

The Darker Side of Technology

Teens & Technology
Unintended Consequences

ITIS, LLC All Rights Reserved

Special Thanks

PCCD & CJAB

ITIS, LLC All Rights Reserved

Your Instructor

Jim Dill, Deputy Chief, Retired
PA Office of Attorney General

&

President

Innovative Technology &
Investigative Solutions, LLC

jdill@itis-llc.com

717-884-8167

ITIS, LLC All Rights Reserved

Goals & Objectives

- Look at the darker side of common technology issues as they relate to the students, police & parents.
- Look at some of the everyday technologies that lends itself to these issues.
- Goal - Raise your awareness!!
- Goal - Demonstrate methods to prevent or mitigate their harmful consequences.

ITIS, LLC All Rights Reserved

Ultimate Goal

Safety

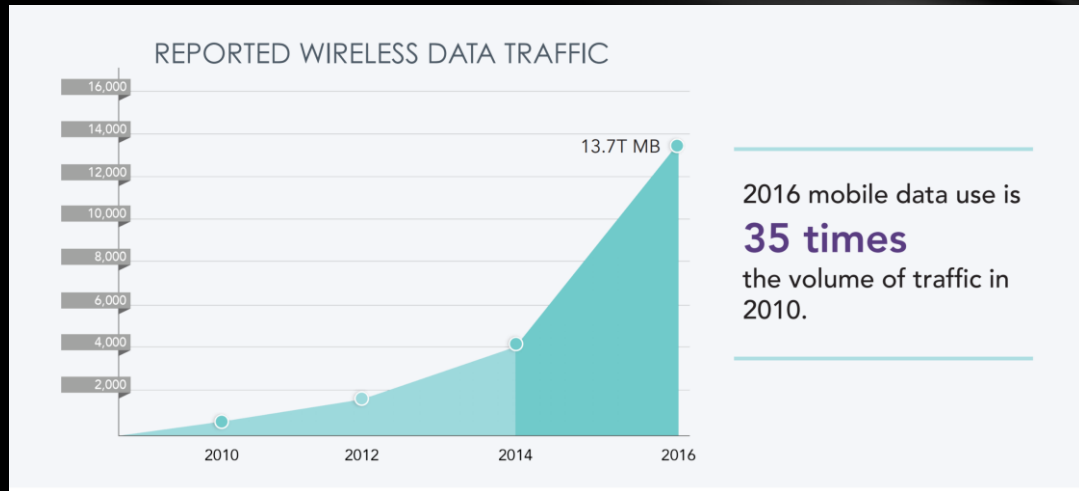
ITIS, LLC All Rights Reserved

Cellular & Smartphones

*Let's begin by looking at the technologies that
create some of the problems*

ITIS, LLC All Rights Reserved

Wireless Subscribers



2017 CTIA Wireless Snapshot

ITIS, LLC All Rights Reserved

Cell Phones Capabilities & Convergence of Technologies

- Make & receive calls
- Send & receive text messages
- Send & receive e-mail
- Surf the web
- Take & store photos
- Take & store videos
- Record & store audio notes
- Contact Manager
- GPS Device
- Calendar
- Store Documents
- Play music
- Video game player

- Download & play TV & Movie
- A cellular modem for your laptop
- Wireless LAN allowing up to 5 devices to use the phone's modem for Internet access
- E-Book reader
- Alarm monitor & DVR
- Credit card replacement
- Bluetooth Device

- Plus hundreds of thousands of iPhone & other phone apps!

ITIS, LLC All Rights Reserved

Keep Your Data Safe



Password Protect Your Phones!

ITIS, LLC All Rights Reserved

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.



