

Phishing, Vishing &
Smishing
Concept & Safety Concern



**Chandni Agarwal** 

# **Social Engineering Attacks**



A social engineering attack takes place in three steps. First, the attacker targets a victim. Second, they earn their trust. Third, they gain what they were after, usually breaking security practices or stealing information.

These attacks tend to work based on six principles:

- •Authority and trust: where the attacker poses as an authority figure.
- •Consensus and social proof: where peer pressure forces someone to commit an action.
- •Scarcity: the idea that a victim will miss out if they don't act.
- •Urgency: the idea that the victim will miss out if they don't act fast.



# Internet Crime Report 2021



INTERNET CRIME COMPLAINT CENTER

#### **Last 3 Year Complaint Count Comparison**

By Victim Count	ctim Count  ▼ ▲ = Trend from previous Year					
Crime Type	2021		2020		2019	
Non-Payment/Non-Delivery	82,478	•	108,869	<b>A</b>	61,832	•
Other	12,346	<b>A</b>	10,372	•	10,842	<b>A</b>
Overpayment	6,108	•	10,988	•	15,395	•
Personal Data Breach	51.829	<b>A</b>	45.330	<b>A</b>	38.218	<b>V</b>
Phishing/Vishing/Smishing/Pharming	323,972	<b>A</b>	241,342	<b>A</b>	114,702	<b>A</b>
Ransomware	3,729	À	2,474	<b>A</b>	2,047	<b>A</b>
Real Estate/Rental	11,578	•	13,638	<b>A</b>	11,677	<b>A</b>
Ro-Chinning	516	•	883	•	۵۲۵	•



आर्थिक अपराध इकाई, बिहार, पटना

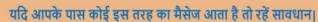


#### बिजली बिल बकाया के नाम पर साइबर ठगी का नया तरीका

- 1. बिजली आपूर्ति बाधित किये जाने की दी जाती है धमकी
- 2. साइबर अपराधी द्वारा बिजली बिल बकाया से संबंधित भेजे जा रहे हैं SMS
- 3. SMS में मोबाइल नंबर भेजकर संपर्क करने को कहा जाता है
- 4. फिर बनाया जाता है साइबर ठगी का शिकार

Notification.

**Dear Consumer Your Electricity** power will be disconnected. Tonight at 9.30 pm from electricity office. because your previous month bill was not update. Please immediately contact with our electricity officer call 91538095xx Thank you.



अगर बिजली बिल से संबंधित कोई SMS या email प्राप्त हो तो संबंधित बिजली विभाग के ऑफिसियल नंबर या कस्टमर केयर नंबर पर संपर्क कर सत्यापित कर लें।

सतर्क रहें, जागरूक रहें, सुरक्षित रहें

साइबर काण्ड से संबंधित कोई भी शिकायत National Cyber Crime Reporting Portal के वेबसाईट https://cybercrime.gov.in/ तथा हेल्पलाईन नंo-1930 पर दर्ज करा सकते हैं।

#### SIM अचानक बंद हो गई ऐसा लगा नेटवर्क प्रॉब्लम है

जयपुर की एक CA फर्म के दो मालिक हैं। 11 फरवरी को दोनों की JIO SIM से अचानक नेटवर्क गायब हो गया।



कंपनी के लोगों ने उन्हें बताया कि काफी देर से आपका फोन आउट ऑफ नेटवर्क जा रहा है।

उस दिन जयपुर में नेटवर्क डिस्टर्ब था, इसलिए आम मसला सोच दोनों ने इसे इग्नोर कर दिया।

शाम तक नेटवर्क नहीं आया तो चिंता हुई। ग्र0 स्टोर से नई सिम खरीदी और चालू करने की रिक्वेस्ट डाली।

- इस दौरान दोनों ने अपने बैंक खातों में नेटबैंकिंग के लिए लॉगिन करने की कोशिश की. लेकिन नहीं हो पाया।
- शक होने पर बैंक के कस्टमर केयर से बात की तो उनसे मिली जानकारी सुन दोनों के पैरों तले जमीन खिसक गई।
- 11 और 12 फरवरी की रात कई ऑनलाइन ट्रांजेक्शन हुए थे, जिसके बाद बैलेंस जीरो था।



