

# Digital Stalking



and other Technology Threats

James A. Dill, Innovative Technology  
& Investigative Solutions, LLC

# Your Instructor

Jim Dill, Deputy Chief, Retired  
PA Office of Attorney General  
&  
President  
Innovative Technology &  
Investigative Solutions, LLC

For a PDF copy of the presentation email:

[jdill@itis-llc.com](mailto:jdill@itis-llc.com)

717-884-8167

# Goals & Objectives

- ▶ Identify common technologies that are used in everyday life that can be misused for stalking, domestic abuse, etc.
- ▶ Examine how those technologies work and what are the latest trends.
- ▶ Demonstrate how they are being misused.
- ▶ Discuss ways to prevent or mitigate their use.
- ▶ Provide investigative tips, techniques & resources.

Ultimate Goal

Safety

# I Need Your Participation!

In the form of:

- ▶ Questions????
- ▶ Experiences
- ▶ Stories
- ▶ Ideas

# Survey

- ▶ On a Scale from 1 to 5 rate your technology skills
- ▶ Social Networks?
  - How many of you are NOT on Facebook?
  - How many use Social Media?
  - How about you Family Members?

# Stalking Laws

- ▶ The federal government, all 50 states, the District of Columbia, and U.S. Territories have enacted criminal laws to address stalking.
- ▶ The legal definition for stalking varies across jurisdictions.
- ▶ A common definition is: “threatening behavior or unwanted advances directed at another using the Internet and other forms of digital and computer communications”.

# Bureau of Justice Statistics

- ▶ The BJS measured stalking behaviors as:
  - making unwanted phone calls
  - sending unsolicited or unwanted letters or e-mails
  - following or spying on the victim
  - showing up at places without a legitimate reason
  - waiting at places for the victim
  - leaving unwanted items, presents, or flowers
  - posting information or spreading rumors about the victim on the internet, in a public place, or by word of mouth.



# Digital Stalking Another Example

- ▶ Todd Hart just couldn't let go when his girlfriend announced she was moving to California for an educational opportunity. Prosecutor Michael Levy says Hart threatened suicide, but when that didn't work, the **threats and harassment** began. He targeted the woman, her family and friends with threatening calls and emails, changed the password of some online accounts and moved money from her banking accounts
- ▶ Hart was sentenced to five years in prison in Philadelphia in this frightening case of Digital Stalking.

# Department of Justice Stalking Statistics

- ▶ An estimated 5.3 million U.S. residents age 18 or older experienced behaviors consistent with either stalking or harassment in a 12 month period.
- ▶ GPS technology and other forms of electronic monitoring were used to stalk one in 13 victims.

# Case Study GPS Stalking

**Delaware County, Media, PA–Morton Businessman gets life sentence for murder**

Published: Tuesday, May 24, 2011 – DelcoTimes.com

Sean Burton was convicted of the murder of, James Stropas because he was involved in a love triangle with Burton's estranged wife.

Burton had taken to following Stropas and **used a tracking device planted on the victim's car to track him** to Olde Sproul Shopping Center in Springfield on the morning of June 21, 2010.

Burton used a butcher's knife and cut Stopas over 70 times.

# Your Phone May Also Give Up Your Location

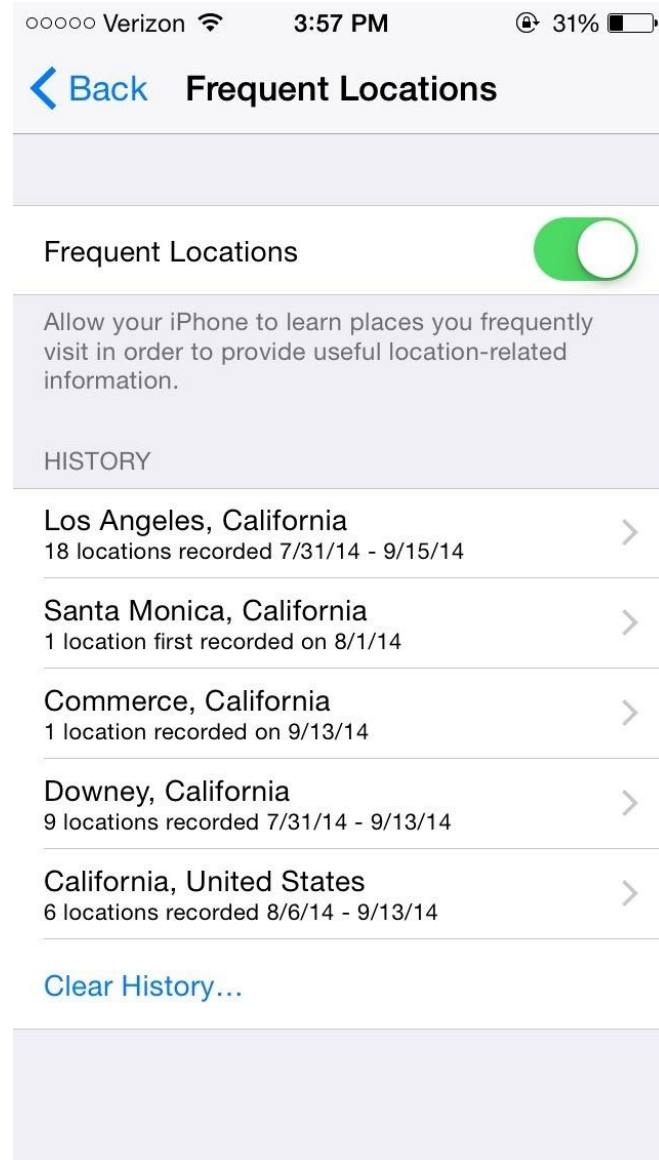
- ▶ If a person knows your phone password they can access your location history right from your phone if you haven't changed your settings.



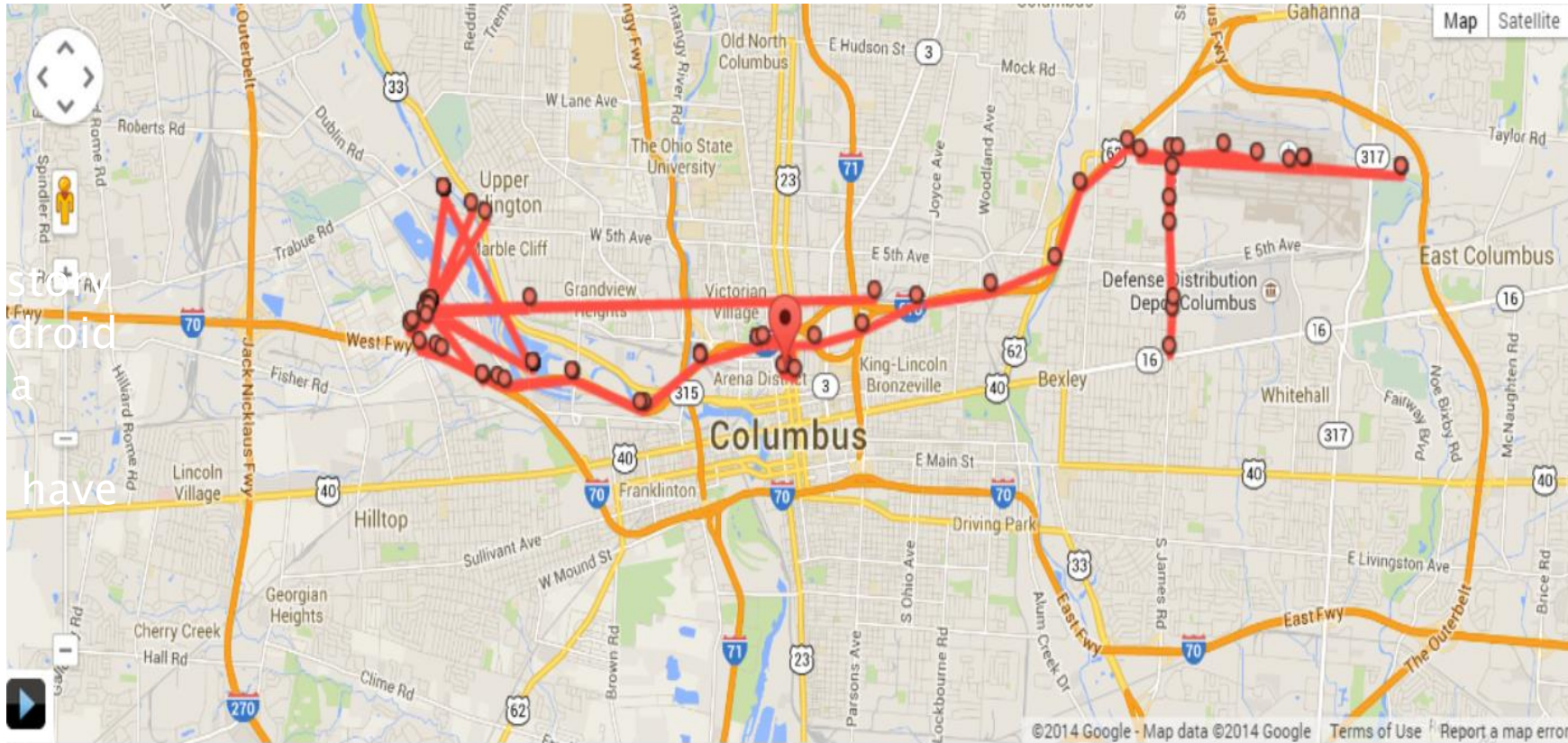
# iPhone iOS 8 & 9

The iPhone now remembers everywhere the user goes by default.

Apple has buried this function very deep.  
Settings > Privacy > Location Services > System Services > Frequent Locations.

