

Introduction to the Internet

Presented by the
MC-NPL Computer Lab

Class Lesson Plans available at:
www.mc-npl.org/class-resources

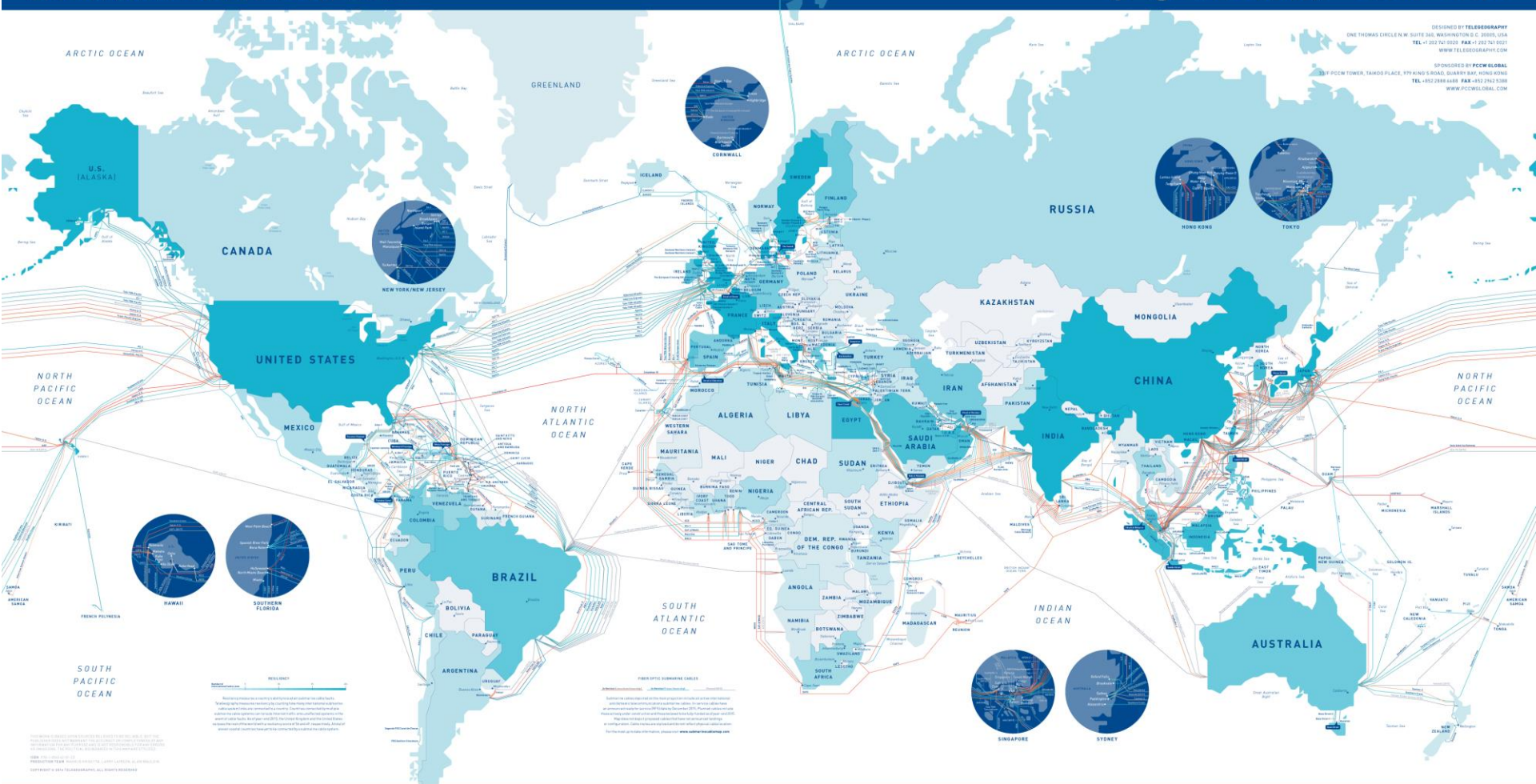
Objectives

- ▶ What is the Internet & how does it work?
- ▶ Who controls the Internet?
- ▶ What is the World Wide Web (aka “the Web”)?
- ▶ What do I need to access the Web?
- ▶ Terminology

What is the Internet?

The Internet is a global network of computers. It is millions of computers around the world, all connected, that share information with each other.

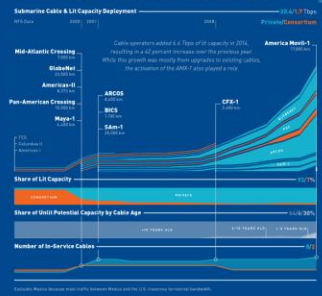
People often think of the Internet as a cloud in space. In reality, every computer in the Internet, is connected by actual wires -- Ethernet cables, phone lines, and fiber optic wiring on the ocean floor to connect the continents!



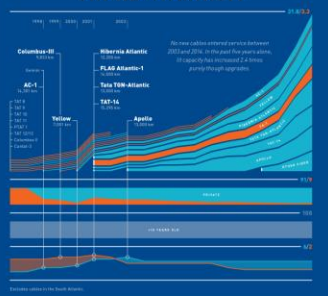
MAJOR ROUTES



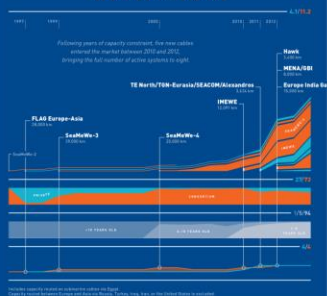
U.S. - LATIN AMERICA



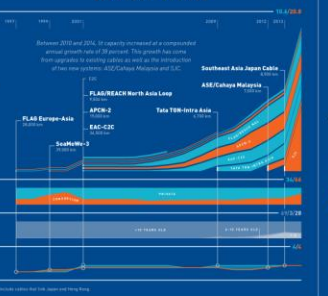
TRANS-ATLANTIC



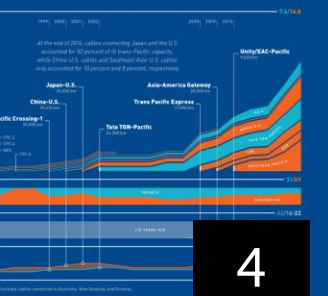
EUROPE-ASIA



INTRA-ASIA



TRANS-PACIFIC



What is a server?

There is a LOT of information on the Internet, but all of it comes from another computer somewhere. Special computers designed for transmitting information on the Internet are called servers.

Big Internet companies often own thousands of servers so that their websites are fast. To the right is a picture of one of Google's many server rooms, located in Georgia. A server room is a large, air-conditioned room filled with thousands of servers. When you do a Google web search, your computer just might be "talking" to one of the servers in this server room.

Google server room in Georgia



Who Controls the Internet?

- ▶ The Internet is a cooperative endeavor –no organization is “in charge” of it.
- ▶ The Internet is an inherently participative medium. Anybody can publish information or create new services.
- ▶ When you connect your computer to the Internet, you become part of the Internet.

What is the Web?

Many people use the words “**the Internet**” and “**the Web**” interchangeably, but they do not mean the same thing.

The “**Web**” (short for “World Wide Web”) is just one of the services that runs on the Internet. It is a collection of interconnected webpages, documents and other resources.

The “**Internet**” includes the web, e-mail, instant messaging, multiplayer gaming, and streaming media (like videos and music).

What do I need to access the Internet?

#1

A computer device such as:

Desktop Computer



Laptop Computer



Tablet



Smartphone



What do I need to access the Internet?