ITIS, LLC All Rights Reserved

Negative Impact

- ▶ These simple indispensable devices have become part of our everyday life but can easily create an atmosphere of:
 - ▶ Threatening behavior
 - ▶ Unwanted advances
 - ▶ Harassment
 - ▶ Sexting
 - ▶ Sextortion
 - ▶ Cyber Bullying
- ▶ All directed at another using cellular and computer communications

ITIS, LLC All Rights Reserved

What's Hidden in Your Digital Photos

EXIF Data



ITIS, LLC All Rights Reserved

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

Most cell phone cameras and many newer digital cameras insert geo-location information

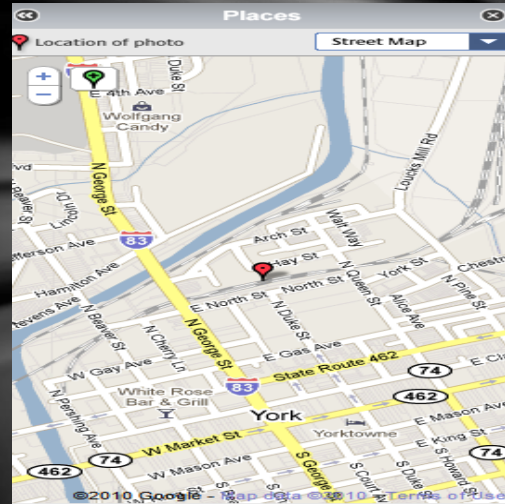
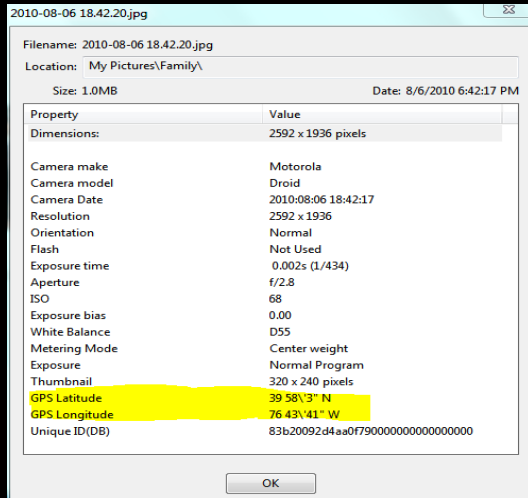
ITIS, LLC All Rights Reserved

EXIF Data



ITIS, LLC All Rights Reserved

EXIF Data from a Cell Phone



DEMO

ITIS, LLC All Rights Reserved

EXIF Location Data Demo

Let's look at what happens when we post these pictures at some photo sharing sites.

[EXIF Newsflash Report](#)

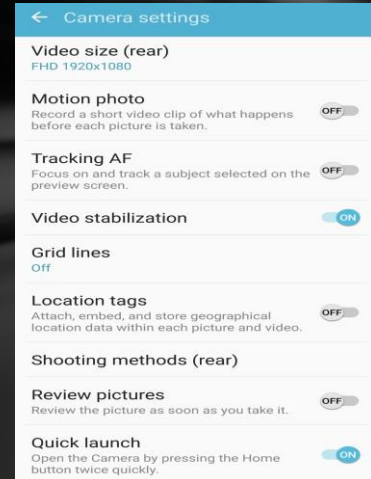
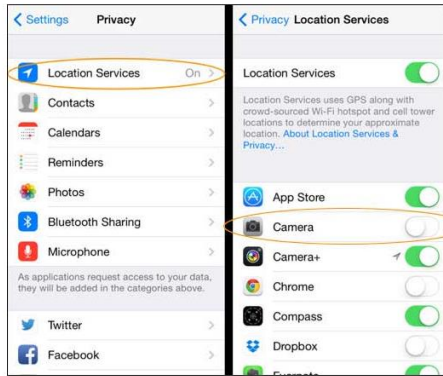
<http://www.flickr.com/map>

ITIS, LLC All Rights Reserved

Solutions

Turn off Location Services on phone's camera.

- Go to **Settings** [app](#).
- Tap on **Privacy**.
- Select **Location Services**.



ITIS, LLC - All Rights Reserved

Location Based Services

Geo-Tagging Geo-Location

ITIS, LLC All Rights Reserved

Geo-Location

Geo-Tagging involves adding location data to an image, text message, video or app.

That location info can be GPS, WPS (Wi-Fi Positioning System), Cellular Triangulation, or XPS (a combination of all 3).

Most new cameras and cell phones default to adding geo-tagging to your photos.

Many [smartphone applications](#) incorporate geo-tagging.

ITIS, LLC All Rights Reserved

Rule 1 - Protect Yourself!

When downloading an app be wary about what [permissions](#) it requests (e.g. why would a wall paper app need access to the Internet!).