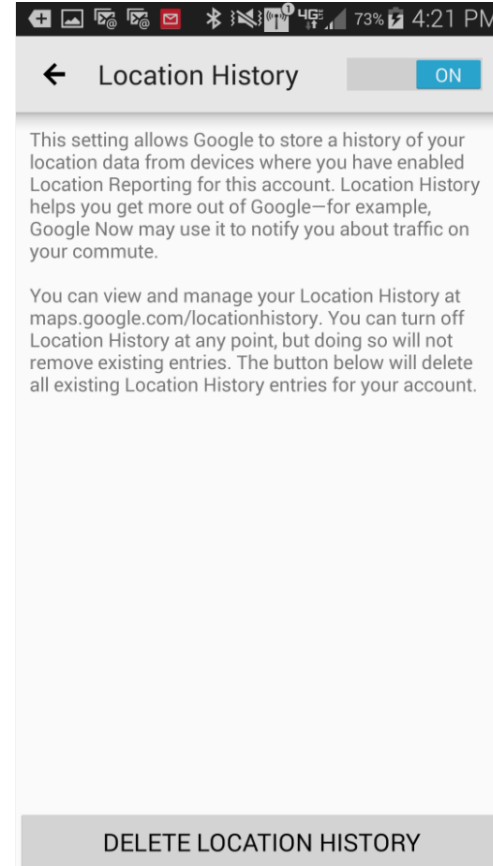
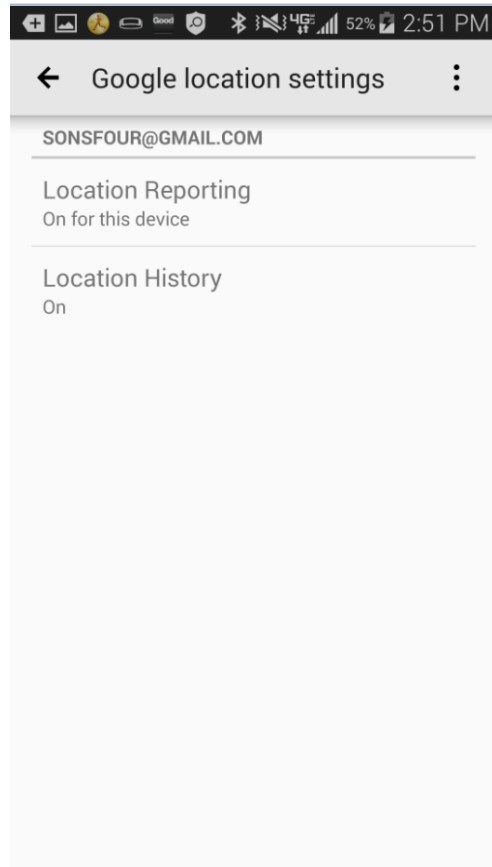


# Android Phone – Location History



[www.maps.google.com/locationhistory](http://www.maps.google.com/locationhistory)

# Location History – Android



# What Can We Do to Protect Ourselves?

## Knowledge



# What's Out There?!?

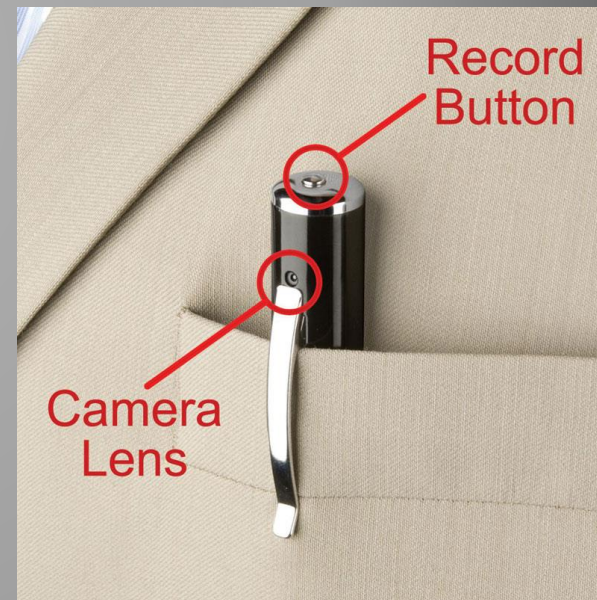
## ▶ Security Spy Gadgets

- Video Surveillance & Counter-Surveillance is being used more and more against individuals and police.
- It is readily available, inexpensive & simple to use
- Anyone with an Internet connection & a credit card can buy sophisticated surveillance/counter-surveillance tools.
- Photography & Video are legal in a public area.

# How Else Can We Being Tracked?

- ▶ Through the pictures we take.
- ▶ Via our cell phones
  - Using Spyware
  - The phone company's software
  - Smartphone Apps
- ▶ Our vehicle's GPS
- ▶ Social Networking sites
  - Using Geotagging on sites like Foursquare, Google Latitude & Facebook Places

# Photography & Video



# Photography

## ▶ Digital

- High MP Quality for cropping & enhancing
  - Normal Cameras up to 20 MP (Canon EOS 5DS ups the resolution from 22 megapixel up to 50.5 in June 2015).
  - [Nokia Lumia 1020](#)
  - <https://light.co/camera> 52 MP Camera
    - Amazing detail that provides opportunity for [new technologies](#)
  - Some as high as 1474 MP [Incredible Camera](#)
- Already infrared sensitive
- Optical & Digital Zoom Lenses
  - [Canon PowerShot SX60 HS](#) Zoom range 21– 5460 mm (4x digital)
- Image Stabilization
- Can record stills or HD video
- Tremendous storage capabilities



# Common Memory Cards



# Memory Card Capacity– Photos

Megapixels	File size (MB)	1GB	2GB	4GB	8GB	16GB	32GB	64GB	128GB
4MP	1.2	715	1430	2861	5722	11444	22888	45776	91552
5MP	1.5	572	1144	2288	4577	9155	18310	36620	73240
6MP	1.8	476	953	1907	3814	7629	15258	30516	61032
7MP	2.1	408	817	1634	3269	6539	13078	26156	52312
8MP	2.4	357	715	1430	2861	5722	11444	22888	45776
10MP	3.0	286	572	1144	2288	4577	9155	18310	36620
12MP	3.6	238	476	953	1907	3814	7629	15258	30516
14MP	4.2	204	408	817	1634	3269	6539	13078	26156
16MP	4.8	178	357	715	1430	2861	5722	11444	22888
22MP	6.6	130	260	520	1040	2080	4161	8322	16644

# What's Hidden in Your Digital Photos

➤➤ EXIF Data

# EXIF – Exchangeable Image File Format

- ▶ Camera settings and scene information are recorded by the camera into the image file.
- ▶ Often called Metadata.
- ▶ Most photo viewers can read EXIF data
- ▶ Recorded on all digital photos



# EXIF Data



Filename: ADill 2.jpg

Location: My Pictures\Family\

Size: 105KB

Date: 5/22/2010 2:14:45 PM

Property	Value
Dimensions:	555 x 832 pixels
Camera make	Panasonic
Camera model	DMC-FZ10
Camera Date	2010:05:22 14:14:45
Resolution	555 x 832
Flash	Not Used
Focal length	39.6mm
35mm equivalent	238mm
Exposure time	0.005s (1/200)
Aperture	f/4.0
ISO	50
Exposure bias	0.00
White Balance	Sunny
Metering Mode	Matrix
Exposure	Normal Program
JPEG Quality	86 (411)
Unique ID	e334e630a9c4e40ab7d8a239e8d1bc55
Unique ID(DB)	e334e630a9c4e40ab7d8a239e8d1bc55

# EXIF Data



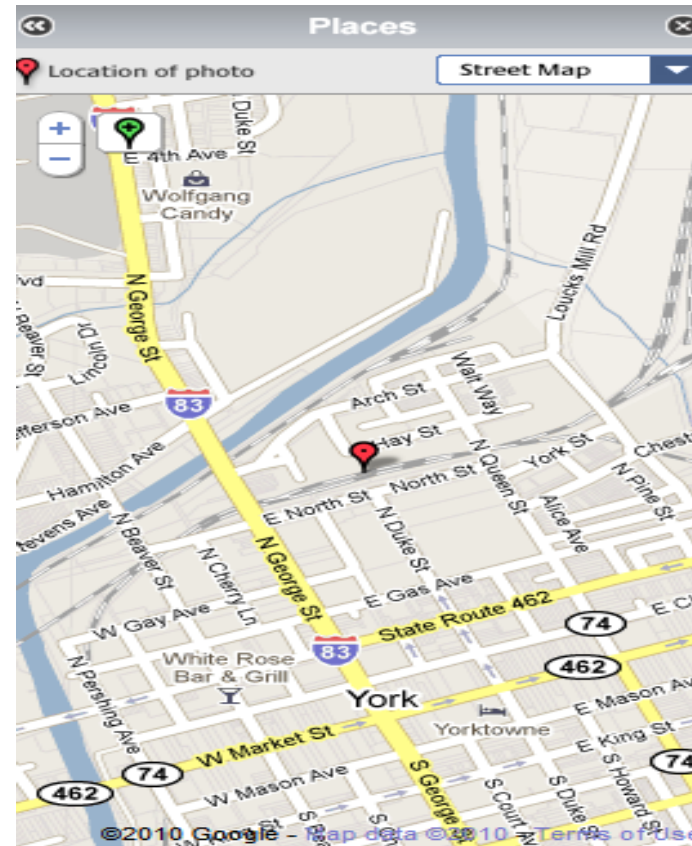
# EXIF Data with GPS

2010-08-06 18.42.20.jpg

Filename: 2010-08-06 18.42.20.jpg  
Location: My Pictures\Family\  
Size: 1.0MB Date: 8/6/2010 6:42:17 PM