#2

An Internet connection, obtained through:

Internet Service Provider (ISP)

- ▶ Home & office computers
- ▶ Fastest speed
- ▶ Via: fiber, cable, DSL



Wi-Fi Hotspot

- ▶ Public place (library, coffee shop, hotel)
- ▶ Often free, but sometimes costs money or requires password



Cell Phone Carrier

- ▶ Smart phones only
- ▶ Wireless technologies:
3G (third generation), 4G, 5G, LTE (long-term evolution)
- ▶ Cost and usage limits vary depending on cell phone **data plan**
- ▶ Accessible anywhere phone has signal
- ▶ Speed varies depending on signal strength

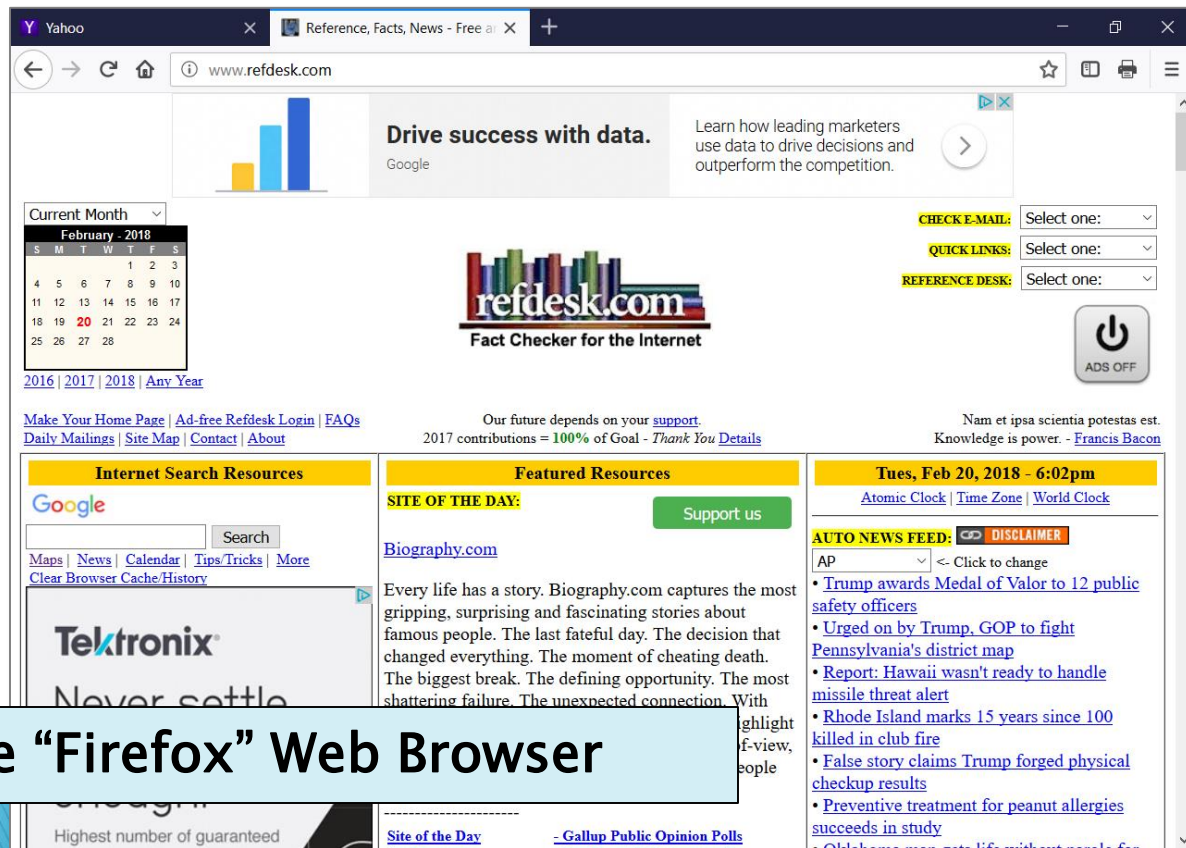


at&t

What do I need to access the Internet?

#3 A web browser

- ▶ A web browser is computer software that allows you to view webpages.



The screenshot shows a web browser window with the address bar displaying 'www.refdesk.com'. The page content includes a navigation menu, a calendar for February 2018, a search bar, and several sections: 'Internet Search Resources' with a Google search box, 'Featured Resources' with a 'SITE OF THE DAY' section for Biography.com, and an 'AUTO NEWS FEED' section with a list of news items. The browser's address bar shows 'Reference, Facts, News - Free al' and the page title is 'refdesk.com Fact Checker for the Internet'.

The “Firefox” Web Browser

Common Web Browsers



Chrome

- ▶ **Creator:** Google
- ▶ **Cost:** Free
- ▶ **U.S. Usage:** 47%
- ▶ Very good overall.



Internet
Explorer

- ▶ **Creator:** Microsoft
- ▶ **Cost:** Free
- ▶ **U.S. Usage:** 2%
- ▶ Comes with Windows.
- ▶ Only available on Windows.

Common Web Browsers



Safari

- ▶ **Creator:** Apple
- ▶ **Cost:** Free
- ▶ **U.S. Usage:** 36%
- ▶ Comes with iMacs, iPhones, and iPads.
- ▶ Only available on Apple products.



Firefox

- ▶ **Creator:** Mozilla
- ▶ **Cost:** Free
- ▶ **U.S. Usage:** 4%
- ▶ Non-profit company.
- ▶ Open source (you can see the computer code, makes them more accountable to their users).

Common Web Browsers



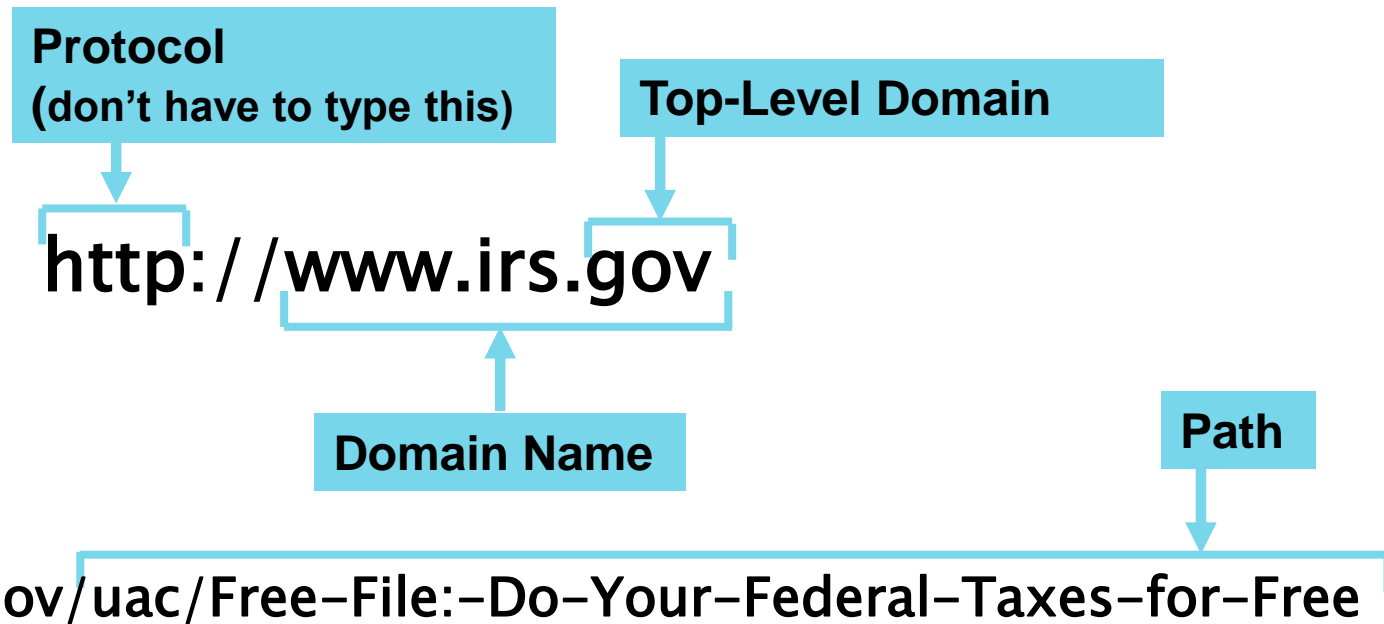
Edge

- ▶ **Creator:** Microsoft
- ▶ **Cost:** Free
- ▶ **U.S. Usage:** 4%
- ▶ New browser, only available on Windows 10.
- ▶ Meant to replace Internet Explorer.

What's a URL?

(Uniform Resource Locator)

A URL is the Internet address of a particular site or document available via the World Wide Web. Just like you have an address for your house, there is an address for each website.



Samples of invalid Internet addresses:

`www.computers`
`myname@computer.com`
`computer/net.com`

Common Top-Level Domains

This is an indication of the type of organization that is hosting the web page. It's a category of sorts.