#### बस ४ मिनट और खाते से पार हो गए ३० लाख रूपए

बाड़मेर के बालोतरा में एक प्राइवेट फैक्ट्री के मैनेजर हरि प्रसाद की BSNL सिम में 19 फरवरी को अचानक नेटवर्क गायब हुआ।

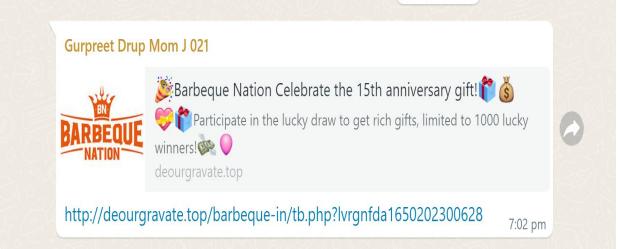


हरि प्रसाद ने बाजार से SIM बदलवा ली. लेकिन दो दिन तक उन्हें किसी बात का एहसास नहीं हुआ।

- एक पुराने ट्रांजेक्शन के सिलसिले में जब हरि प्रसाद बैंक गए तो वहां मिली जानकारी सुन हिल गए।
- 19 फरवरी को जब उनकी सिम बंद हुई थी, उसी दौरान महज 4 मिनट में 4 ट्रांजेक्शन में 30 लाख रुपए खाते से निकल गए थे।
- जांच में पता चला 6 लाख, 8 लाख फिर 7 लाख और 9 लाख रुपए निकाल लिए गए।

### Real life cases





Please don't attend to any message received to give money from my phone as people are hacking phone and sending message in watsapp and calling also.

Today one of my staff member phone hacked and all numbers got message to send money urgently

9:21 am

If you receive any call for covid vaccine and they ask you to book slot and send you OTP and ask you to repeat don't entertain this type of call .

It's a way to hack phone and it happens today morning with my colleague.

9:50 am



+1 (206) 304-2917 >

Text Message Today 8:55 AM

notification regarding the USPS delivery \$46K5 from 04/04/2020. Go to:

m9sxv.info/ lbJ0nVq6Ft About 1.38.000 results (0.49 seconds)

https://www.business-standard.com > ... > News

#### Computer engineer held for trying to cheat Raj MLA posing as ...

Press Trust of India | Jaipur | Last Updated at April 30 2022 18:15 IST ... committing a cyber fraud, posing as Rajasthan Chief Minister Ashok Gehlot.

https://www.theweek.in > news > india > 2022/04/30

#### Man held for trying to cheat Raj MLA posing as Gehlot: Police

5 days ago — ... a **cyber fraud**, posing as Rajasthan Chief **Minister** Ashok Gehlot. The accused made a WhatsApp call **April** 24 to Alwar's Tijara **MLA Sandeep** ...

https://timesofindia.indiatimes.com > ... > jaipur News

#### Andhra engineer held for trying to dupe MLA by posing as ...

4 days ago — A 28-year-old computer engineer involved in **cheating** several ... CM to chat on WhatsApp with the Tijara **MLA**, **Sandeep** Kumar on **April** 24.

https://timesofindia.indiatimes.com > city > articleshow

#### Rajasthan Police Arrest Cybercrook From Vizag - Times of India

4 days ago — A cybercrook from Vizag city was arrested by Rajasthan police for **cheating** and blackmailing political leaders in that state.