Property	Value
Dimensions:	2592 x 1936 pixels
Camera make	Motorola
Camera model	Droid
Camera Date	2010-08-06 18:42:17
Resolution	2592 x 1936
Orientation	Normal
Flash	Not Used
Exposure time	0.002s (1/434)
Aperture	f/2.8
ISO	68
Exposure bias	0.00
White Balance	D55
Metering Mode	Center weight
Exposure	Normal Program
Thumbnail	320 x 240 pixels
GPS Latitude	39 58\ '3" N
GPS Longitude	76 43\ '41" W
Unique ID(DB)	83b20092d4aa0f790000000000000000

OK



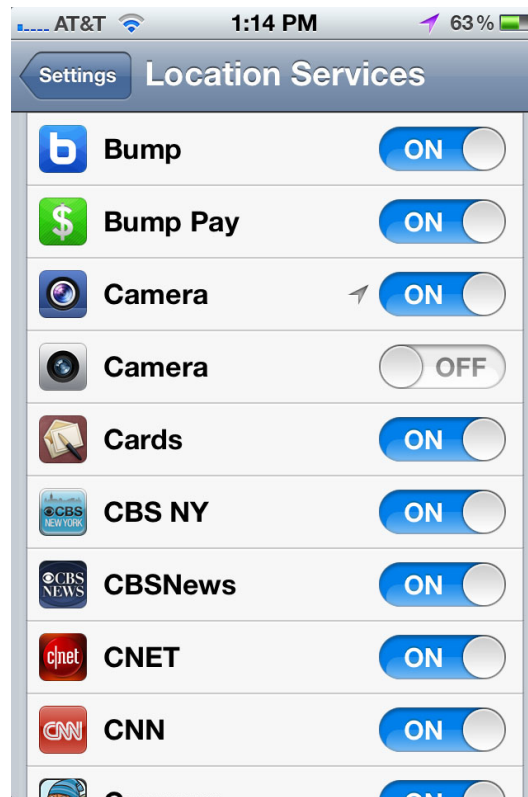
DEMO

# EXIF Location Data Demo

- ▶ My Photos
  - Windows Photo Viewer
  - Picasa
- ▶ <http://www.flickr.com/map>
- ▶ [EXIF News Report](#)

# Solutions

- ▶ Turn off GPS on phone's camera for photos.
  - Go into your phone's camera, location, or security settings



# EXIF Data Solutions

- ▶ Set security on photo sharing site.
- ▶ Remove EXIF information
  - With Window's Vista, 7, or 8:
    - Right click photo
    - Select: Properties
    - Select: Details
    - Select: Remove Properties & Personal Detail
    - Choose to remove all or just GPS data

DEMO

# Video

»» From Nanny Cams to Spy Devices

# Video

## Video

Overt & Covert

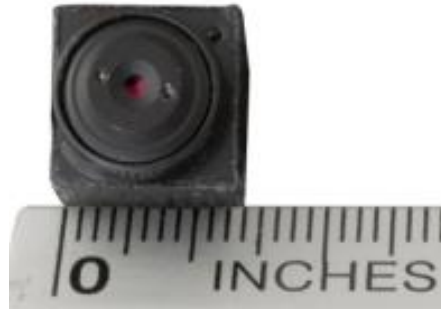
Fixed or Broadcast (RF or [WLAN1](#), [2](#))

Day or Night Vision

Optical lenses up to [70 X](#)



Panasonic [SDR-T50](#)  
78X = 33mm-2574mm





# Sample Covert Cameras

**NEW GENERATION**



**COVERTEK COVERT VIDEO CAMERA SYSTEMS**

**Top Quality Covert Video Camera Systems With Built In Digital Video Recorders, Motion Activation And Time And Date Stamping! NEW AND IMPROVED! Now with Low Light Ability And 8 GB SD Card Slot! Now With Up To 20 Hours Of Recording Time! Phone 512.719.3594 For Help In Selections!**



# Sample Covert Cameras



Clothes Hook Spy HD  
Camera Mini DVR  
Hidden Video Voice  
Recorder Camcorder  
Motion Detector

Under \$25.00  
Dhgate.com

# Sample Body Worn Cameras



MP3 Player Hidden Camcorder

Looks and Works Like Your Favorite MP3 Player but Is Actually a Hidden Camcorder Secretly Recording Everything...



Car Remote Camera Spy Camcorder

Car Remote Key Chain Camera Spy Camcorder - High Resolution Surveillance Anywhere...



Mega Mini Spy Camera Pro Built-In DVR

Mega Mini Pro: Audio Activated Portable DVR Camera w/ Amazing Video Quality...



Secret Agent Hidden Camcorder Watch

Secret Agent Camcorder Watch: Covert Video & Audio Taken To A New Level...



Tie Cam w/ Built In DVR & Remote Control

The Ultimate Accessory Covert Recording - This Body Worn Tie Cam Records Video and Audio Right Inside the Tie Itself...

# Sample Body Worn Cameras



[ID Card Hidden Camcorder](#)

World's Thinnest Body Worn Camera 4-in-1  
Snapshot Camera, Camcorder, Audio  
Recorder & Webcam ...



[DVR Spy Sunglasses w/ Audio](#)

Record Audio & Video Through Your Own  
Eyes w/ Covert Spy Sunglasses...



[Covert Pen Camera](#)

No One Will Suspect That This Ordinary  
Looking Pen Is Capturing Covert Video ...



[Covert Wireless Headset Camera](#)

Functional Wireless Headset Doubles As  
Hidden Video Camera...



[Sony ExView Button & Screw  
Camera With Pro DVR](#)

Highest Resolution Body Worn Button &  
Screw Camera With Pro DVR Can Record  
In Extreme Low Light...

# Careful with Baby Monitors



[Insecam site](http://www.opentopia.com/)  
<http://www.opentopia.com/>

# Communication Services



- Caller ID
- Telephony Features & Services
- Spoofing
- Virtual Number Remedy



## Test Your Technology IQ

The above item is:

- A. A useful communication tool.
- B. A way to stay in touch with friends.
- C. A portable entertainment center.
- D. An instrument of fear.**

Stalkers use cell phones to make unwanted calls to victims and leave threatening voice and text messages. Cell phones with global positioning systems can even be used to track victim movements.

Stalking is a crime. If you or someone you know is a victim of stalking, **we can help.**

**Stalking**  
Resource Center  
[www.ncvc.org/src](http://www.ncvc.org/src)

THE NATIONAL CENTER FOR  
**Victims of Crime**

**1-800-FYI-CALL**

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Telephony – Special Features

# Caller ID

*Not what it used to be...*



# Telephony

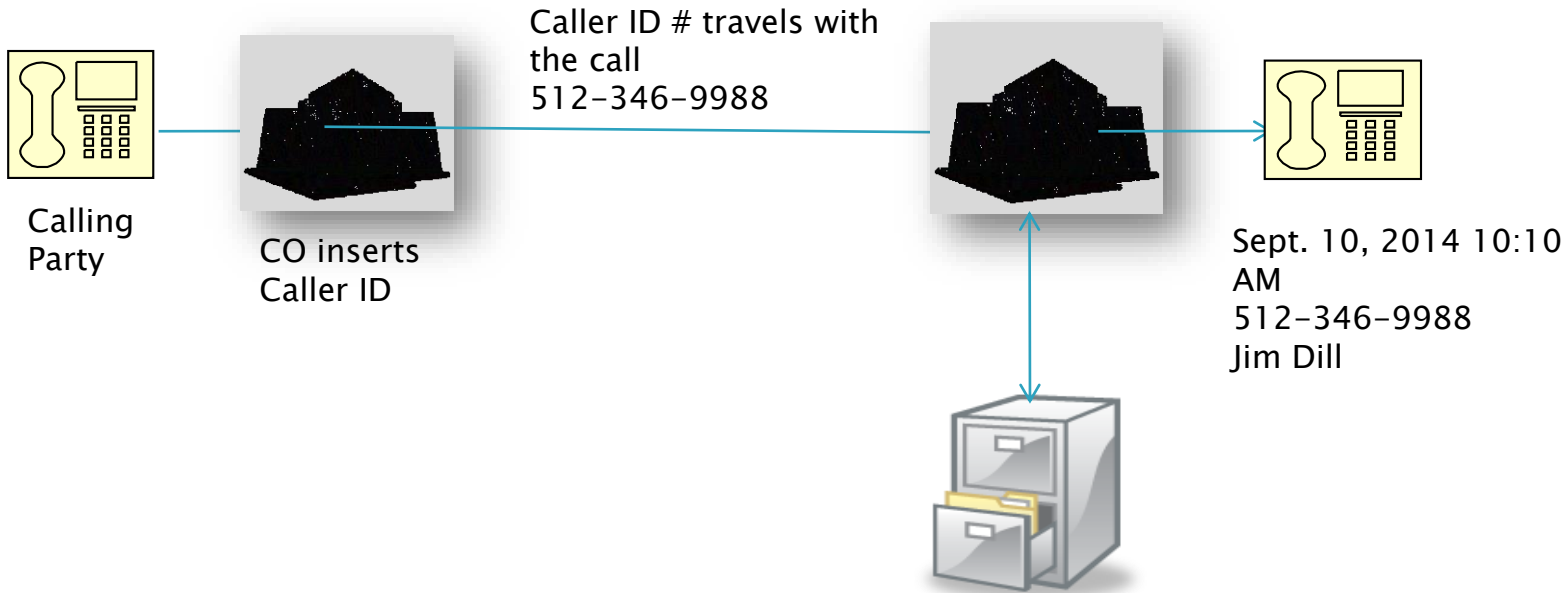
## Special Features – Caller ID

- ▶ Caller ID – Definition

**AKA: caller identification (CID), or calling number identification (CNID)** is a telephone company service that sends the caller's telephone number.

- ▶ If the calling number is not “blocked”, the calling number is displayed on the handset or base station.

# Caller ID - How does it work?



The Last CO does a name lookup (Jim Dill) and sends Name & Number to CO.