.com	Commercial (for-profit business)	<code>www.google.com</code>
.net	Originally for network providers, now used as an alternative to “.com”	<code>www.comcast.net</code>
.org	Organization (non-profit)	<code>www.mc-npl.org</code>
.gov	Government agency	<code>www.irs.gov</code>
.edu	Educational institution	<code>www.mc3.edu</code>
.mil	Military	<code>www.army.mil</code>
Web sites located in other countries have a <u>two-letter country code</u> for their top-level domain. Each country has its own list of <u>second-level domains</u> (comes before the top-level domain)		<code>www.bbc.co.uk</code> .uk = “United Kingdom” (top-level domain) .co = “commercial” (second-level domain)

What is a hyperlink?

- ▶ A hyperlink is a graphic or a piece of text in a webpage that, when clicked, will send the reader to another webpage or document.
- ▶ Hyperlinks often look like [blue underlined text](#) but can also appear as icons or other graphics.
- ▶ Whenever you place your mouse cursor over a hyperlink, it will change into a pointing hand.



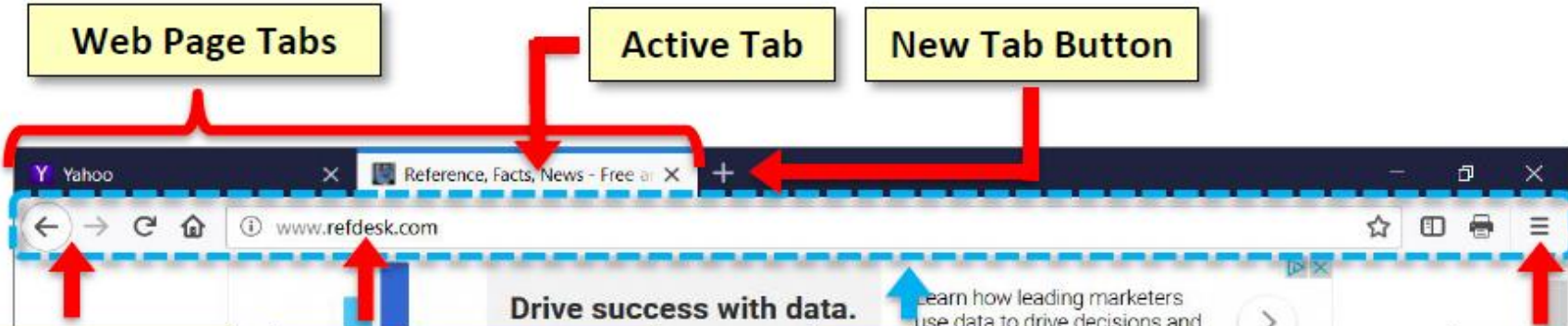
What can you do on the Internet?

Send and receive email	www.gmail.com
Read newspaper	www.philly.com
Get driving directions	www.mapquest.com maps.google.com
Search for a job	www.monster.com
Shop or Sell	www.amazon.com www.ebay.com
Research	www.wikipedia.com
Watch videos	www.youtube.com
Watch TV shows	www.hulu.com www.netflix.com
Check Train/Bus Schedules	www.septa.org
Communicate with government	www.state.pa.us
Get free credit reports	www.annualcreditreport.com
Fact-check rumors	www.snopes.com

Web Page Tabs

Active Tab

New Tab Button



Back & Forward Buttons

Address/Search Bar

Toolbar

Menu Button



2016 | 2017 | 2018 | Any Year

[Make Your Home Page](#) | [Ad-free Refdesk Login](#) | [FAQs](#)
[Daily Mailings](#) | [Site Map](#) | [Contact](#) | [About](#)

Our future depends on your [support](#).
2017 contributions = 100% of Goal - [Thank You Details](#)

Scroll Bar



Internet Search Resources

Google

Search
[Maps](#) | [News](#) | [Calendar](#) | [Tips/Tricks](#) | [More](#)
[Clear Browser Cache/History](#)

Tektronix
Never settle
for close
enough.

Highest number of guaranteed

Featured Resources

SITE OF THE DAY:

[Biography.com](#)

Every life has a story. Biography.com captures the most gripping, surprising and fascinating stories about famous people. The last fateful day. The decision that changed everything. The moment of cheating death. The biggest break. The defining opportunity. The most shattering failure. The unexpected connection. With over 7,000 biographies and daily features that highlight newsworthy, compelling and surprising points-of-view, we are the digital source for true stories about people that matter.

[Site of the Day](#)

[- Gallup Public Opinion Polls](#)

Hyperlink

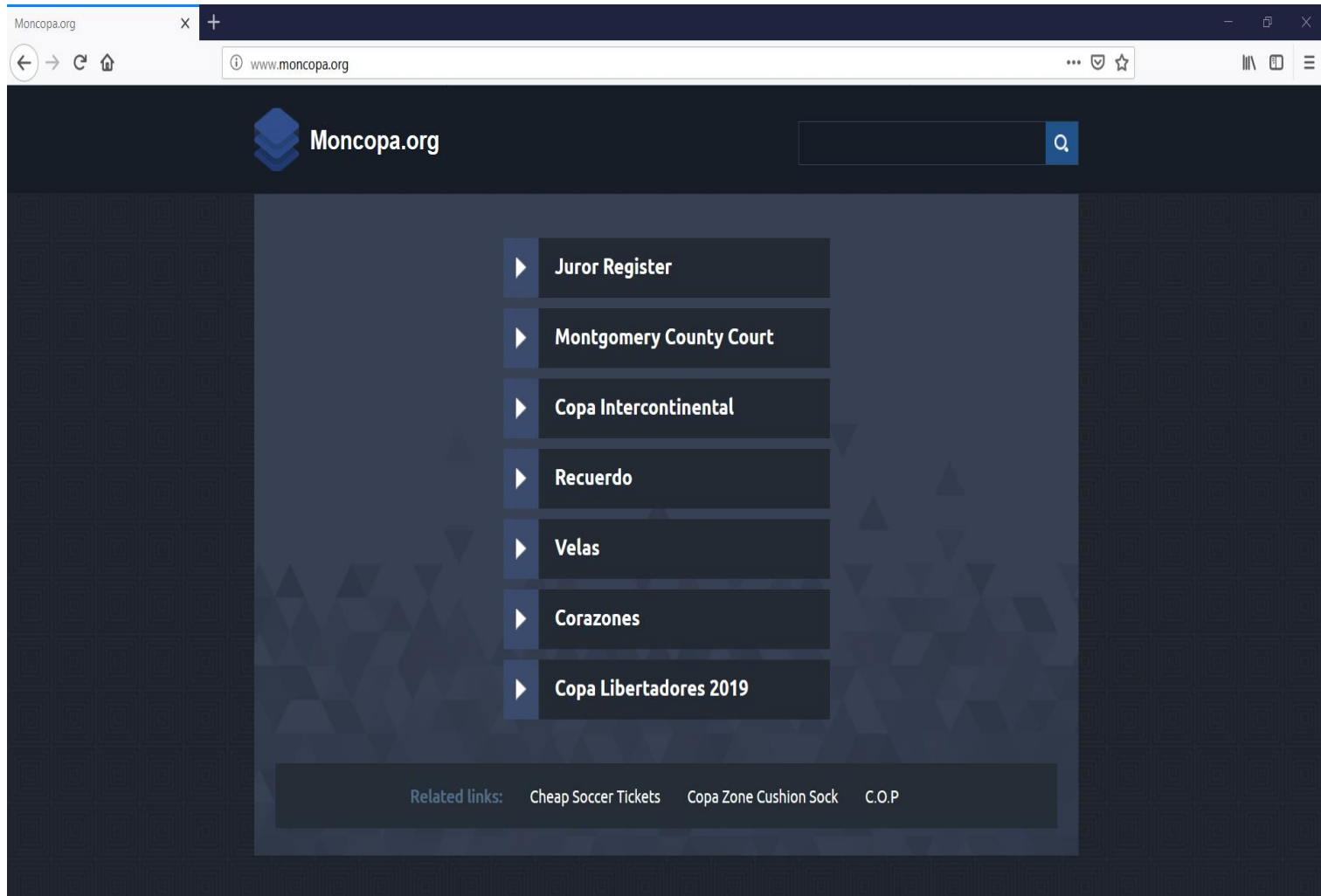
Tues, Feb 20, 2018 - 6:02pm

[Atomic Clock](#) | [Time Zone](#) | [World Clock](#)