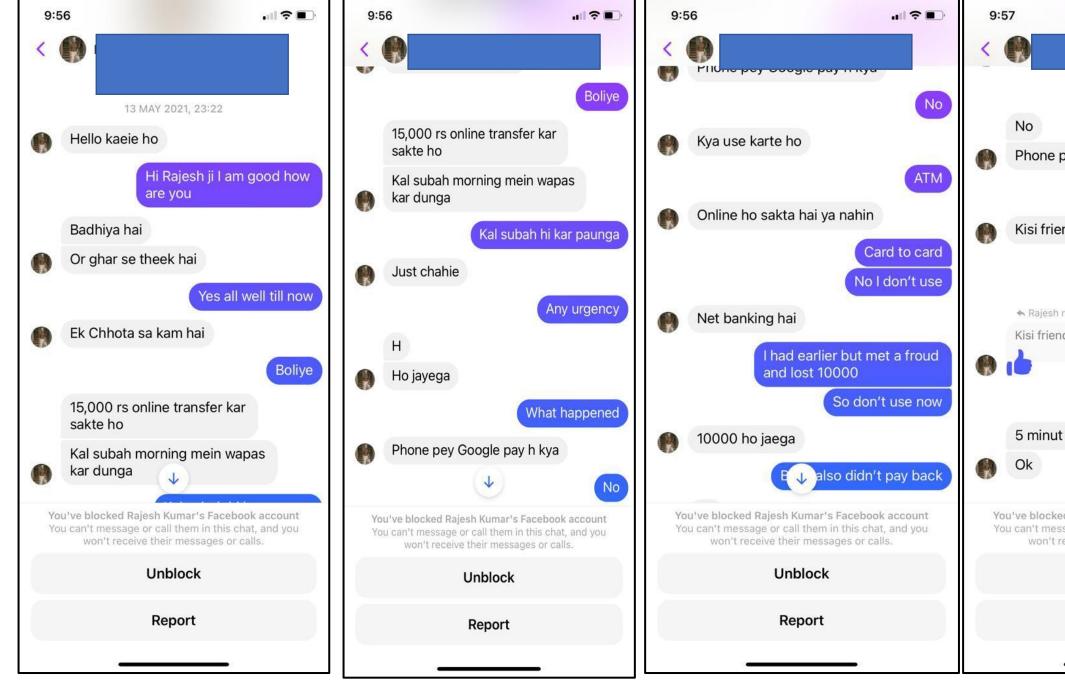




Rajasthan: Computer Engineer Held From Andhra Pradesh for Trying to Cheat Tijara MLA Sandeep Yadav Posing as CM Ashok Gehlot, Says Police

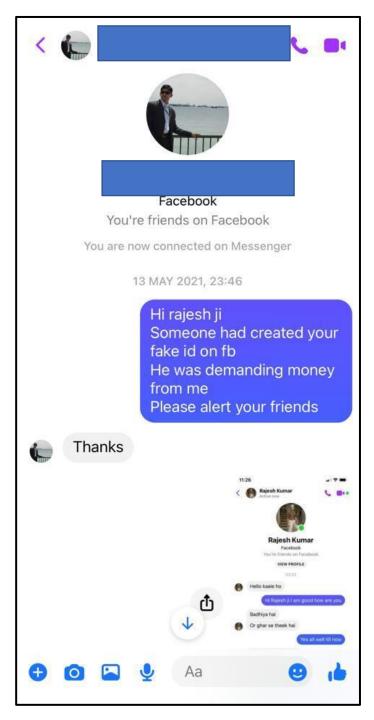


- On April 30 in Jaipur A 28 year old computer engineer caught for the vishing fraud. He asked for money transfer from Tijara
   MLA posing as Rajasthan Chief Minister Ashok Gehlot through virtual number.
- With a profile picture of Gehlot family on the whatsapp account he had a brief chat with the MLA and asked 30000 rupees to transfer thru Google Pay.
- On suspicion MLA asked Chief Minister and enquired about the number.
- Once it is clear case of cheating, bhiwadi police traced the number and arrested the accused after investigartion process from Vishakhapatnam.