# Caller ID Messages

- ▶ Date & time of the call
- ▶ Phone number with or w/o name
- ▶ Blocked, Private, Restricted, or Anonymous
- ▶ Unavailable
- ▶ Error

# Caller ID Facts

- ▶ Transmitted between the first and second ring
- ▶ Passes whether you have a non-published number or a private line
- ▶ Passes between phone companies, states and countries
- ▶ Will pass when using most phone debit or credit cards
- ▶ **Is transmitted on every call!**

**What about Blocking????**

# Blocking Options

»» Telco Company Options

# Caller ID – Blocking Options

There are blocking options offered by the phone company.  
What are they?

- ▶ Per Call Blocking – \*67 to activate
- ▶ Total Call Blocking or Line Blocking – all calls are blocked via the phone company

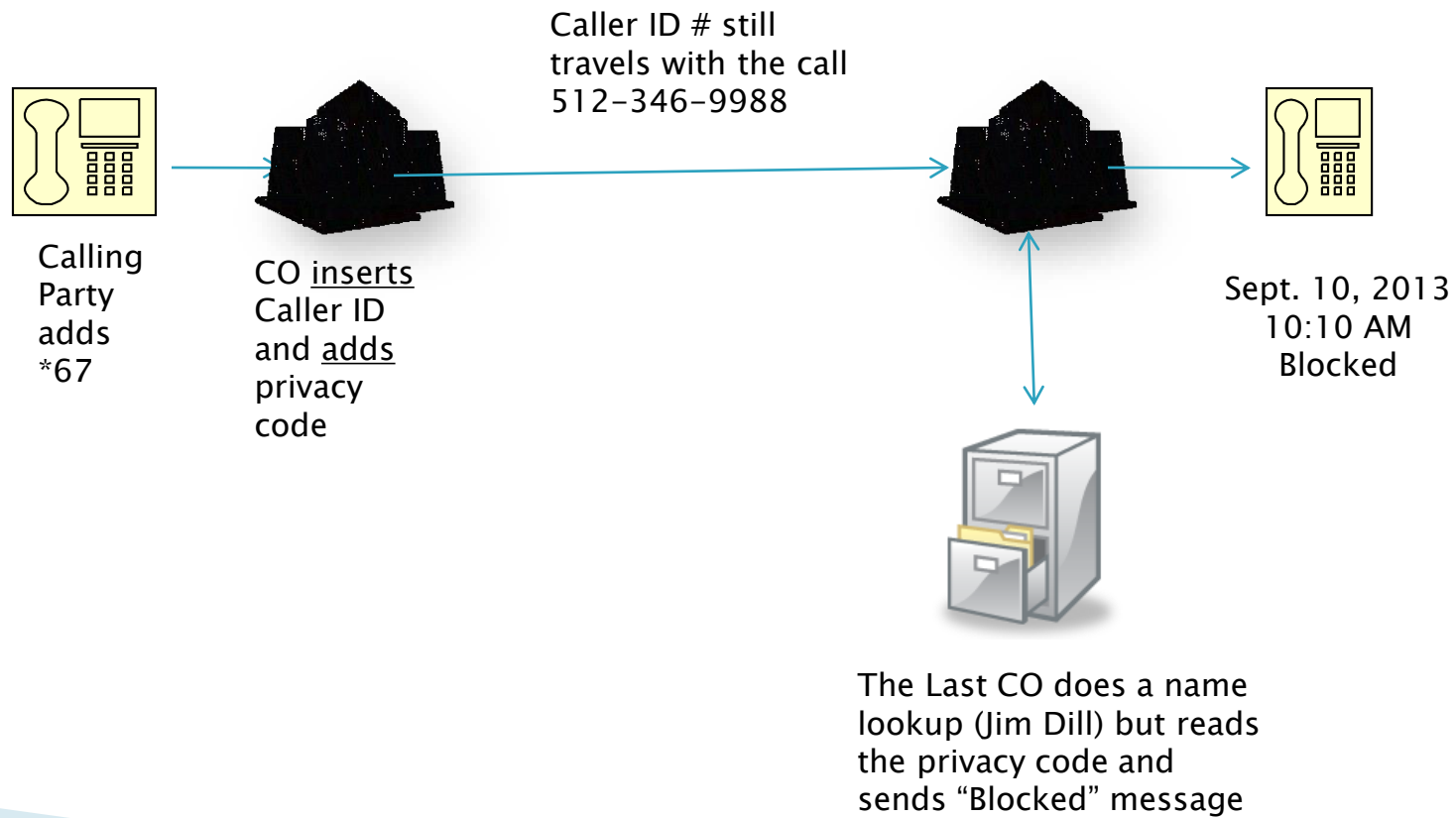
Can “Blocking” provide a false sense of security? **YES!**

Does “Blocking” work in every instance – **NO!!!**

# How Caller ID Blocking Works

Let's look what happens when the Calling Party blocks their Caller ID?

# How Caller ID Block Works





# Caller ID Blocking

## Things to Remember

- ▶ Remember when you block your Caller ID you are just blocking it from being “Displayed”
- ▶ It is still being sent!!!
- ▶ There are ways to defeat the Block!
- ▶ The local Telephone Company retains the Blocked Number (Trap & Trace)

# Other Important Caller ID Blocking Facts

- ▶ You can't block calls to 911 calls (ANI)
- ▶ You can't block calls to "Toll Free" numbers (800, 888, 866, etc). Why?
- ▶ Must be careful when using line blocking on a cellular phone.

In addition, some Telco features aren't affected by Caller ID Block.

# Features that still work with Caller ID Blocked

- ▶ \*57 – Call Trace (landline only). Why?
- ▶ Call Detail Records (CDR) – Cellular Phones
- ▶ \*60 – Selective Call Rejection/Call Block
  - Phone companies first line of defense

# Other Caller ID Related Features & Tools

- Protect yourself from Blocked Callers on your landline

# How To Prevent Blocked Caller ID

- **Call your phone company.** Ask them about the services they provide for blocking unknown numbers. Many of these phone plans cost a few dollars a month and are billed on a monthly basis. These will stop Blocked Caller ID but not “Unknown or Unavailable” calls.
- **Install a call blocking app.** If you are using an iPhone or Android phone, you can install apps that will allow you to automatically block calls from hidden numbers.



## Call Blocker Free - Blacklist

NQ Mobile Security (NYSE:NQ) Business

★★★★★ 144,393

**E** Everyone

**i** This app is compatible with some of your devices.

 Add to Wishlist

**Install**

# Are there non-Telco Services That Can “Unblock” a Call?

**YES!**

There are services such as [TrapCall](#) that will reroute your incoming calls through a 800 number service, which will read the ANI and resend the call back to your cell phone.



# TrapCall Demo

[www.trapcall.com](http://www.trapcall.com)

# Summary

## Steps to Identify A Blocked Caller

- ▶ Check Cellular Call Detail Records
- ▶ Use \* 57 to trace the call
  - Be sure to record the date & time you use it.
  - Give that information to the police.
- ▶ Use a service like “Trap Call” to immediately identify the caller.
- ▶ Notify the Police and request a Trap & Trace placed on the line.



# Methods of Disguising or Spoofing Caller ID

- Internet Telephony – VoIP  
Caller ID Spoofing  
Virtual Numbers

# Internet Telephony

Voice over IP-VoIP

# Internet Telephony

- ▶ Voice over Internet Protocol (VoIP) a method of placing a audio or video call using your internet connection instead of your phone line.
- ▶ Your voice is converted to a digital signal and sent out over the Internet similar to how an email is sent.
- ▶ Examples of commonly known VoIP Services:
  - Skype
  - Magic Jack
  - Vonage
  - Net2Phone
  - Many, many more including AT&T U-verse Voice and Verizon Digital Voice

# VoIP – Impact

- ▶ With PC based VoIP services like Skype Caller ID is either “Unavailable” or masked (all 0’s, 0–9, etc.) or given a Temporary Directory Number (TDN).
- ▶ Communications can be encrypted when communicating computer to computer.

Skype Demo

# Caller ID Spoofing



# Caller ID Spoofing

- ▶ Changing the Caller ID info received by the Called Party.
- ▶ Good & Bad Uses
- ▶ Voicemail Issue!!!
- ▶ How does it work?



# Caller ID Spoofing Services

Use of a third party to rout your calls and change your Caller ID to whatever you want the called party to see.

1. You purchase minutes similar to a prepaid phone card.
2. Dial the access number
3. Enter the number PIN number
4. Enter the number you want to call
5. Enter the number you want to display on the Called Parties Caller ID.
6. You can even change your voice & record.

# Caller ID Spoofing **\*\*Plus\*\***



- ▶ Spooferm.com permits:
  - Spoofs Caller ID PLUS
  - Text Messages
  - Email
  - Has an iPhone and a desktop application
  - Can check to see if your number was ever spoofed

[www.spooferm.com](http://www.spooferm.com)



The image shows a screenshot of the SpoofCard website. At the top left is the logo for SpoofCard, which includes a colorful circular icon and the text "SpoofCard" in a stylized font, with the tagline "BE WHO YOU WANT TO BE" underneath. To the right of the logo is a navigation menu with links for "HOME", "BUY MINUTES", "PIN LOGIN", and "FAQ".

The main content area features a quote: "Sometimes, I just don't want them to know it's me calling..". Below the quote is a testimonial: "...I call someone from my phone, and the person's caller ID displays a number that I intend them to see. My privacy is protected. Simple as that!" attributed to "Marta, Dallas, TX".