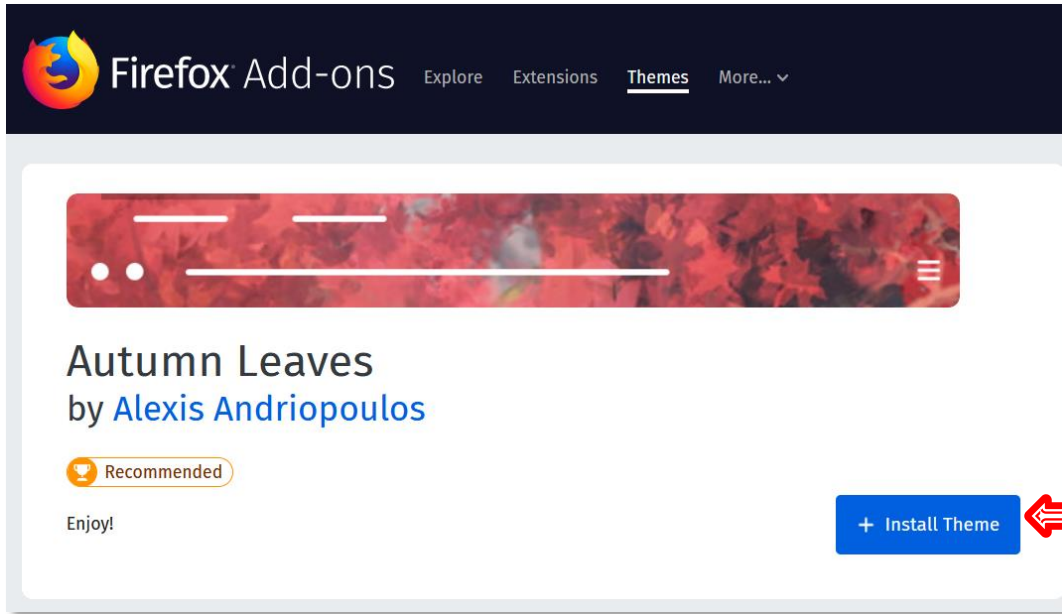
TO NEWS FEED: [DISCLAIMER](#)

- [Trump awards Medal of Valor to 12 public safety officers](#)
- [Urged on by Trump, GOP to fight Pennsylvania's district map](#)
- [Report: Hawaii wasn't ready to handle missile threat alert](#)
- [Rhode Island marks 15 years since 100 killed in club fire](#)
- [False story claims Trump forged physical checkup results](#)
- [Preventive treatment for peanut allergies succeeds in study](#)
- [Oklahoma man says life without parole for](#)

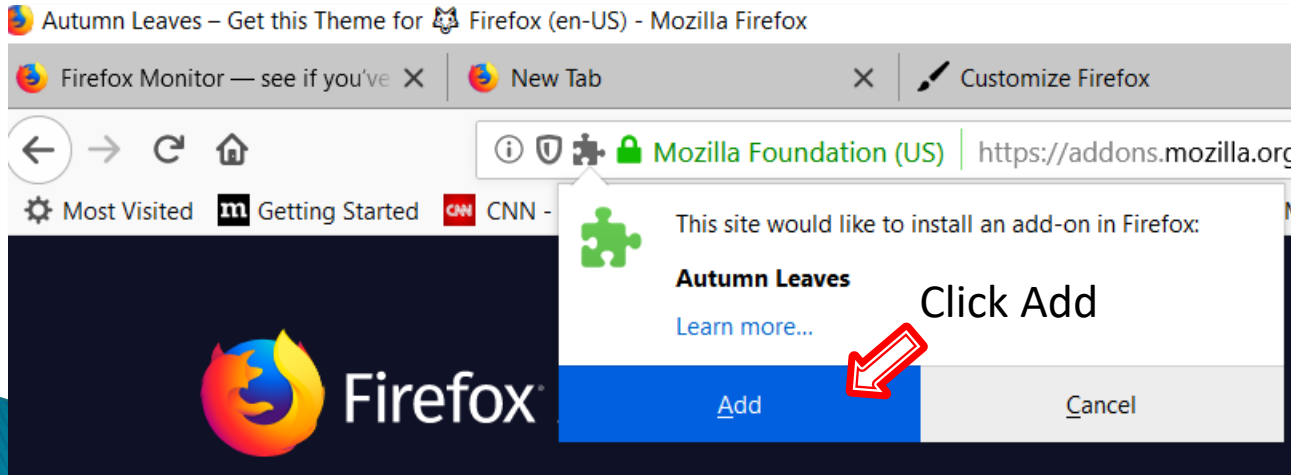
Getting to the Wrong Website



Installing a Theme in Firefox

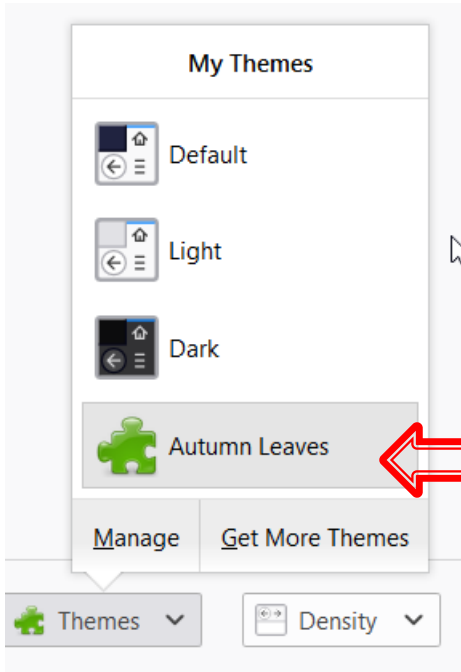
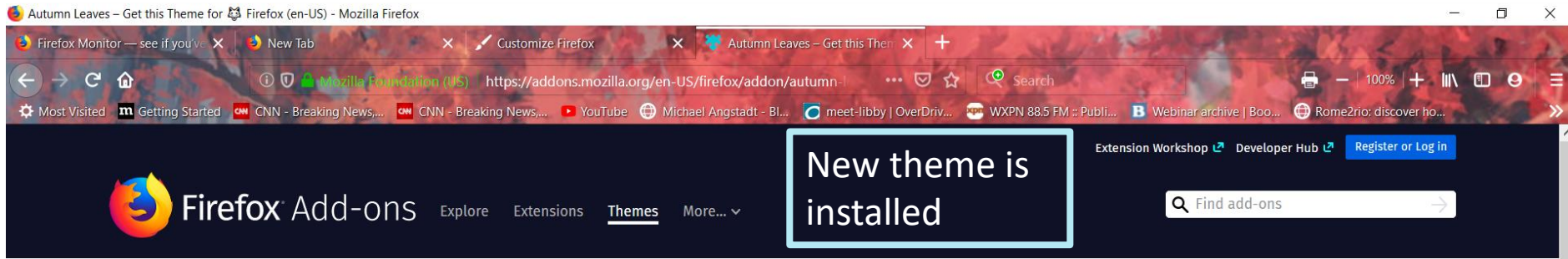


Click Install Theme



Click Add

Installing a Theme in Firefox



Theme is added to My Themes list

Pop up Blockers

pvlibrary.net/popup-demo

 Firefox prevented this site from opening a pop-up window.

[Options](#)



[Options](#)



Allow pop-ups for pvlibrary.net

Edit Pop-up Blocker Options...