# Conversation with Actual person saved the victim





# Phishing



# Phishing

- Phishing is an attack that attempts to steal your money, or your identity, by getting you to reveal personal information -- such as credit card numbers, bank information, or passwords -- on websites that pretend to be legitimate.
- Cybercriminals typically pretend to be reputable companies, friends, or acquainteness in a fake massage which contains a link to a

phishing

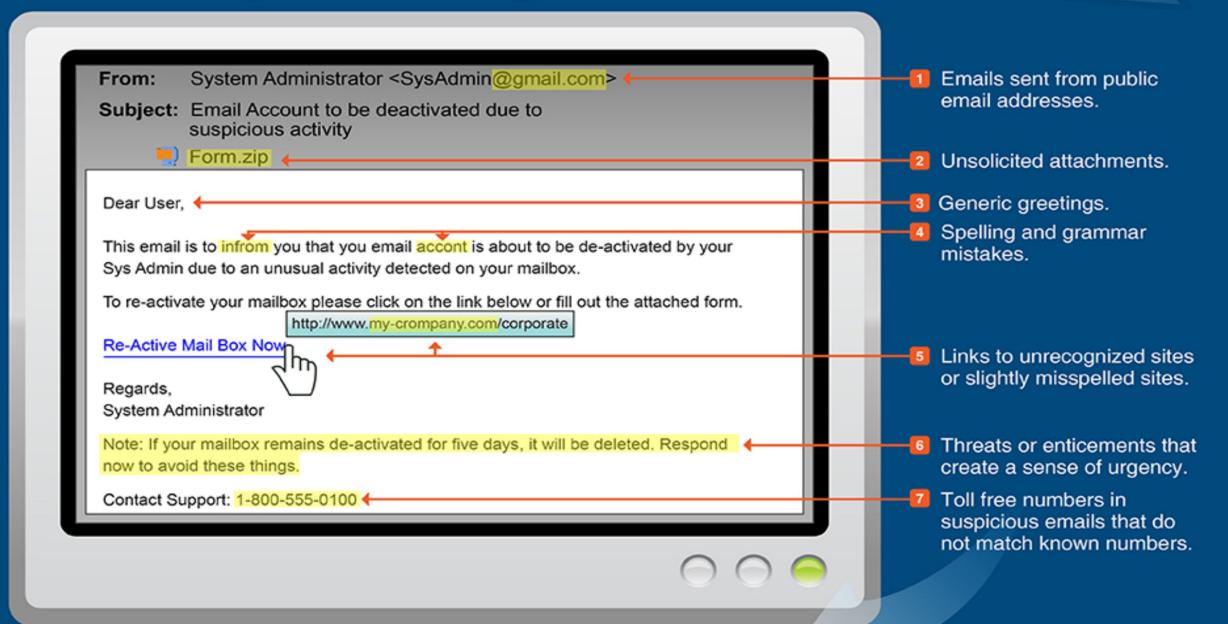
# Phishing By the Numbers

- 91% of cyber-attacks begin with a spear phishing email.
- 94% of spear phishing emails use malicious file attachments

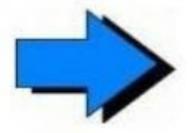
Phishers typically create fake emails that appear to come from someone you trust, such as a bank, credit card company, or a popular website. These emails typically try to trick you into giving away sensitive information, such as your username, password, or credit card details.

They may also try to get you to inadvertently install malicious programs on your computer, which can happen when you click on an infected link or open an infected attachment. Once infected, the phisher can monitor all of your activity, including all of your keystrokes.

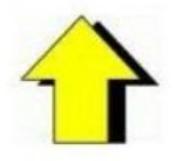
#### The Anatomy of a Phishing Email



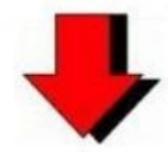
Send out thousands of phishing emails with link to fake website.



Victims click on link in email believing it is legitimate. They enter personal information.



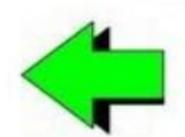
Deployment of Phishing Attack



Build fake site.