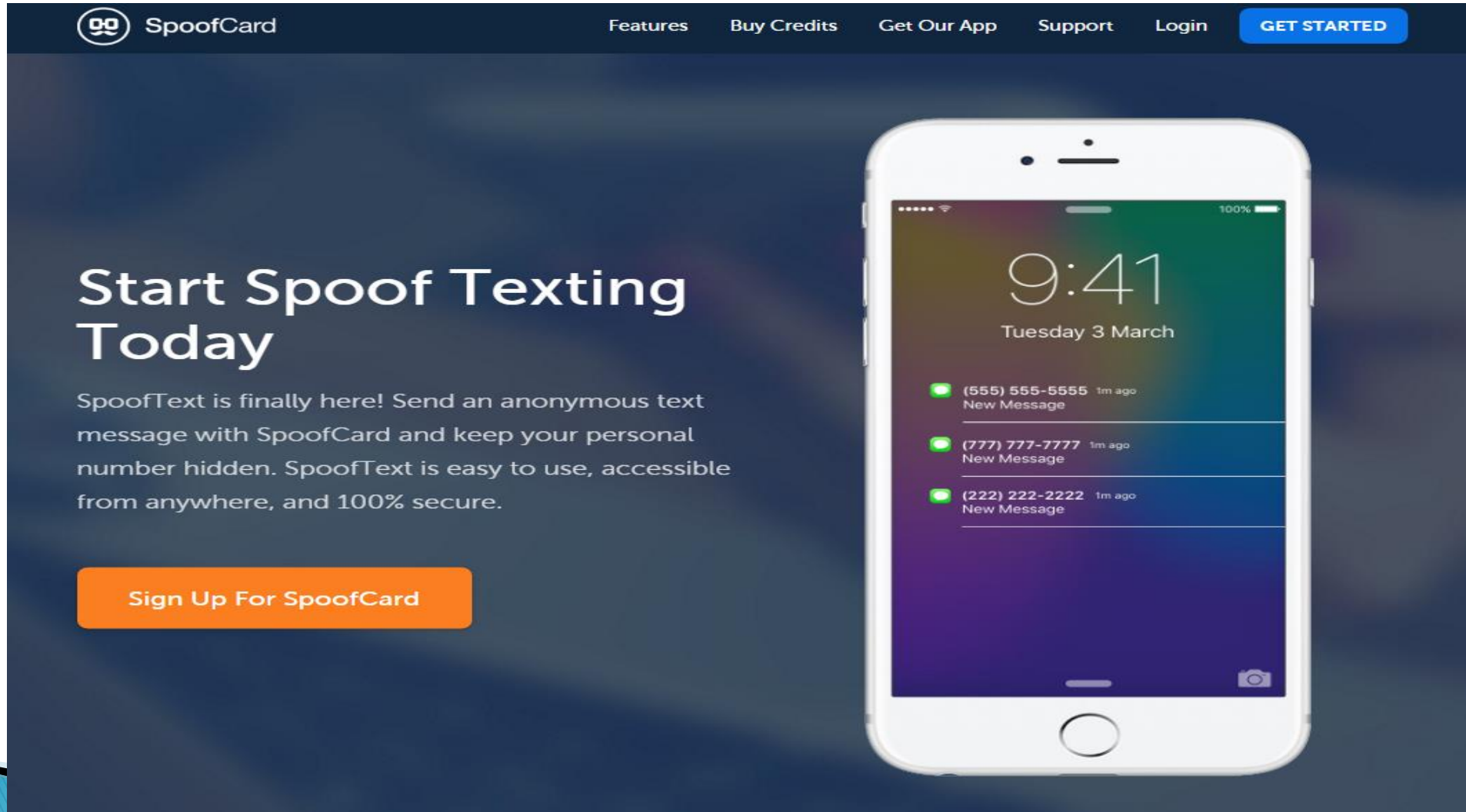
Below the testimonial is the question "Ready To Spoof Your Caller ID?" followed by a large green button with the text "BUY MINUTES NOW!".

At the bottom of the main content area, there is a "NEW International Spoofing!" banner with logos for MasterCard, Visa, and PayPal.

On the right side of the page, there is a dark vertical rectangle, likely a video player, with a play button icon at the bottom.

[www.spoofcard.com](http://www.spoofcard.com)

# Spoof Text As Well



The image is a screenshot of the SpoofCard website. At the top, there is a dark blue navigation bar with the SpoofCard logo on the left and links for 'Features', 'Buy Credits', 'Get Our App', 'Support', and 'Login' on the right. A blue 'GET STARTED' button is positioned in the top right corner. The main content area has a dark blue background. On the left, the heading 'Start Spoof Texting Today' is displayed in large white font. Below it, a paragraph reads: 'SpoofText is finally here! Send an anonymous text message with SpoofCard and keep your personal number hidden. SpoofText is easy to use, accessible from anywhere, and 100% secure.' An orange button with the text 'Sign Up For SpoofCard' is located below the paragraph. On the right side of the page, a white smartphone is shown. The screen displays a lock screen with the time '9:41' and the date 'Tuesday 3 March'. Below the time, there are three text message notifications, each with a green indicator light and the text '(555) 555-5555 1m ago New Message', '(777) 777-7777 1m ago New Message', and '(222) 222-2222 1m ago New Message'.

# Caller ID Spoofing

## DEMO

<https://www.spooftcard.com/>

# Caller ID Spoofing Impact

## ▶ Good

- Anyone can do it – inexpensive
- It can serve as a way of protecting your identity

## ▶ Bad

- It can be used as a stalking tool.
- Police use CID as evidence.
- It is very difficult to determine the actual calling party.
- Smart Phone & Facebook apps
- There are record & voice change options.
- Police can't be sure of 911 information – e.g. swatting pranks.

# Tracing a Spoofed Call

- ▶ \*69 or \*57???
- No, Will just call back the Spoofed number
- ▶ Check ANI
- No, ANI is also Spoofed
- ▶ Look @ billing records of accused – Yes
- ▶ What Information do you know?
- Date, Time, Number Called, Spoofed Number
- ▶ Check with individual spoofing companies
  - Provide them the details you know.
  - Request if a call was made using their service.
  - The Spoofing company may have the phone number or IP address of the person.

# Spoof Card Companies

- ▶ Spoofcard [www.spoofcard.com](http://www.spoofcard.com)
- ▶ Spooftel [www.spooftel.com](http://www.spooftel.com)
- ▶ Phone Gangster [www.phonegangster.com](http://www.phonegangster.com)
- ▶ Telespoof [www.telespoof.com](http://www.telespoof.com)
- ▶ Bluff My Call <http://bluffmycall.com>
- ▶ Caller ID Faker <http://calleridfaker.com>
- ▶ Itellas [www.itellas.com](http://www.itellas.com)

Note: These are CID Spoofing providers, but there may be others.

# Virtual Numbers

# Virtual Numbers

- ▶ A virtual number is a telephone number without a directly-associated telephone line or instrument.
- ▶ Usually numbers are programmed to forward incoming calls to one or more pre-set telephone numbers chosen by the subscriber.
- ▶ Never have to give out your actual phone number
- ▶ Numbers can be changed as often as you like.

DEMO



# Who Uses a Virtual Number

- ▶ eBay Buyers and Sellers, Craigslist...
- ▶ Dating site members
- ▶ Business Owners, Lawyers, Police...
- ▶ Victims of crimes, women shelters, and of course criminals.

# Virtual Numbers

Some Features of Virtual Numbers Include:

- ▶ Incoming Calls – Screening


- Answer it
- Send directly to Voice Mail
- Give them a Busy Signal
- Playback a recording that the number is “Out of Service”
- Create a Custom Message

- ▶ Outgoing calls

- By calling your Virtual Number prior to making an outgoing call, you can display Virtual No. Caller ID instead of the phone your calling from.

# Virtual Phone Number Service

**1**



Choose an area code for your Vumber

917

Get your new Vumber

917-555-1212

**2**



Link it to your home, cell or work phone.

**3**

Receive calls just like an ordinary phone number



To make a call, simply call your Vumber, and then make your call.

## Additional Features



Determine how you want your calls handled: Ring thru, Voice Mail, No longer in service.



Change your Vumber as many times as you want.

## Other Cool Features



You can do much more with a Vumber than you can with a traditional phone number...

[See a complete list of features](#)

## Vumber.com Features

# Google Voice

- ▶ Google Voice is a complete call management application combining a VoIP phone service, virtual number, voice mail, and other features all in one service.