Some Apps while have been discovered to collect contact, text, and other data from your phone – without your permission.

"Google dropped 10 smartphone apps from its online Android Market store, after Xuxian Jiang, an assistant professor of computer science at North Carolina State University, found the programs were infected with Plankton, a program that secretly collects information about a user's Web-browsing habits.

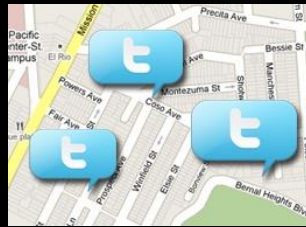
"OCT 20, 2015 Apple Bans 100s Of [iPhone Apps](#) For Stealing Personal Data.

ITIS, LLC All Rights Reserved

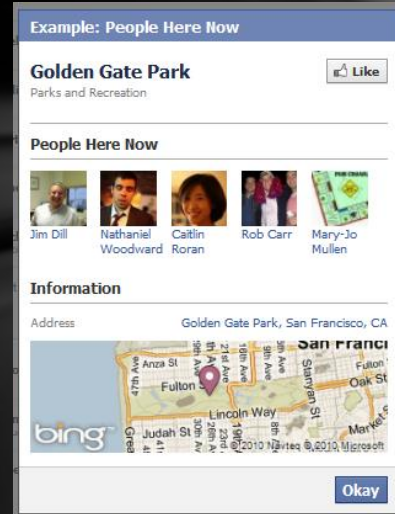
Geo-Location

Social Networks go mobile

- Using smartphone applications
 - [Facebook Places](#), Foursquare,
 - and many others including Twitter
 - [Twitter - Geo-Tagging](#)



ITIS, LLC All Rights Reserved



Photos will post to your friends.

Gaming

MMORPG

ITIS, LLC All Rights Reserved

Gaming

MMORPG - A Massively Multiplayer Online Role-Playing Game such as World of Warcraft.

- Virtual Worlds – REAL Crimes!
 - Drug deals, child porn, predators, terrorism...
 - Paris ISIS terrorists employed Sony PS4 to communicate, and used encrypted messaging apps Telegram and WhatsApp.

ITIS, LLC All Rights Reserved

Messaging

SMS & MMS

Through the Cellular Provider

Or

Using a Mobile App

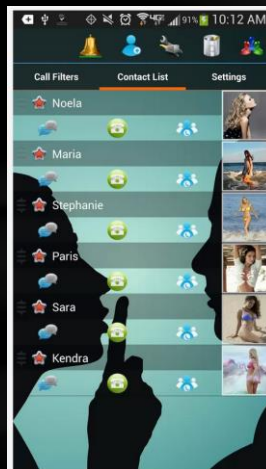
ITIS, LLC All Rights Reserved

Proprietary Messaging Apps

- Both Sender & Receiver must have the app.
- These are texting apps outside of the Carriers control and broadcast over the Internet using Wi-Fi or the devices data plan.
- Many provide secret ways to hide the messages on the phone. Even the App may be deceiving one actually disguised as flash light app.
- Don't need a phone to send a text.
- Some even "claim" to be self destructing!

Proprietary Messaging Services

WhatsApp
 Jaxtr
 Kik Messenger
Viber
 Text Plus
 TxtDrop
 Hide My Text
 iMessenger
 Shady SMS
 SMS Calculator
Many Others



Shady SMS – a hidden sexting app that only you can see or open. To open you need to dial a code.

Apps use a smartphone's data plan or Wi-Fi to transmit and receive messages, a feature that appeals to individuals looking to avoid text messaging by phone service providers.

Chat Feature on Kids Apps

Many Apps like Musical.ly have a chat feature turned on by default.

Any user can comment on another user's posting

Predators have taken advantage of the chat feature to contact and prey on teens and preteens.