Don't show this message when pop-ups are blocked

Show 'http://pvlibrary.net/popup-demo/popup.html'

Secure Websites

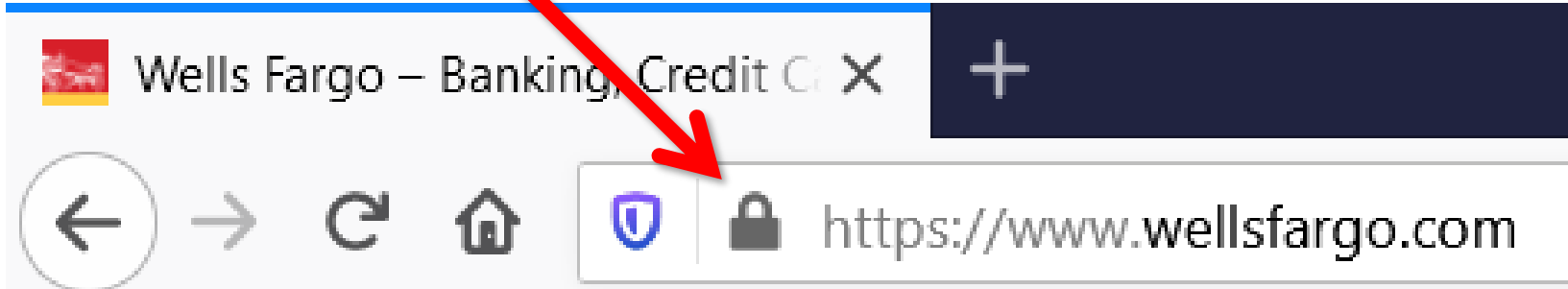


- ▶ There are times when you need to share personal information on the Internet.
 - Online shopping
 - Job applications
 - Bank account
 - Doing your taxes
- ▶ Only enter your personal information on secure websites.
- ▶ Secure websites encrypt your information so cyber criminals can't intercept it when it travels across the Internet.

How do I know if a website is secure?

Look for a padlock icon in the Address Bar.

If the padlock has an alert icon, it means the site is not fully secure.



Also note the “s” in “https”. Websites that use the “http” protocol (without the s) are NOT secure!

Passwords

- ▶ In order to use many of the services on the Internet, you need to create accounts, each of which require you to create a password.
- ▶ Examples of such services include:
 - Email
 - Facebook
 - Amazon
 - Bank Account
- ▶ If someone guesses your password, they can access your information, so your passwords should be hard to guess.

Characteristics of a **strong** password (most important)

- ★ Is significantly different from your other passwords
- ★ Is at least 8 characters long—the longer, the better (a character is anything you can type on the keyboard)
- ★ Is NOT a word from the dictionary
- ★ Is NOT a proper noun (person, place or thing—real **OR** fictional!)
- ★ Does NOT contain personal information (user name, real name, address, mother's maiden name).
- ★ Does NOT contain characters from adjacent keys (e.g. “zxcvb”)

Characteristics of a **strong** password (less important)

- Does NOT contain professions of love (“ilovedogs”)
(a lot of people do this)
- Does NOT start with an uppercase letter or end with numbers (another common pattern that makes your password easier to guess).
- Does NOT contain “clever” substitutions for letters or words (“@” instead of “a”, “4” instead of “for”)

Characteristics of a **strong** password

Misconception:

Having a mix of different types of characters increases the strength of your password.

Category	Examples
Uppercase letters	A B C
Lowercase letters	a b c
Numbers	1 2 3
Special characters	# % - (space)

- **This a relic from the past.** The National Institute for Standards and Technology (NIST) removed this from their security best practices in June 2017.
- Unfortunately, many websites still enforce this rule, but know that this alone does not make your password more secure!

This website erroneously considers a password to be “strong” if it has a mix a different characters:

Sign in Create an Account

An account is needed to access all of your Norton products and services.

g2963487@nwytg.com

g2963487@nwytg.com

geyps5aykj0q71c637n9gf4ycg

Your password must be 6 characters or longer.
For a more secure password:

- ✗ Use upper and lower case letters
- ✓ Use at least 1 number
- ✗ Use at least 1 symbol

Strength: Weak

This is NOT a “weak” password!

Sign in Create an Account

An account is needed to access all of your Norton products and services.

g2963487@nwytg.com

g2963487@nwytg.com

Password123!|

Your password must be 6 characters or longer.
For a more secure password:

- ✓ Use upper and lower case letters
- ✓ Use at least 1 number
- ✓ Use at least 1 symbol

Strength: Strong

And this is NOT a “strong” password!

Some good passwords

rOses21forEver

long, easy to remember

“roses forever”

giraffeeats75dicedpears

4 random words from the dictionary formed into a memorable sentence with numbers

there are 100 speCies of roses

long, passwords don't have to be words—they can be phrases. The spaces are part of the password.

qaH5RbM1ib

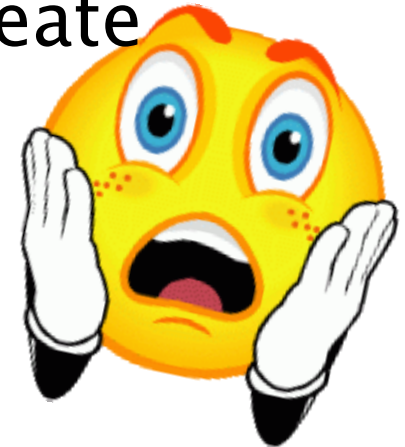
random letters and numbers

Some bad passwords

elephant	Just a word from dictionary
f8#Za	Too short
1qaz2wsx	Adjacent keys
ilovemusic64	Profession of love Ends in numbers
\$uperm@n	Proper noun “Clever” substitutions
BillClinton	Proper noun Starts with capital letter
4-13-1970	Birthdate (personal info)
143mapleln	Address (personal info)

What if I forget my password?

- ▶ Most websites provide an option for resetting your password via email if you forget it.
- ▶ Therefore, you should never forget your email password. Spend time to make it is both secure and easy to remember.
- ▶ Your email account is like your ID card for the Internet—most services will ask you for your email address in order to create accounts with them.



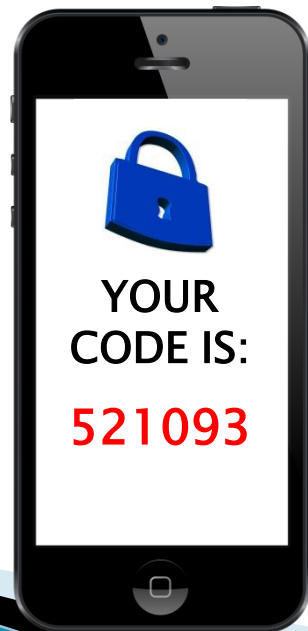
What if I forget my email password??



- ▶ Most email services provide ways of resetting your email password so you can regain access to it.
 - Cell phone: They will send you a text message with a code that allows you to reset your password.
 - Alternate email address
 - Security questions (“What was the name of my first pet?”)
- ▶ **BUT**: In order for these things to work, you must enter this additional information **before** you lose your password!

Extra Security... 2-Factor Authentication

- ▶ Many websites with personal information such as e-mail & banking now offer an extra layer of security to verify it's really you.
- ▶ This is called 2-Factor or Multi-Factor Authentication, or sometimes 2-Step Verification.
- ▶ It combines your password with a unique code that can be texted, sent to your primary (or alternate) e-mail, or even via an automated phone call.



Can I write my passwords down?

- ▶ Write them down by hand in a notebook.
 - Store it in a safe place
 - Do NOT carry it around with you in case you lose it
- ▶ Password storage programs (e.g. KeePass)
 - Encrypts your password list with a master password
 - Saved on your home computer
 - Auto-generates secure passwords for you.
 - Don't forget the master password or else you're out of luck!
- ▶ Secure cloud storage (Google Drive, Dropbox)
 - Store your password list on the cloud, so you can access it anywhere
 - But make sure your cloud password is secure!

Scams – Phishing

- ▶ Emails that look like they are from legitimate organizations (like your bank).
- ▶ Trick you into entering your personal information.



From: WellsFargo - Support_Online <WellsOnlineBank2@comcast.net>

Date: December 8, 2017 at 2:23:01 PM EST

To: Undisclosed-Recipients;

Subject: **!Alerts!**

wellsfargo.com

The Wells Fargo logo, consisting of the words "WELLS" and "FARGO" stacked vertically in a yellow, serif font, set against a red square background.

Security Information Regarding Your Account.

We are sorry, **For your protection and security reasons,** your Wells Fargo account has been locked.

Please click on the following link to unlock your account.

Log-in to :<https://www.wellsfargo.com/online-banking/updating>

Thank you for bringing this matter to our attention.

Sincerely,

Wells Fargo Online Banking Team.

wellsfargo.com | [Fraud Information Center](#)

Scams – Phishing

United Nations <LindaTutu.@wine.ocn.ne.jp>

May 25 (1 day ago) ☆



Why is this message in Spam? It's similar to messages that were detected by our spam filters. [Learn more](#)

This is to inform you that we have been working towards the eradication of fraudsters and scam Artists in Africa with the help of the Organization of African Unity (OAU) United Nations (UN), European Union (EU) and FBI.