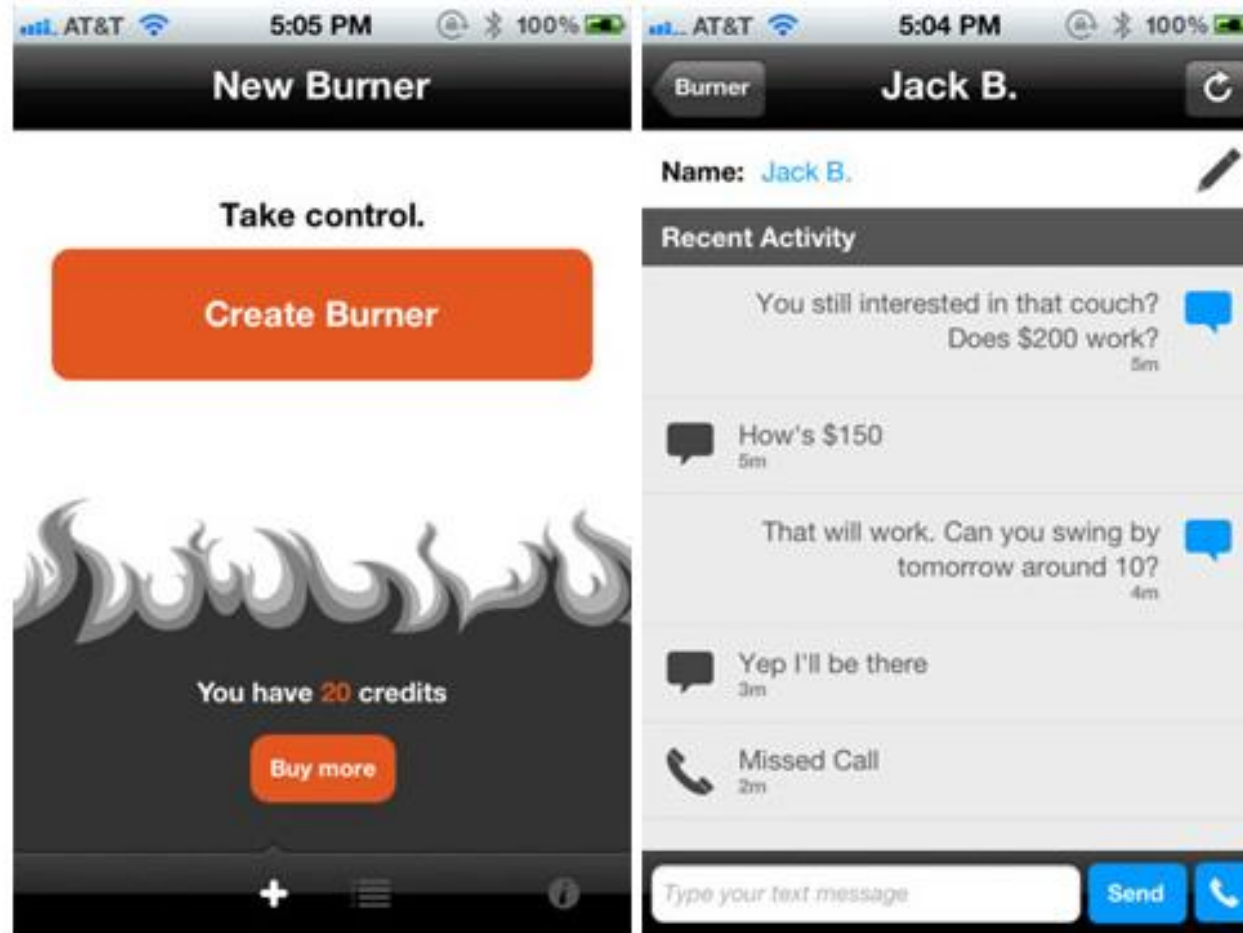
# Google Voice Features

- ▶ You get assigned a Virtual Number of your choice.
  - By area code or zip code
- ▶ Forward calls from your Google Voice number to one or more phones, or directly to voicemail.
- ▶ Receive text (SMS) alerts when you get a call.
- ▶ Screen callers by asking for and recording their names.
- ▶ **Transcribe voicemails**, which Google Voice will send as email and/or text messages to your cell phone.

# More Google Voice Features

- ▶ Block annoying callers by playing a number-not-in-service recording when they call.
- ▶ Vary personalized greetings by Caller ID!
- ▶ Listen to voicemail messages as they're being recorded
- ▶ Send texts using Google Voice Number.
- ▶ Switch phones during a call.
- ▶ Phone U.S. numbers for free.
- ▶ Use your Google number for you Caller ID no matter what phone you use. **WHY??**

# Virtual Number App – “Burner”



# Virtual Number App – “Burner”

- ▶ New iPhone App by Ad Hoc Labs
- ▶ Burner buys phone numbers from Twilio, a startup that makes an API for voice communications.
- ▶ \$1.99 buys a number, a week of use or 20 minutes of talk time.
- ▶ Instantly trash it when you're done.
- ▶ Can buy as many numbers as you want!
- ▶ Your own “Burner” number shows up when receiving a call on it.
- ▶ Demo – [Video](#)

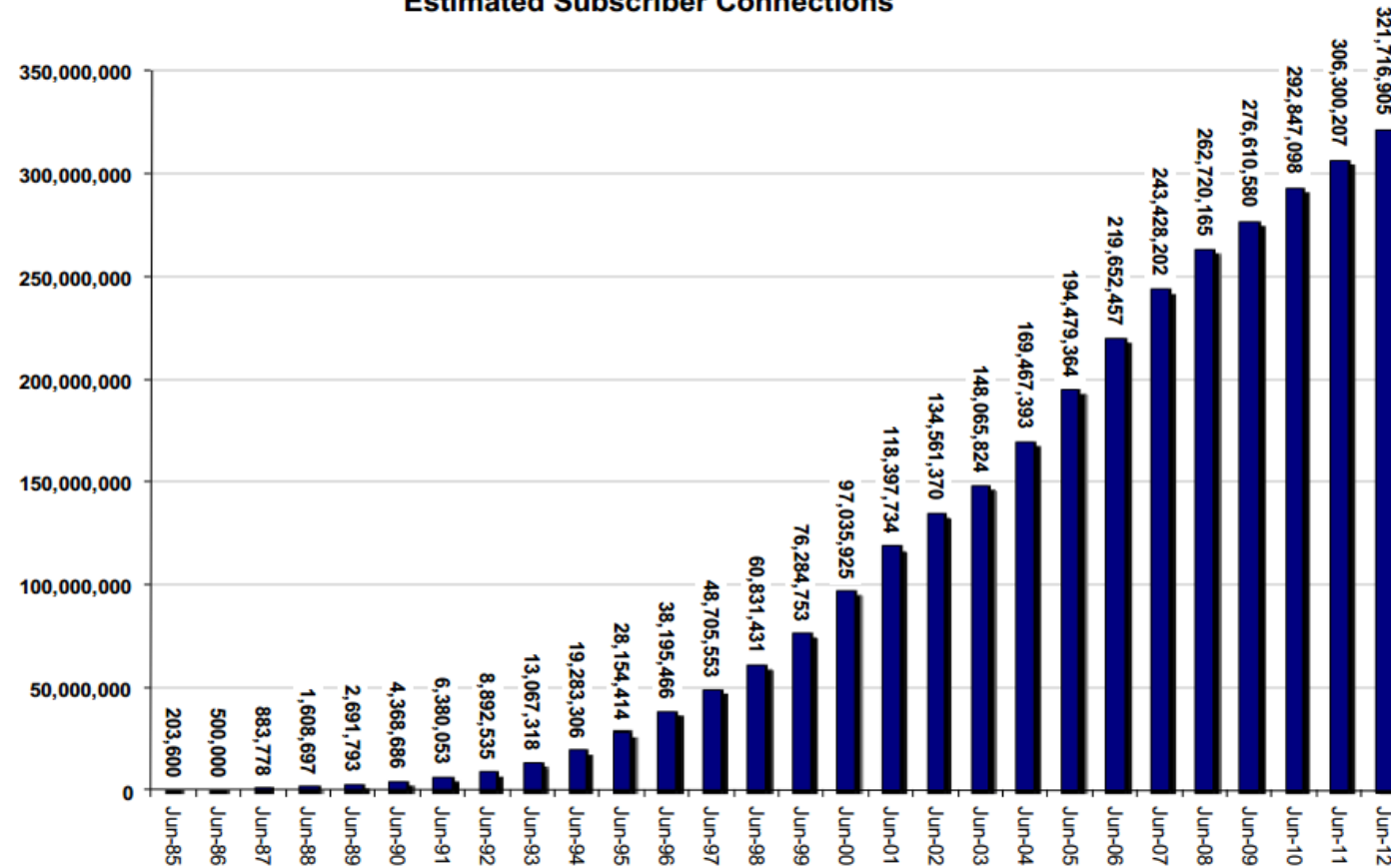


# Cell Phone Vulnerabilities

- »» Spyware
- SMS Readers
- Location Tracking

# Wireless Subscribers

Estimated Subscriber Connections



Mid-Year Estimated Connections Near 322 Million,  
Wireless Penetration Exceeds U.S. Population

Source: CTIA

© 2012 CTIA-The Wireless Association®

# Wireless Quick Facts

## Year End Figures - CTIA

Topic	Dec. '15	Dec. '14	Dec. '13	Dec. '10	Dec. '05
Wireless Subscriber Connections	377.9M	355.4M	335.6M	269.3M	207.9M
Wireless Penetration	115.7%	110%	104.3%	94.2%	69.0%
Wireless-Only Households <sup>1</sup>	48.3%	47.0%	39.4%	29.7%	8.4%
Annual Wireless Data Usage (in MB)	9.65T	4.06T	3.23T	388.0B	N/A
Annual Voice Minutes of Use	2.881T	2.455T	2.618T	2.241T	1.495T
Annual Text Messages	1.89T	1.92T	1.91T	2.05T	81.21B
Annual Multimedia Messages	218.5B	151.99B	96.1B	56.6B	1.1B

# Cell Phones & Convergence

## ▶ What capabilities does your cell phone or PDA possess?

1. Make & receive calls
2. Send & receive text messages
3. Send & receive e-mail
4. Surf the web
5. Play music
6. Take & store photos
7. Take & store videos
8. Record & store audio notes
9. Contact Manager
10. GPS Device
11. Calculator
12. Video game player
13. Download & play TV & Movie
14. A cellular modem for your laptop
15. Wireless LAN allowing up to 5 devices to use the phone's modem for Internet access
16. E-Book reader
17. Alarm monitor & DVR
18. Credit card replacement
19. Bluetooth Device
20. Projector

Plus thousands of iPhone & other phone applications

# Cell Phone Vulnerabilities

- ▶ You are carrying a portable computer with all those capabilities!
- ▶ What **personal** information is on your phone today?
  - Private contact info
  - PINS, passwords, account numbers
  - Work and family addresses, photos
  - Work E-mail & Text Messages
  - Calendars & GPS info.
  - Recent Call History

**But How Safe is that Information?!?**

# Other Cell Phone Vulnerabilities

- ▶ 17-year-old arrested for hacking into phones, stealing and distributing explicit images of children by [Lisa Vaas](#) on March 25, 2013
  - A teenager has been charged with distributing child pornography he allegedly hacked out of minors' cellphones with a bogus mobile text ad that installed phone-controlling malware.
  - The individual sent text messages to victims from a company called "Maxi Focus Photography".
  - When victims clicked on a link in the text message, it installed malware that essentially gave him access to all information stored on the phones.
  - He acquired nude photos and uploaded them to porn sites.

