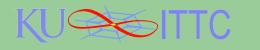## September 11 2001 - United States

- Four planes were hijacked
  - American 11 and United 175 from Boston, bound to LA
  - American 77 from Washington Dules, bound to LA
  - United 93 from Newark also bound to LA
- Many of the 19 terrorists triggered security alarms
- But they passed the manual check

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Terrorist Attacks:
September 11 2001 - United States

- First flight to be hijacked, American 11
- Lost contact with ATC at around 8:14 AM
- This, assumed to be the time hijack started
- Most the of the scene later reconstructed
  - info came from Betty Ong and Amy Sweeney
- Hijackers gained control of cockpit quickly
- At around 8:19 AM, Betty Ong
  - used AT&T air phone to contact AA office in NC
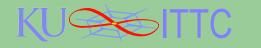 - this call lasted 25 min, gives most info about the hijack

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Terrorist Attacks:
September 11 2001 - United States

- Attendants constantly in touch with ground staff
- At 8:41 AM , American 11 declared hijacked
- At 8:44, Attendant Sweeney reported to AA office
  - that they were flying "way too low"
- At 8:46 AM, American 11 hit North Tower
- United 175 took off at 8:14 AM
- Hijacked around 8:42 AM
  - most reports from attendants using on board phones
  - and passengers using their cell phones

Terrorist Attacks:
September 11 2001 - United States

- At 8:59 AM, two passengers contacted families
- At 9:03, United 175 struck South Tower
- Documented by most news channels live

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Terrorist Attacks:
September 11 2001 - United States

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Terrorist Attacks:
September 11 2001 - United States

- Third flight, American 77 hijacked around 8:54 AM
- Passenger phone calls around 9:12 confirmed hijack
- At 9:34, plane found heading towards White House
- At 9:37, plane crashes into Pentagon at 530 mph
- United 93 hijack attempt at 9:28 AM
- Info to passengers about other hijack from families
- FAA and Airlines failed to act in time
- Passengers revolted and foiled a possible attempt
  - to crash the plane in either the White House or Capitol

September 11 2001
The Aftermath

- Most federal agencies and officials
  - realized this was a planned attack only through CNN news
  - started an air threat conference call at 9:37 AM
  - FAA had equipment and secure phone number problems
- Many networking companies affected
  - Paging Network Inc. (New York)
  - General Telecommunications
  - Network Plus
  - Broadview Networks

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September 11 2001
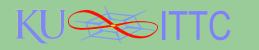## Networking Companies Affected

- Verizon Communications
    - they were one the most affected companies
    - they had leased offices on South Tower
    - 7 World Trade Center, their headquarters
        - extensively damaged due to twin tower collapse
    - resulted in heavy loss of infrastructure and man power
    - primary office with 200,000 lines and 3 million private lines damaged
    - Verizon experienced 50-100% call traffic increase

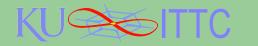Terrorist Attacks: Impact on and Misuse of Networks

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- Introduction
- 9/11 - United States
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- 26/11 - Mumbai, India
- Attacks in developing countries
- Conclusion

Terrorist Attacks: Impact on and Misuse of Networks

July 07 2005
London Tube Bombings

- Suicide bombers attack London public transport
- Three explosions on underground tube at 8:50AM
- Fourth explosion on double-decker bus at 9:47AM

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July 07 2005
London Tube Bombings

Courtesy: DailyMail

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July 07 2005
London Tube Bombings

- Underground explosions resulted in power outage
  - passengers could not communicate with the drivers
  - contact could not be established with outside world
  - led to chaos inside the tubes
  - with rumours of fire and a head on collisions
  - no communication between drivers and line controllers
    - due to antiquated radio system
    - any form of direct communication from affected trains would have made relief efforts easier

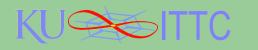Terrorist Attacks: Impact on and
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July 07 2005
London Tube Bombings

- Radios inoperable due to damage to antenna
- Deployment for digital radios propsed
  - will take upto 20 years and £2 billion
- On July 7 2005
  - communication between victims and workers non-existent
  - workers had to run back and forth between platforms
  - communication with colleagues and supervisors was tough
  - hampered the pace of rescue efforts

Terrorist Attacks: Impact on and
Misuse of Networks

July 07 2005
London Tube Bombings

- British transport police only emergency team with radios that can operate underground
- Damaged antenna rendered this impossible
- CONNECT will enable use of TETRA based radios
- Not completely deployed yet

Terrorist Attacks: Impact on and Misuse of Networks

July 07 2005
London Tube Bombings

- Impact on private service providers
  - Vodafone experienced a 250% increase in calls
  - 100% increase in text messages
  - all networks put together, 11 million calls were made
  - 60% increase from everyday

Terrorist Attacks: Impact on and
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July 07 2005
London Tube Bombings

- Access Overload Control (ACCOLC) system
  - allows mobile network access only to emergency workers
  - like fire, police and ambulance
  - on 7/7, invoked only in a 1km radius around Aldgate
  - many key personnel didn't have specially enabled phones
  - they would have been able to make/receive calls
  - this made the system inefficient

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November 26 2008
Attacks in Mumbai

- Coordinated shootings across Mumbai, India
- More then ten places attacked including
  - Chatrapati Shivaji Terminus
  - Oberoi Trident
  - Taj Mahal Palce and Tower
  - Leopold Café
  - Cama Hospital
  - Nariman House

Terrorist Attacks: Impact on and
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November 26 2008
Attacks in Mumbai

- Attack described as the most well documented
- Used many forms of new technology
- Google-Earth was extensively used by terrorists
- The terrorists communicated with each other
  - using satellite phones
  - to ensure connectivity and anonymity

Terrorist Attacks: Impact on and Misuse of Networks

November 26 2008
Attacks in Mumbai

- Twitter and flickr were major news breakers
  - tweets urging people for blood donations
  - a Mumbai based blog provided live news updates
  - wiki page set up within minutes and updates every few min
  - web journalist created Google map of attacked places
    - while the attacks were happening
    - these might have been misused by terrorists

Terrorist Attacks: Impact on and Misuse of Networks

November 26 2008
Attacks in Mumbai

- Most news channels
  - provided uninterrupted live coverage
  - photos and videos from witnesses were encouraged
  - however these updates used by terrorists to evade capture
  - striking example, Nariman House
  - the rescue operation was broadcast live
  - thereby exposing key positions of commandos
  - Government forced to issue a media black-out

November 26 2008
Attacks in Mumbai

An NSG Commando can be seen dropping down from a helicopter. Such live images helped the terrorists in obtaining crucial info about the positions of the security forces

Courtesy: IBNLIVE

Terrorist Attacks: Impact on and Misuse of Networks

November 26 2008
Attacks in Mumbai

- Mumbai one of the many instances of technology misuse in developing countries
  - cell-phone triggered bomb blasts being most common
  - blast in German bakery in Pune, India is an example
  - blasts in Mecca Masjid, Hyd, India another
- Extensive use of cell phones by attackers
  - to obtain instructions from supervisors
  - many governments considering jamming of cell phones

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Terror Attacks
Conclusions

- Terror attacks in US, UK
  - caused damage to many mobile and internet providers
- In developing countries
  - technology seems to be abused than damaged
  - use of satellite phones, GPRS, Google maps for planning
  - less stricter norms in developing countries one reason
  - most planning happens here

Terror Attacks
References

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- *Greater London Authority Report*- Greater London Authority

- Wikepedia - *"2008 Mumbai Attacks"*

- The Telegraph, UK

- www.ciol.com – *"Technology trails of 26/11 revisited"*