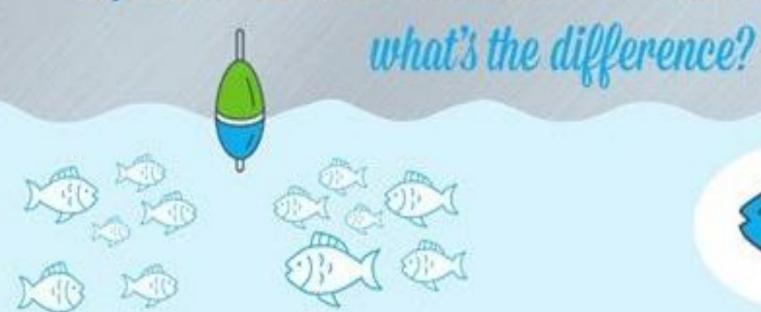


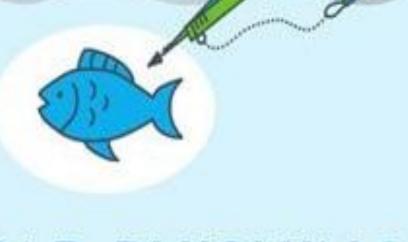
Fraudsters



Fraudsters compile the stolen data and sell it online or use it themselves.

# Cyber Criminals are 'fishers of men





# PHISHING

IS A BROAD, AUTOMATED ATTACK THAT IS LESS SOPHISTICATED.

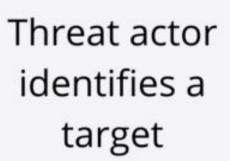
# SPEAR-PHISHING

IS A CUSTOMIZED ATTACK ON A SPECIFIC EMPLOYEE & COMPANY

https://images.app.goo.gl/ujC7865pYEd2mMbA8

# How Spear Phishing Works?







Sends legitimatelooking email



Victim opens the email containing malware



Hacker gains access to steal data

# Spear Phishing vs. Phishing Emails

Hello valued customer,

We regret to inform you your account has been compromised.

Click here to reset your password.

Warm regards, Help Desk Hi Alex,

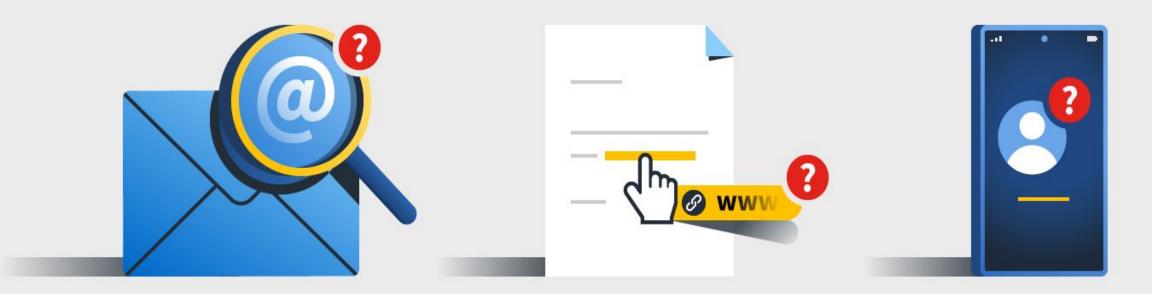
I'm out of town for the weekend and need a payment processed immediately. Please find instructions enclosed — thanks for your help here.