# Is Your Mobile Phone Protected?



In Chicago, more than 85,000 phones were found in taxis--about four for every taxi in the Windy City.



- PC World

- ▶ If you lost or someone got a hold of your cell phone today what information would you be providing a Stalker!
  - Is your phone lock? If not DO IT? How???

<http://www.fcc.gov/smartphone-security>

# Cell Phone Spying

- Apps specially designed to intercept and track your communications



# Other Cell Phone Vulnerabilities

What other information can your cell phone be revealing about you?

Cell Phone Tapping with Spyware

[Cell Phone Spying](#)

Internet resource on cell phone spy software:

<http://acisni.com/>

# Cell Phone Spy Programs



## LOG VIEWERS

- View SMS Logs
- View Call Logs
- View GPS Logs
- View URL Logs
- View Photo Logs
- View Contact Logs
- View Email Logs
- View Calendar Logs
- View Cell ID Logs
- View Task Logs
- View Memo Logs

## USER TOOLS

- Search Logs
- Clear All Logs
- Logs Summary
- CSV Format
- Change Password
- User Settings
- Logoff Account



# Phone Sheriff

**phonesheriff**  
MONITORING AND FILTERING SMARTPHONES



Worried about your child or employee's  
**mobile phone usage?**

- ✓ Block phone numbers from calls and text messages
- ✓ Set custom time restrictions and block apps you choose
- ✓ Monitor text messages and get custom activity alerts
- ✓ Real time location tracking and lock commands



# Spy Software for Tablets



The image shows a promotional graphic for PeekTab. On the left, there is a screenshot of the 'Account Home' interface, which includes sections for 'Latest Photos', 'Latest Messages', and 'Latest Websites'. A 'VIEW LIVE DEMO' button is located at the bottom of this screenshot. On the right, the text reads 'PEEKTAB' followed by 'Features' and 'Compatibility' with blue arrows. Below this, it says 'Tablet Monitoring Software' and 'Silently Record Tablet Activities.' in a larger font. A list of features follows, each preceded by a plus sign: '+ Silently record text messages', '+ Photos, Messages, Websites and more', '+ GPS Locations at any interval you set', '+ View apps installed on the tablet', and '+ Easily view activity from any browser'.

- ▶ Peektab is a multiplatform (iPad, Android, & Blackberry tablets spy software that runs silently in the background and is not detectable by the user. It records all activity by a user and uploads it to the web where it can be reviewed. Marketed to parents, spouses and employers.



Logs

Trigger & Alerts

Remote Control

Redirect

My Services

My Account

Account Expiry  
**Day(s) Left**  
 Next renewal 01-09-2011

- My Services
- Dashboard
- Call Logs**
- Recorded Calls
- SMS Logs
- Recorded Surroundings
- Email
- Contacts
- Appointments
- Photos
- Videos
- Music
- Browsing History
- Bookmarks
- Geo Tracking
- Geo Location
- BB Chat

### Call Logs ?

Search  Search By  [Advance Search](#)

SHOW HISTORY

Trigger Contacts 
 Incoming Calls  
 Outgoing Calls 
 Missed Calls

<input type="checkbox"/>	Call Type	Caller Name	Contact No	Call Start Time	Call Duration	Listen
<input type="checkbox"/>		Ashley Goodwin		2012/6/11 21:22:05	100	
<input type="checkbox"/>		Chris Frye	13125678890	2012/6/11 20:10:11	23	
<input type="checkbox"/>		Chris Frye	13125678890	2012/6/11 18:22:02	56	
<input type="checkbox"/>		Russ Smith	16082376910	2012/6/11 11:12:02	120	
<input type="checkbox"/>		Young S Kim	12138883745	2012/6/11 07:45:11	11	
<input type="checkbox"/>		Young S Kim	12138883745	2012/6/10 22:10:10	22	
<input type="checkbox"/>		Ross Schmitz	17864531234	2012/6/10 20:33:56	45	
<input type="checkbox"/>			14323456784	2012/6/10 13:29:11	0	
<input type="checkbox"/>		Lisa Geissler	12325672341	2012/6/09 22:11:02	34	
<input type="checkbox"/>		Theresa Klindt		2012/6/09 20:52:11	44	
<input type="checkbox"/>		Scott Wilde	12322227890	2012/6/09 11:15:29	17	
<input type="checkbox"/>		Debbie Strick	13123459344	2012/6/09 06:33:21	11	
<input type="checkbox"/>		Ross Schmitz	18658348123	2012/6/09 05:18:16	20	
<input type="checkbox"/>		Jim Appleton	13123451111	2012/6/08 09:22:56	0	
<input type="checkbox"/>		Carol	18652341123	2012/6/08 05:12:26	19	

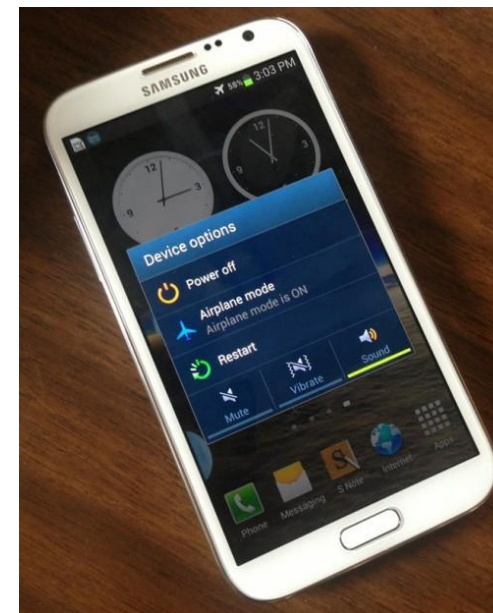
# Head of 'StealthGenie' mobile stalking app indicted for selling spyware

10-2-2014

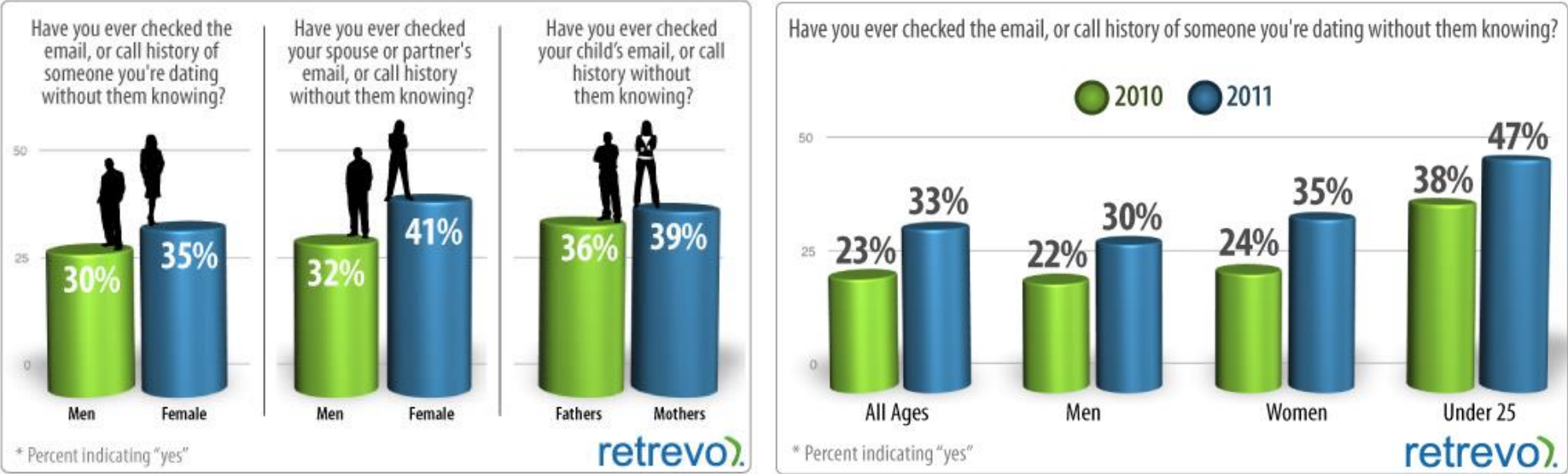
- ▶ US officials say is the first-ever case of its kind, the maker of a mobile spyware app **marketed at people who want to stalk their partners** has been indicted according to the DOJ.
- ▶ To adhere to the legal side of the line, monitoring apps have to be marketed at employers who want to keep an eye on their workers, or guardians who want to watch over their kids.

# PowerOffHijack

- ▶ Android malware – discovered by AVG
- ▶ It hijacks the shutdown process of user's mobile phone.
- ▶ User thinks they powered the phone off and it looks powered off, but the phone remains on!
- ▶ GPS, camera, microphone continues to function so phone can still be spied on.



# Who is doing the spying on your Cell Phone!



More than likely it is a close acquaintance or family member!



# Other Cell Phone Vulnerabilities

- ▶ Location tracking
  - smartphone app, carrier app, or spyware
    - Foursquare, Gowalla, [Locimobile](#), [Google Latitude](#)
    - Verizon Family Locater
    - [AT&T Family Map](#)
- ▶ Data taken from SIM Card – [SIM Card readers](#)
- ▶ Data taken from Micro SD Card

# Cell Phone Security Tips

- ▶ LOCK PHONE!
- ▶ Turn off location Services for some apps
- ▶ Review Apps before loading them. Know what info they will access!
- ▶ Checkout:
  - <http://www.fcc.gov/smartphone-security>

# Cell Phone Security

## PROTECT WITH APPS

15%  
USE

### ANTIVIRUS APPS

As with a computer, you can install **ANTIVIRUS APPS** that keep malware away from your smart phone.

22%  
USE

### PHONE LOCATOR

There's software that can locate your **LOST OR STOLEN** smart phone.