[GMA Report](#)

ITIS, LLC All Rights Reserved

Musical.ly is now Tik Tok

TikTok, also known as Douyin in China, is a Chinese music video platform and social network that was launched in September 2016 by Zhang Yiming, founder of Toutiao. Wikipedia



ITIS, LLC All Rights Reserved

Self Destructing Messaging

ITIS, LLC All Rights Reserved

Self Destructing Text Messaging Apps

- Self Destructing text messages have given kids the false impression that they can sext safely. They include:
 - Snapchat, Kik, Confide, Facebook Messenger, Wickr, and others allow you to set a timer which will cause the message to be deleted at a predetermined interval

ITIS, LLC All Rights Reserved

Self Destructing Messaging Apps

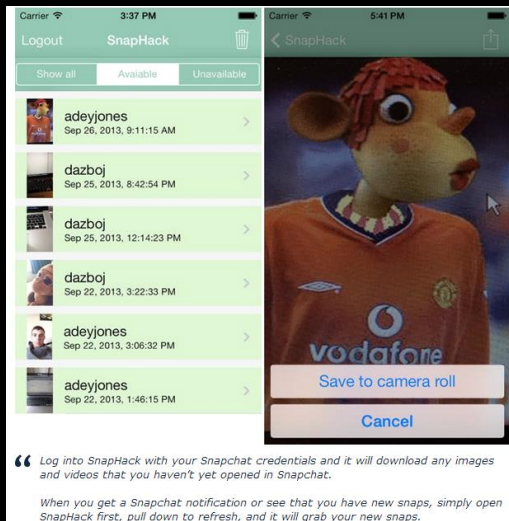


[Snapchat](#)

Easy to Defeat

ITIS, LLC All Rights Reserved

SnapHack App



Other Apps created to defeat Snapchat:

- Snapsaved,
- Snapsave,
- SnapSave,
- Snapchat Save Pic,
- Snap Save,
- Snapkeep,
- SnapBox,
- SnapSpy,
- KeepSnap,
- Snapchat Saver,
- Save My Snaps.

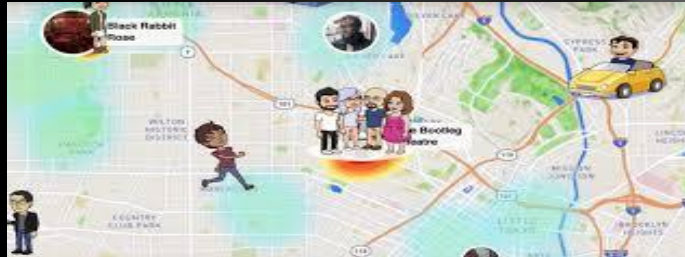
Note: many of these have been shutdown

ITIS, LLC All Rights Reserved

Snap Map

In June of 2017 Snapchat introduced a new feature called Snap Map that connects to your phone's GPS.

Feature *automatically (unless you've activated ghost mode) shows where you are on a map to anyone who is on your friends list and posts can possibly be seen publicly depending on your settings!!*



ITIS, LLC All Rights Reserved

Sexting

Where Texting Goes Wrong

Implications for Child, Family, Police & Judiciary

ITIS, LLC All Rights Reserved

2017 Sexting Statistics

Teen Sexting Statistics (Ages 13-19)	Data
Percent of Teens who have sent a sext message	39 %
Percent of Teen Girls	37 %
Percent of Teen Boys	40 %
Percent of Teens who have received a sext message	48 %
Young Adult Sexting Statistics (Ages 20-26)	
Percent of Young Adults who have sent a sext message	59 %
Percent of Young Adult Women	56 %
Percent of Young Adult Men	62 %
Percent of Young Adults who have received a sext message	64 %

Content Author: Statistic Brain

Date research was conducted: April 26, 2017

ITIS, LLC All Rights Reserved

Where Do Predator's Get Their Photos?

- Teens are supplying them!
- According to the National Center for Missing and Exploited Children (NCMEC) of the more than 130 million images containing child pornography examined since 2002 by NCMEC, ***one in four were initially posted by minors themselves***, said John Sheehan, executive director of the organization.
- In a search lasting just 40 hours, the Internet Watch Foundation found 12,224 self-generated images of teenagers on 70 pedophilic websites.

ITIS, LLC All Rights Reserved

Sexting

Many teens don't look at long term consequences when sexting.

Many times it is a result of peer pressure or bullying

It can and does lead to stalking, viral shaming, cyber-bullying, sextortion & suicide.

Plain & simple – Sexting can dramatically damage one's life and self esteem.

Once you hit the send key there is no getting them back!