We have been able to track down some scam artist in various parts of African countries which includes (Nigeria, Republic of Benin, Ghana and Senegal with cote d'ivoire) and they are all in Government custody now, they will appear at International Criminal Court (ICC) soon for Justice.

During the course of investigation, they were able to recovered some funds from these scam artists and IMF organization have ordered the funds recovered to be shared among the 10 Lucky people listed around the World as a compensation. This notice is been directed to you because your email address was found in one of the scam Artists file and computer hard-disk while the investigation, maybe you have been scammed. You are therefore being compensated with sum of (\$10.7 Million) US Dollars valid into an (ATM Card Number 2354 3456 0952 4204).

Since your email address is among the lucky beneficiaries who will receive a compensation funds, we have arranged your payment to be paid to you through ATM VISA CARD and deliver to your postal address with the Pin Numbers as to enable you withdrawal maximum of \$5,000 on each withdrawal from any Bank ATM Machine of your choice, until all the funds are exhausted.

The ATM Card with Security Pin Numbers shall be delivered to you via courier Service, depending your choice.

In order to proceed with this transaction, you will be required to contact the agent in-charge (MR.STEVE JOHNSON) via e-mail. Kindly look below to find appropriate contact information:

CONTACT AGENT NAME: MR.STEVE JOHNSON

Phone Number: +229-6897-0405

You will be required to e-mail him with the following information:

FULL NAME:
ADDRESS:
CITY:
STATE:
ZIP CODE:
DIRECT CONTACT NUMBER:
OCCUPATION:

We advice you to stop all the communications with everyone regarding your payment as we have short listed to de you and now urge you to comply and receive your ATM Card funds.

Thanks for your understanding as you follow instructions while I wait to hear from you today.

Yours in Services

Story: United Nations caught scam artists, and are giving away the money they stole.

 **Red flag: Offering you free money**

 **Red flag: Asking for personal information**

Scams – Phishing

Google Service <francis.s@sparksco.com>

May 18 (8 days ago) ☆

to me ▾



Molly Matthews (Google Support) has sent you a message:

5/19/2016

Returned email message.

[Learn more](#)

[View messages](#)

Don't want occasional updates about Google activity? [Change](#) what email Gmail Team sends you.



Red flag: This email claims to be from Google, but the email address doesn't have "google" in it.

Scams – Phony Error Messages

The image shows a Windows 7 desktop with a BSOD (Blue Screen of Death) error message. The error message text includes: "BSOD: dllRegistersS the error code 0x80016CFA", "Your Windows 7 / Server 2008 R2 64-bit Error code: 0x80016CFA", "Error code: 0x80016CFA in application", "STOP: 0x0000007B INACCESSIBLE_BOOT_D", "Error code 0x800610A3 while starting Defender due to Malware Activity on bit", "Windows 7 / Server 2008 R2 64-bit De 0x000B0043", "Error code 0x800610A3 unauthorized a", "Please contact Mic number:", "(855) 572-9520", and "to immediately rec".

A "Message from webpage" dialog box is overlaid on the error message. The dialog box contains the following text: "Dear customer, A serious malfunction has been detected with Windows 7 / Server 2008 R2 7 and your IE 11.0. Please call the toll-free number below for a Microsoft-Certified technician to help you resolve the issue: (855) 572-9520 For your safety, closing the IE browser has been disabled without support of the Microsoft-Certified technician to avoid corruption to the registry of your Windows 7 / Server 2008 R2 64-bit operating system Please contact support at the toll-free Helpline (855) 572-9520 DO NOT SHUT DOWN OR RESTART THE COMPUTER, DOING THAT MAY LEAD TO DATA LOSS AND POSSIBLE FAILURE OF THE OPERATING SYSTEM AND POTENTIAL NON BOOTABLE SITUATION RESULTING IN COMPLETE DATA LOSS, CONTACT MICROSOFT CERTIFIED TECHNICIANS TO RESOLVE THE ISSUE CALLING TOLL FREE - (855) 572-9520 Dear customer, A serious malfunction has been detected with Windows 7 / Server 2008 R2 7 and your IE 11.0. Please call the toll-free number below for a Microsoft-Certified technician to help you resolve the issue: (855) 572-9520 For your safety, closing the IE browser has been disabled without support of the Microsoft-Certified technician to avoid corruption to the registry of your Windows 7 / Server 2008 R2 64-bit operating system Please contact support at the toll-free Helpline (855) 572-9520 DO NOT SHUT DOWN OR RESTART THE COMPUTER, DOING THAT MAY LEAD TO DATA LOSS AND POSSIBLE FAILURE OF THE OPERATING SYSTEM AND POTENTIAL NON BOOTABLE SITUATION RESULTING IN COMPLETE DATA LOSS, CONTACT MICROSOFT CERTIFIED TECHNICIANS TO RESOLVE THE ISSUE CALLING TOLL FREE - (855) 572-9520".

A red flag icon is positioned to the left of the text "Red flag: Asking you to call a phone number." which is enclosed in a red-bordered box. A red line connects this box to the scam message in the dialog box.

A large red-bordered callout box contains the following text: "A serious malfunction has been detected with Windows 7 / Server 2008 R2 7 and your IE 11.0. Please call the toll-free number below for a Microsoft-Certified technician to help you resolve the issue: (855) 572-9520".

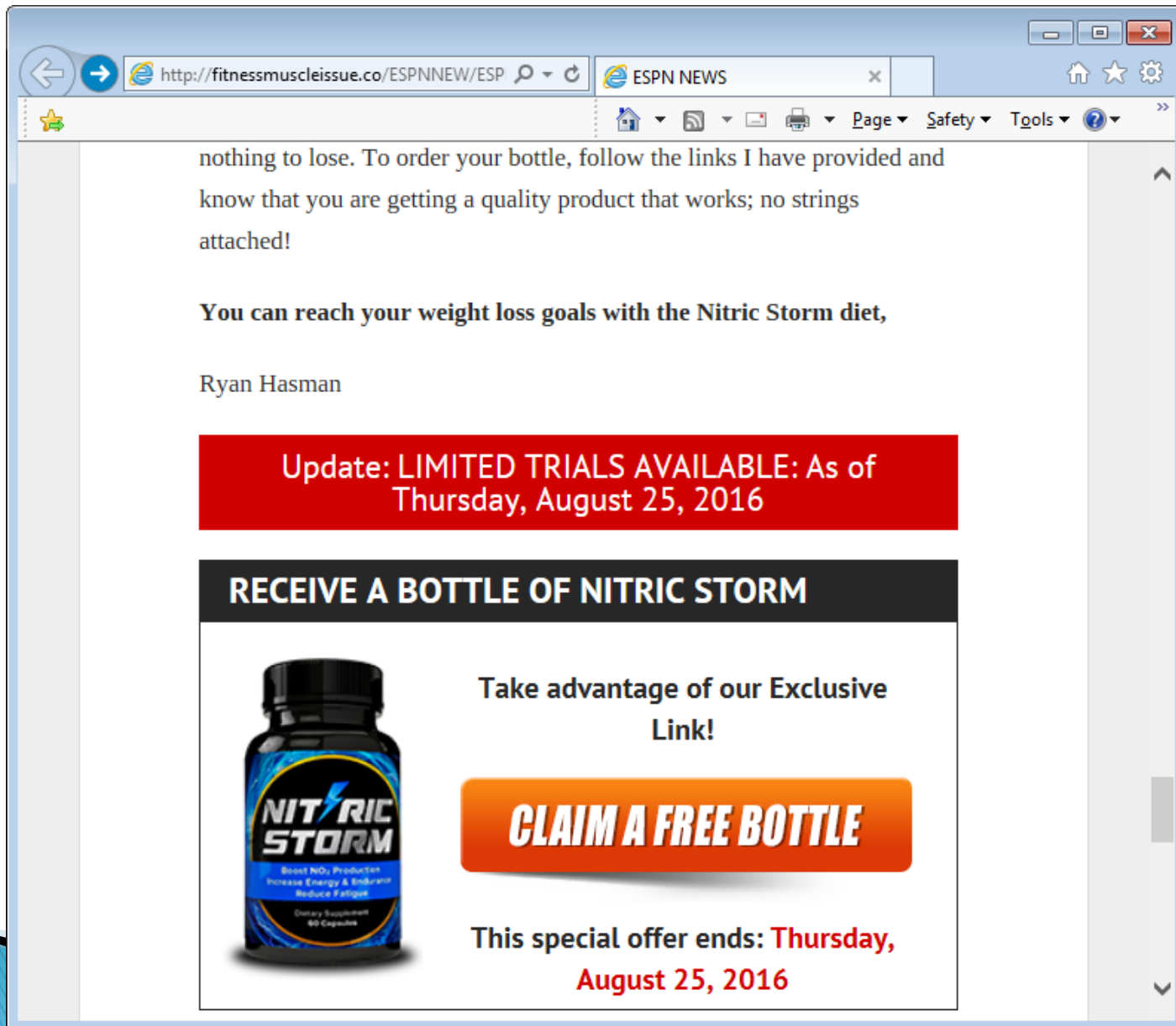
The desktop background shows a taskbar with the Start button, Internet Explorer icon, and system tray with the time 3:39 PM and date 3/31/2016.