8%  
USE

### REMOTE WIPE

And some apps can **WIPE OUT THE CONTENTS** of your phone if it winds up in the wrong hands.



# Cell Phone Security Tips

- ▶ [www.ctia.org/your-wireless-life/consumer-tips/how-to-deter-smartphone-thefts-and-protect-your-data#anti-theft\\_apps](http://www.ctia.org/your-wireless-life/consumer-tips/how-to-deter-smartphone-thefts-and-protect-your-data#anti-theft_apps)



- ▶ In sensitive meetings ask others to leave their phones outside or remove their battery.

# Cell Phone Security Tips

## What You Can Do?

- ▶ Don't let your phone out of your possession.
- ▶ If your phone is lost or stolen notify the carrier to suspend service
- ▶ If you think it has been compromised
  - Check battery life (is it going down faster)?
  - Does screen flash occasionally?
  - Does the phone get warmer?
  - What can you do?
    - Reset Phone or Take it to the carrier.
  - Be sure to remove media from old phones

# Cell Phone Security Tips

- ▶ Remember if you can remote wipe and track your phone so can your target if you seize his!!
  - Talk with forensic personnel or cell phone company about the best way to handle a seized phone (power off, airplane mode, remove battery...)

[Mobile Phone Seizure Flowchart](#)

# National Network to End Domestic Violence

**NNEDV**  
Tech Safety

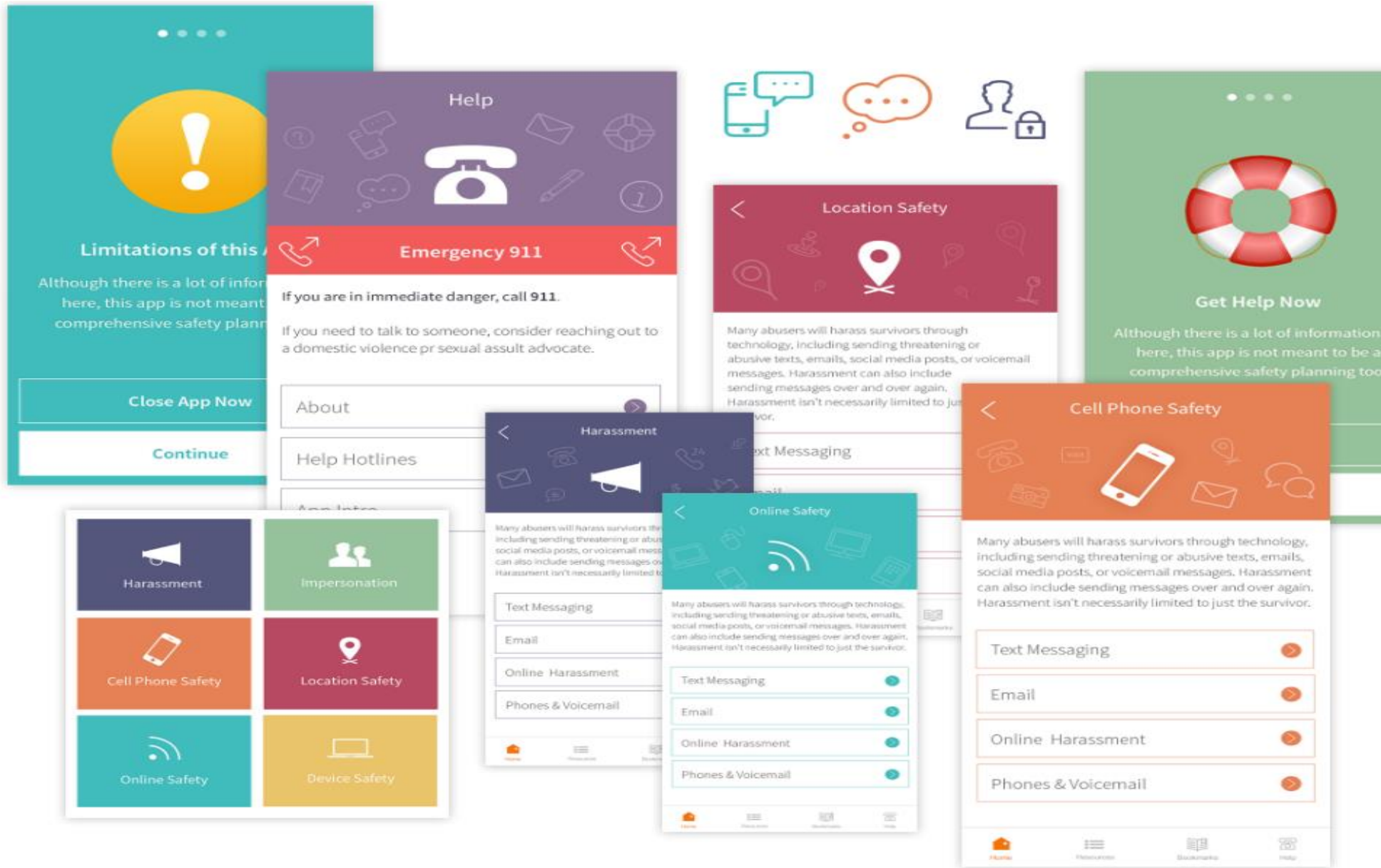
## Tech Safety

Welcome to the Tech Safety App. This app contains information that can help someone identify technology-facilitated harassment, stalking, or abuse and includes tips on what can be done.

Download on the **App Store**

Get it on **Google play**

The graphic shows two smartphones. The one in the foreground is an iPhone displaying the 'Tech Safety' app home screen with a grid of six categories: Harassment, Impersonation, Cell Phone Safety, Location Safety, Online Safety, and Device Safety. The one in the background is an Android phone displaying the 'Online Safety' section with a list of topics including Social Media Privacy, Personal Data Online, Online Harassment, and Browser Privacy.



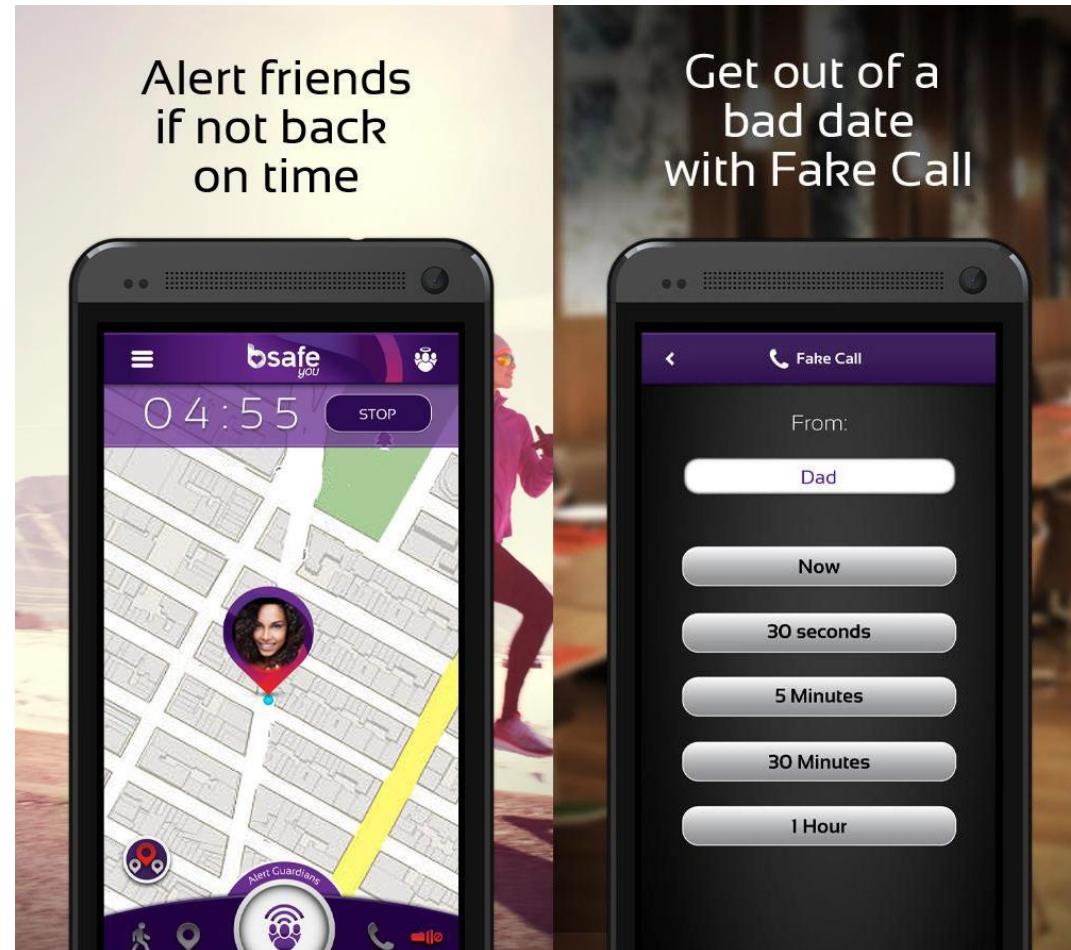


# NNEDV–Tech Safety App

- ▶ This educational and resource app was created for anyone who thinks they might be experiencing harassment or abuse through technology or wants to learn more about how to increase their privacy and security while using technology.
- ▶ Use this app as a guide or a starting point, but if you are being abused or harmed, consider reaching out to someone. You can talk to a domestic violence advocate, sexual assault counselor, police, or someone you trust.

# Bsafe App

- Set up your own social personal safety network of friends.
- Ask friends to walk you home with Follow Me's live GPS trace, or help friends stay safer by walking them home from wherever you are.
- Use I'm Here to tell selected people where you are right now
- Use Fake Call to make the phone ring when you want it to. You can even define who the call should be from
- And in case you are ever in trouble, the Guardian Alert button will immediately notify your friends and family members that you need help, and let them know where you are (GPS)



# Questions