[Jessica Logan Story](#)

ITIS, LLC All Rights Reserved

Other Sexting Issues

ITIS, LLC All Rights Reserved

Other Sexting Issues SMS Abbreviations

Deciphering Text Messages

- Abbreviations and acronyms are extensively used in Text & Instant Messaging.
- Emoticons – symbols used to display feelings

GNOC

- Get Naked On Camera

KPC

- Keep Parents Clueless

PIR

- Parents In the Room

ITIS, LLC All Rights Reserved

Text Messaging & Instant Messaging Lingo

A good source to help decode Text Messaging acronyms and emoticons:

www.netlingo.com/acronyms.php

ITIS, LLC All Rights Reserved

Other Ways Kids Fool Parents*

- o Clearing the browser history.
- o Close/minimize browser when parent walked in.
- o Lie or omit details about online activities.
- o Use a computer your parents don't check.
- o Use phone apps made to hide things from parent's view.
- o Use private browsing modes.
- o Create a private email address unknown to parents.
- o **Create duplicate/fake social network profiles.**

Many Parents are just intimidated by the technology!

*McAfee –The Digital Divide June 2013

ITIS, LLC All Rights Reserved

Sextortion

Not just a cell phone issue

ITIS, LLC All Rights Reserved

Definition & Case Studies

- Sextortion - Extortion using digital sexual photos/videos as blackmail



- Children across the world, some as young as 8 years old and many in the U.S., were blackmailed into performing sexual acts online and even forced into self-harming.

ITIS, LLC All Rights Reserved

Sextortion – Case Studies

- A Case of 'Sextortion' Cons Like 'Bieber Ruse' Targeted Minor Girls
– FBI Website February 2013 - Christopher Patrick Gunn, 31, of Montgomery, Alabama, was sentenced to 35 years in prison for producing child pornography through a massive online sextortion scheme. Gunn pretended to be the teen pop star on several interactive video chat services. When Gunn convinced girls he was the singer, he offered them free concert tickets or backstage passes in exchange for topless photos or webcam videos. Gunn employed these tactics for more than two years!
- Hacker blackmailed over 350 women into stripping on their webcams, FBI Website January 2013
- 15 year old Amanda Todd's suicide

ITIS, LLC All Rights Reserved

Sextortion – Other Case Studies

Miss Teen USA Sextortion Case: 19-Year-old Arrested for Allegedly Hacking Cassidy Wolf



by NATALIE FINN Thu., Sep. 26, 2013 – *E Online*

Jared James Abrahams of Temecula, Calif., has been arrested and charged with extortion and cybercrimes for allegedly hacking into Wolf's computer and threatening to go public with nude photos purportedly taken on her compromised webcam if she didn't comply with his demands.

In March 2013, the 19-year-old beauty queen claimed that she being targeted by a hacker who claimed to have stolen nude photos of her from her web cam and computer.

ITIS, LLC All Rights Reserved

Cyber Bullying & Viral Shaming

ITIS, LLC All Rights Reserved

Cyber Bullying/Viral Shaming Definition

Cyber bullying is sending or posting harmful or cruel text or images using the Internet or other digital communication devices, including cell phones.

The American Academy of Child and Adolescent Psychiatry finds children who are bullied experience suffering that can interfere with their social and emotional development, and harm school performance.

ITIS, LLC All Rights Reserved

Bullies use anonymity to torment their victims



Anonymous communication platforms and the pre-teen-to-teenage brain are two things that don't mix all that well. Just [look at Ask.fm](#), for example, the social Q&A platform whose shield of anonymity led to cyberbullying that was later cited as a contributing factor in well over half a dozen suicides.

ITIS, LLC All Rights Reserved

Anonymous Networks & Apps

- National School Safety and Security Services reviewed more than 800 threats reported in the media during the first half of the 2014-2015 school year and found that about one-third were sent electronically using text message, social media, email or other online means. Threats included bomb scares, shootings, even terrorism.
- Cyber Bullying has skyrocketed!
- Use of anonymous social networks and apps has been a leading contributor.
- Applications such as [Yubo](#), [PSST](#), [Ask.fm](#), [Omegle](#), [Whisper](#), [Secret 2](#), [NoName](#), and [Kik](#) are examples of what students are using.