Scams – Phony Websites

The screenshot shows a web browser window with the URL <http://fitnessmuscleissue.co/ESPNNEW/ESP>. The page features the ESPN logo and navigation links for PGA, NBA, MLB, NCAAF, NHL, and Soccer. A search bar and a 'Login' button are also present. Below the navigation is a secondary menu with links for NCAAF, Home, Scores, Ranking, Teams, Stats, Standings, Schedules, CFB Nation, Recruiting, Bowls, and More. A banner for 'RELIVE THE GREAT ASHES MOMENTS IN HISTORY' is visible. The main headline reads 'TIGER CALLS OUT PHIL ON 'USE!' ARE MICKELSON'S SUPPLEMENTS LEGAL?'. Below the headline is a sub-headline '2d - COLLEGE FOOTBALL LSU TIGERS' and social sharing buttons for Facebook and Twitter. At the bottom, there are two images: one of a golfer in a white shirt and cap, and another of Tiger Woods in a red shirt and cap.

Product ad on next slide

Scams – Phony Websites



The screenshot shows a web browser window with the address bar containing the URL <http://fitnessmuscleissue.co/ESPNNEW/ESP>. The page content includes:

nothing to lose. To order your bottle, follow the links I have provided and know that you are getting a quality product that works; no strings attached!

You can reach your weight loss goals with the Nitric Storm diet,

Ryan Hasman


Update: LIMITED TRIALS AVAILABLE: As of Thursday, August 25, 2016

RECEIVE A BOTTLE OF NITRIC STORM

Take advantage of our Exclusive Link!

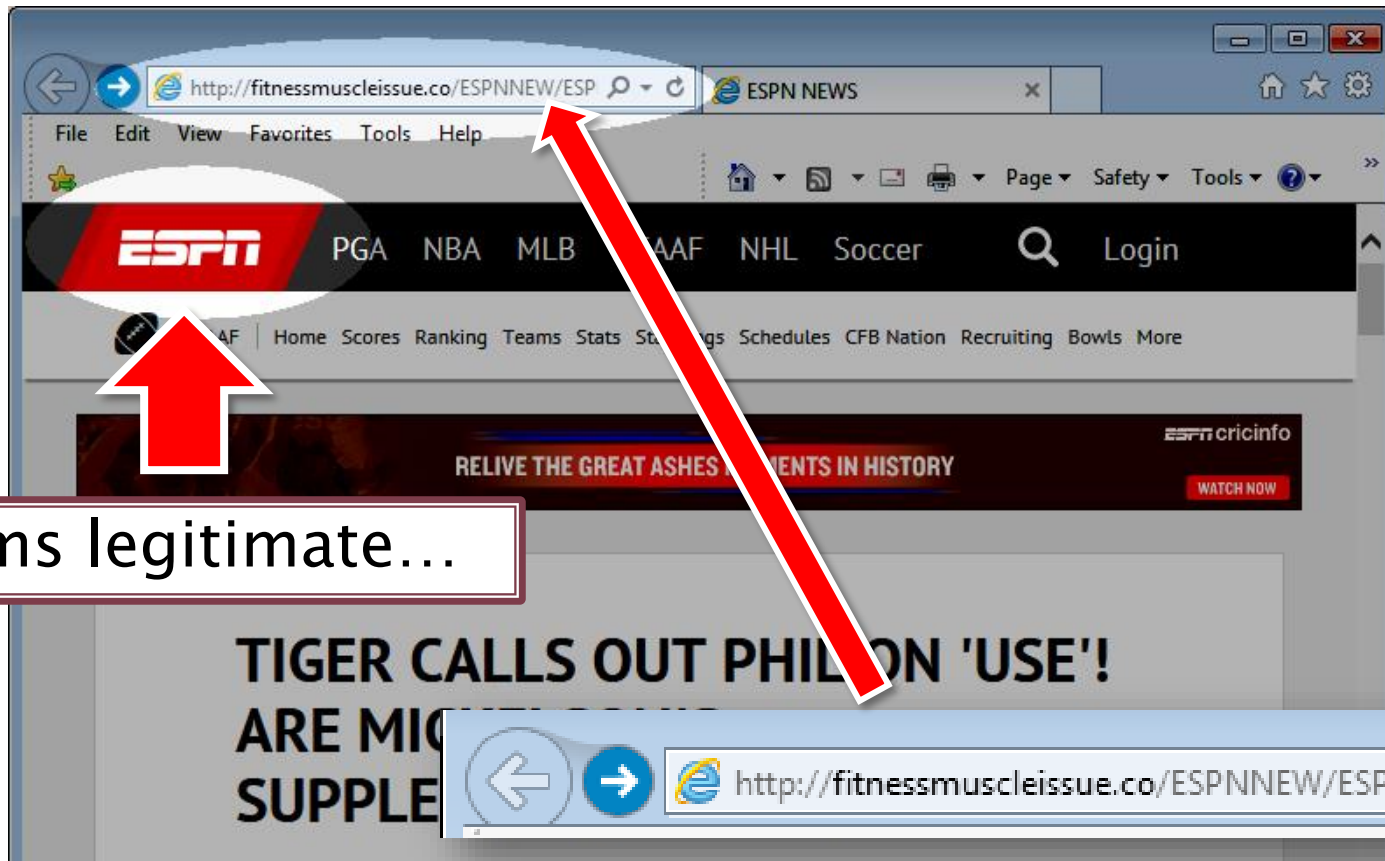
CLAIM A FREE BOTTLE

This special offer ends: **Thursday, August 25, 2016**




The image shows a black plastic bottle of Nitric Storm dietary supplement. The label is blue and black with the product name 'NITRIC STORM' in large, bold letters. Below the name, it lists benefits: 'Boost NO₂ Production', 'Increase Energy & Endurance', and 'Reduce Fatigue'. At the bottom of the label, it says 'Dietary Supplement 60 Capsules'.