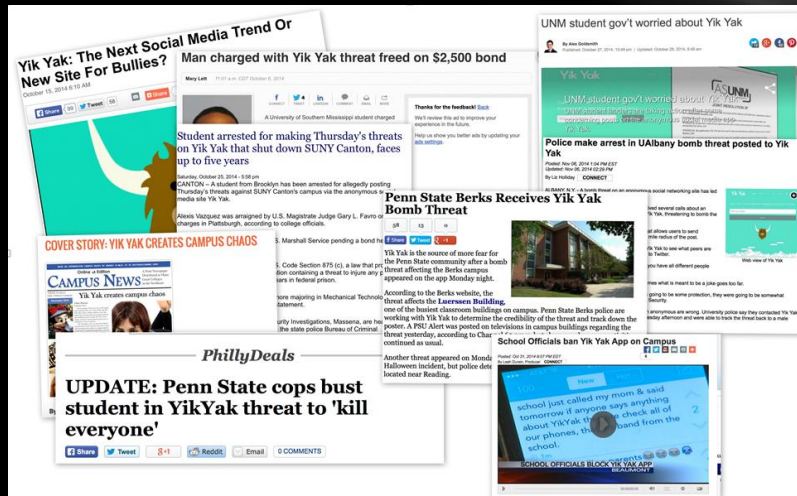
ITIS, LLC All Rights Reserved

Ask.Fm Victims

- **14-year old Hannah Smith** took her own life after receiving abusive messages from other users on the site: "drink bleach"; "go get cancer"; and "go die".
- **16-year old Floridian Jessica Laney** was found dead in her home after bullying on Ask.fm — one commenter had even asked "can you kill yourself already?" Others had called her "fat" and "a loser."
- **15-year-old Ciara Pugsley** committed suicide after being taunted by anonymous posters on the site who called her "slut" and "ugly."
- **13-year old Erin Gallagher**, who faced vicious bullying about her weight and looks, committed suicide.

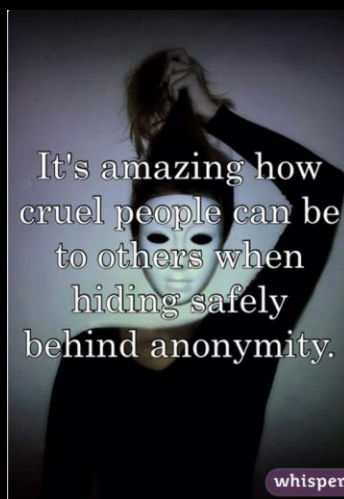
ITIS, LLC All Rights Reserved

Yik Yak in the News



ITIS, LLC All Rights Reserved

Anonymous Social Networking App Whisper



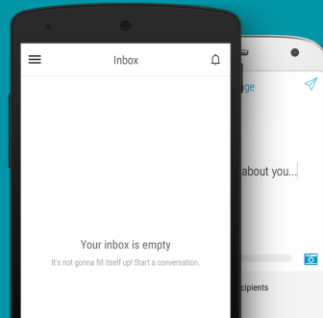
Whisper is a social networking service that relies on images and anonymity to create connections and conversations. Users are asked to set a username and PIN. You can respond to a message publicly or privately, choosing a public anonymous post or a private pseudonymous chat. Users don't have a public identity in the app. Parents can't retrieve "Whispers" from a child's phone without the PIN.

ITIS, LLC All Rights Reserved

PSST!



An anonymous social network and texting app with no history and no trace.



ITIS, LLC All Rights Reserved

NoName App



NoName - Anonymous Chat Rooms

Chat and Meet New People

Sandraatra Razafindralambo

★★★★☆ 4.5, 15 Ratings

Free · Offers In-App Purchases

ITIS, LLC All Rights Reserved

CyberBullying Case Studies

ITIS, LLC All Rights Reserved

Rebecca Ann Sedwick – 12 Years Old

Cyberbullying investigated in death of Florida girl

Barbara Liston, Reuters

Sep. 14, 2013 at 12:14 PM ET

ORLANDO, Florida (Reuters) - Authorities in Florida said on Friday they were investigating former schoolmates of a 12-year-old girl who killed herself in central Florida after she was bullied online for months.

It was not yet clear whether any criminal charges would be filed stemming from the suicide on Monday of Rebecca Ann Sedwick, who leaped to her death from the tower of an abandoned cement business site near her home in Lakeland.

While Polk County Sheriff Grady Judd told a news conference on Thursday that more than a dozen young girls were under investigation for bullying Sedwick, a sheriff's office spokeswoman said the number of possible suspects had been narrowed down considerably.

"There may have been only two or three of them who participated in the bullying," said sheriff spokeswoman Donna Wood.

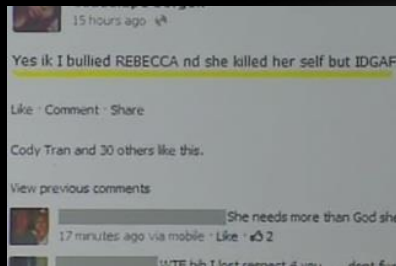


Polk County Sheriff's Office / Polk County Sheriff's Office
Rebecca Ann Sedwick

ITIS, LLC All Rights Reserved

Cyberbullying Arrests

- A 12 & 14 year old were arrested for this and other Cyberbullying posts.



ITIS, LLC All Rights Reserved

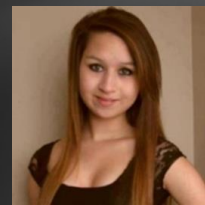
Cyber Bullying/Viral Shaming

Viral shaming through Facebook and other social media has led to suicide among multiple teenaged girls:

15-year-old Audrie Pott

17-year-old Rehtaeh Parsons

15-year-old Amanda Todd.



ITIS, LLC All Rights Reserved

Audrie Pott



15-year-old Audrie Pott, committed suicide eight days after a sexual assault.

She went to a party at a friends house, drank too much and passed out. When she woke she discovered her clothes were removed and there were drawings all over intimate parts of her body.

Later at school, she saw a group of students huddled around a cellphone and realized that at least one humiliating photo of her was circulating.

She was brutally cyberbullied and virally shamed over an incident she never remembered occurring. Eight days later she hung herself.

ITIS, LLC All Rights Reserved

Rehtaeh Parsons



Rehtaeh Parsons, of Nova Scotia, committed suicide in April at the age of 17 after allegedly having been gang-raped by four boys in 2011.

Not only was she raped but a photo of the alleged attack had gone viral, spreading throughout the community and resulting in unremitting harassment.

Two 18-year-old Canadian men were arrested on August 12, 2013 and have been charged with child pornography crimes over the alleged cyber-bullying of Rehtaeh Parsons.

ITIS, LLC All Rights Reserved

Resources



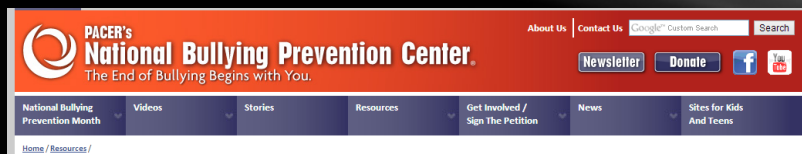
www.stopbullying.gov



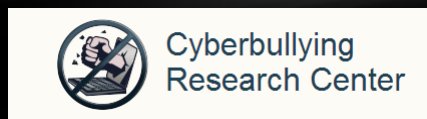
<http://www.ncpc.org/cyberbullying>

ITIS, LLC All Rights Reserved

Resources



<http://www.pacer.org/bullying/resources/>



<http://cyberbullying.us/>

ITIS, LLC All Rights Reserved

Hook-up Sites

Chatting, Meeting, Dating or ????



ITIS, LLC All Rights Reserved

Tinder

Tinder: An app that is used for hooking-up and dating. It is a location-based social discovery application that permits people to rate each other & chat between mutually interested users.