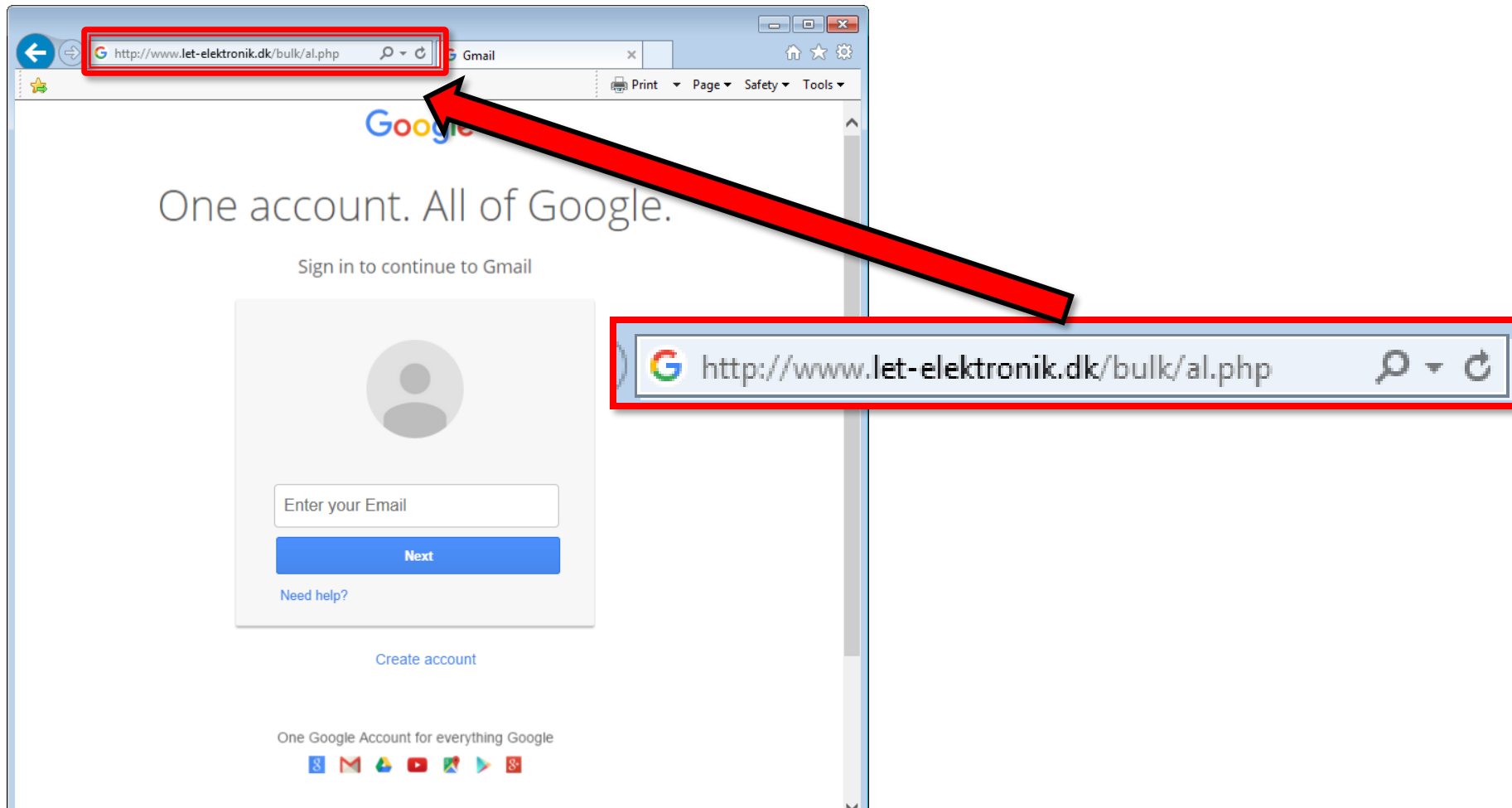
Scams – Phony Websites



Seems legitimate...

 **Red flag:**
...but look at the URL! Where is “espn.com”?
Remember the age-old saying:
If it sounds too good to be true...it probably is.

Scams – Phony Websites



 **Red flag:**
This is NOT the Google sign-in page! Look at the address bar!


Scams – Ransomware

- ▶ Play on words—ransom + software
- ▶ Uses modern encryption tech to lock you out of your files unless you pay money to unlock them
- ▶ Sometimes it tries to scare you into thinking that you broke the law and the government locked you computer.
- ▶ Demands \$1,077 on average (2016)
- ▶ Workplaces, such as hospitals, are often victims. They often will pay because it's a drop in the bucket compared to the money they would lose if their computers are down
- ▶ Will they actually unlock your files if you pay up? Most of the time, yes (but not always).

Scams – Ransomware

CryptoLocker

Your personal files are encrypted!



Private key will be destroyed on
9/15/2013
8:44 PM

Time left
57 : 45 : 37

Your important files **encryption** produced on this computer: photos, videos, documents, etc. [Here](#) is a complete list of encrypted files, and you can personally verify this.

Encryption was produced using a **unique** public key [RSA-2048](#) generated for this computer. To decrypt files you need to obtain the **private key**.

The **single copy** of the private key, which will allow you to decrypt the files, located on a secret server on the Internet; the server will **destroy** the key after a time specified in this window. After that, **nobody and never will be able** to restore files...

To obtain the private key for this computer, which will automatically decrypt files, you need to pay **300 USD / 300 EUR / similar amount** in another currency.

Click «Next» to select the method of payment and the currency.

Any attempt to remove or damage this software will lead to the immediate destruction of the private key by server.

Next >>

Scams – Ransomware

YOUR COMPUTER HAS BEEN LOCKED!

This operating system is locked due to the violation of the federal laws of the United States of America! (Article 1, Section 8, Clause 8; Article 202; Article 210 of the Criminal Code of U.S.A. provides for a deprivation of liberty for four to twelve years.)

Following violations were detected:

Your IP address was used to visit websites containing pornography, child pornography, zoophilia and child abuse. Your computer also contains video files with pornographic content, elements of violence and child pornography! Spam-messages with terrorist motives were also sent from your computer.

This computer lock is aimed to stop your illegal activity.

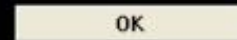
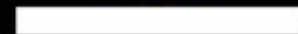
To unlock the computer you are obliged to pay a fine of \$200.

You have 72 hours to pay the fine, otherwise you will be arrested.

You must pay the fine through [REDACTED]

To pay the fine, you should enter the digits resulting code, which is located on the back of your [REDACTED] in the payment form and press OK (if you have several codes, enter them one after the other and press OK).

If an error occurs, send the codes to address fine@fbi.gov.



Scams – Ransomware



How to protect against ransomware:

- ▶ Avoid downloading suspicious email attachments. This is the most common way ransomware spreads.
- ▶ Backup your data regularly (copy important files to a flash drive).
- ▶ Unplug flash drives and external hard drives as soon as you are done using them.
- ▶ Have anti-virus software installed on your computer
- ▶ Avoid clicking links in suspicious emails
- ▶ Avoid clicking advertisements on websites
- ▶ More info: tinyurl.com/je9yzf7

Scams

If you've been a victim to any of these scams, file a report with the FBI's **Internet Crime Complaint Center (IC3)**

www.ic3.gov



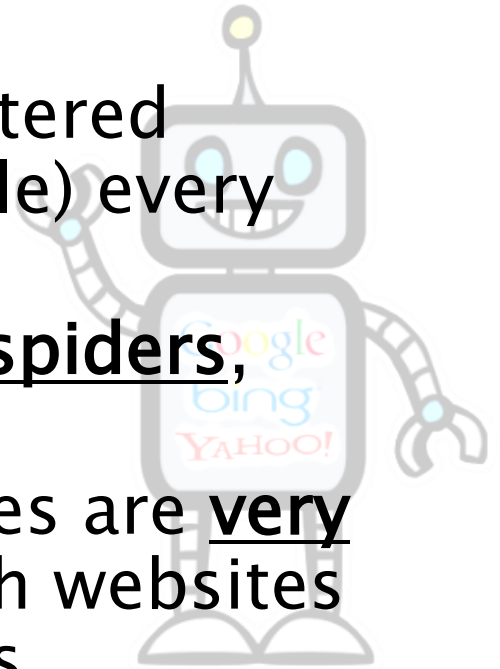
Search Engines

- ▶ There are over 6.52 billion web pages on the Internet.
- ▶ If you don't know the URL (address) of the web page that has what you're looking for, how are you supposed to find anything?
- ▶ Search engines to the rescue!



Search Engines

- ▶ Search engines use thousands of clustered computers to “index” (make searchable) every single webpage on the Internet.
- ▶ The programs that do this are called spiders, bots, or crawlers.
- ▶ It’s a complex process—search engines are very secretive about how they decide which websites appear at the top of the search results.
- ▶ But generally, websites that are linked to by lots of other websites appear at the top of the search results.
- ▶ SEO (Search Engine Optimization): Multi-million dollar industry focused on increasing website search engine rankings.



Most Popular Search Engines

1 

2 

3 

4 

5 

* 

Search Tips



- ▶ Imagine what words would likely appear on the pages you are looking for
 - Instead of searching for “my head hurts”, search for “headache”
- ▶ If you do not get useful results, try using other words that mean the same thing.
 - For example, instead of “headache”, try “migraine”.
- ▶ Also: Try using a different search engine if you don’t get good results
- ▶ Be careful of words with multiple meanings.
 - “penguins”: Could mean the animal or the hockey team
 - “turkey”: Could mean the country, the animal, or the food.

Demonstrating “Phrase Search”

“The Internet, referring to the specific global system of interconnected IP networks, is a proper noun and written with an initial capital letter.”