ITIS, LLC All Rights Reserved

A University of Kansas student has terrifying Tinder encounter

By Sophia Tulp, Ithaca College 3:34 pm
EDT May 18, 2016

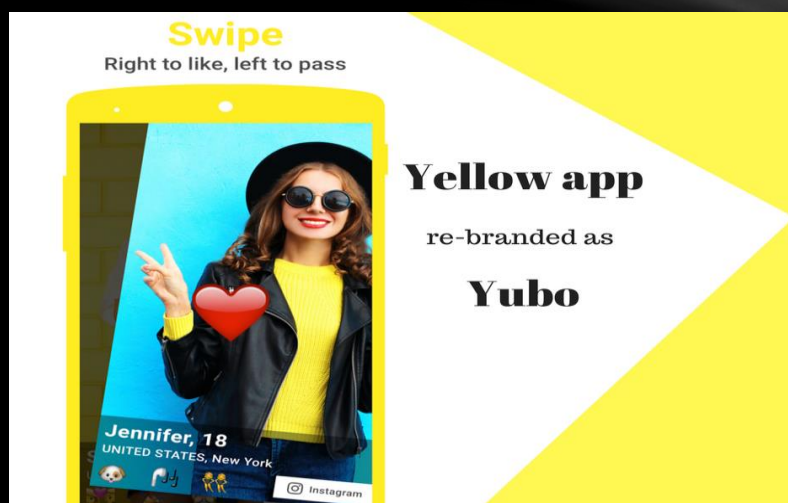
A University of Kansas student and sorority sister experienced a Tinder date gone horribly wrong last month when she was allegedly beaten and held against her will for six days by a man she met on the dating app.



Shane Steven Allen faces charges for allegedly kidnapping and beating a college student he met on Tinder.
(Photo: Douglas County Sheriff's Office)

ITIS, LLC All Rights Reserved

Yubo – Tinder for Teens



ITIS, LLC All Rights Reserved

MeetMe



Join 90+ million people
meeting and playing games!
It's fun, friendly, and FREE!

ITIS, LLC All Rights Reserved

Omegle

Omegle is a free online chat website that allows users to communicate with others without the need to register. The service randomly pairs users in one-on-one chat sessions where they chat anonymously using the handles "You" and "Stranger".



ITIS, LLC All Rights Reserved

Chatroulette

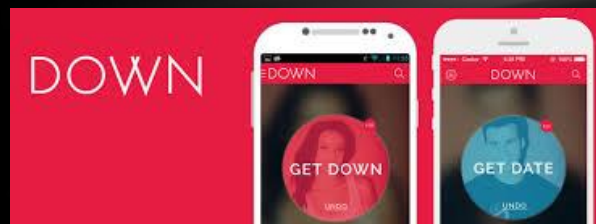
Chatroulette is an online chat website that pairs random people from around the world together for webcam-based conversations. Visitors to the website begin an online chat (text, audio and video) with another visitor.



ITIS, LLC All Rights Reserved

Down

This app, which used to be called Bang With Friends, is connected to Facebook. Users can categorize their Facebook friends in one of two ways: They can indicate whether or not a friend is someone they'd like to hang with or someone they are "down" to hook-up with.



ITIS, LLC All Rights Reserved



Amanda Todd's Story

Amanda was bullied viciously on Facebook where her schoolmates were invited to join a page which included her breasts as the Avatar, causing Amanda to suffer from anxiety and depression.

It started after an unknown man convinced her to expose herself online in front of a webcam. He told her she was beautiful and just wanted her to flash him. He blackmailed her (sextortion) and spread the photos around, destroying her reputation.

The bullying was incessant and although she changed schools 3 times it followed her via Social Networks.

On 10 October 2012, Amanda Todd committed suicide. It was just one week before her 16th birthday. 9 teens were arrested after she hung herself. [View Amanda's Story](#)

ITIS, LLC All Rights Reserved

Monitoring Apps

[Net Nanny](#) allows you to control your kids' internet activity remotely. Not only can you choose specific websites that you want blocked on your kids' phones; you can also block types of websites, such as ones involving dating, nudity, pornography or tobacco. You can also set it so that you will get a warning if your child types in a certain keyword, such as "suicide."

[SecureTeen](#) does even more: It gives your kids call logs, which means you know who your kids are calling, and who's calling them. It even enables you to read your kids' text messages.

[TeenSafe](#) may be the most advanced of all. Not only does track text messages and calls; it also pinpoints your child's exact GPS location instantly.

ITIS, LLC All Rights Reserved

Questions?