Best, John

**PHISHING** 

**SPEAR PHISHING** 

# How to Identify a Spear Phishing Attack

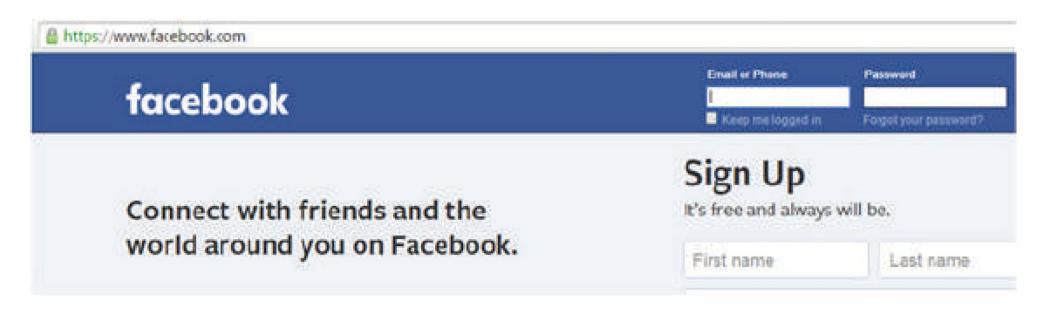


Verify the **sender's email address** 

Verify the URL by hovering over it

**Call or text the**sender to verify

https://in.norton.com/internetsecurity-malware-what-spear-phishing.html





# **Prevention from Phishing**

- Never give out personal or sensitive information based on an email request.
- On't trust links or attachments in unsolicited emails.
- On the structure of the link of the lin
- Type in website addresses, rather than using links from unsolicited emails.
- Be suspicious of phone numbers in emails. Use the phone number found on your card or statement or in a trusted directory instead.

Smishing is a <u>cyber attack</u> that uses SMS text messages to mislead its victims into providing sensitive information to a cybercriminal.

Shipped: Your Amazon package with \$103 loyalty reward will be delivered Sat, June 13th Charles. h2svr.info/

Jun 12, 6:03 PM

Text message



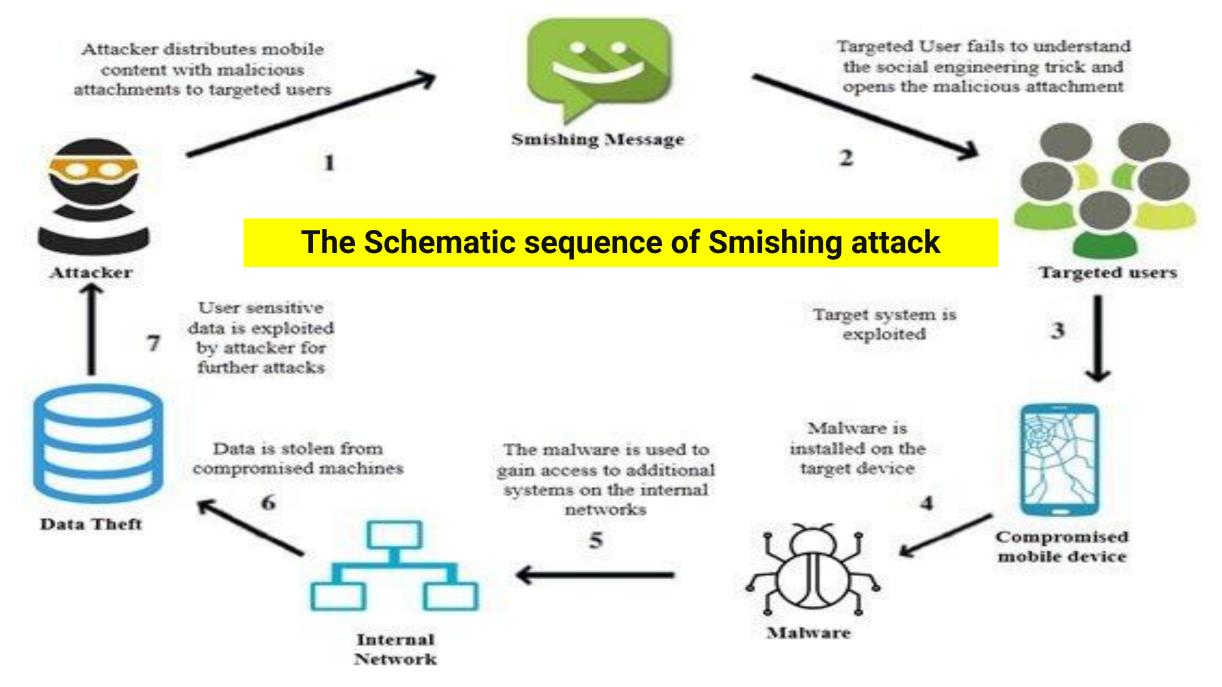


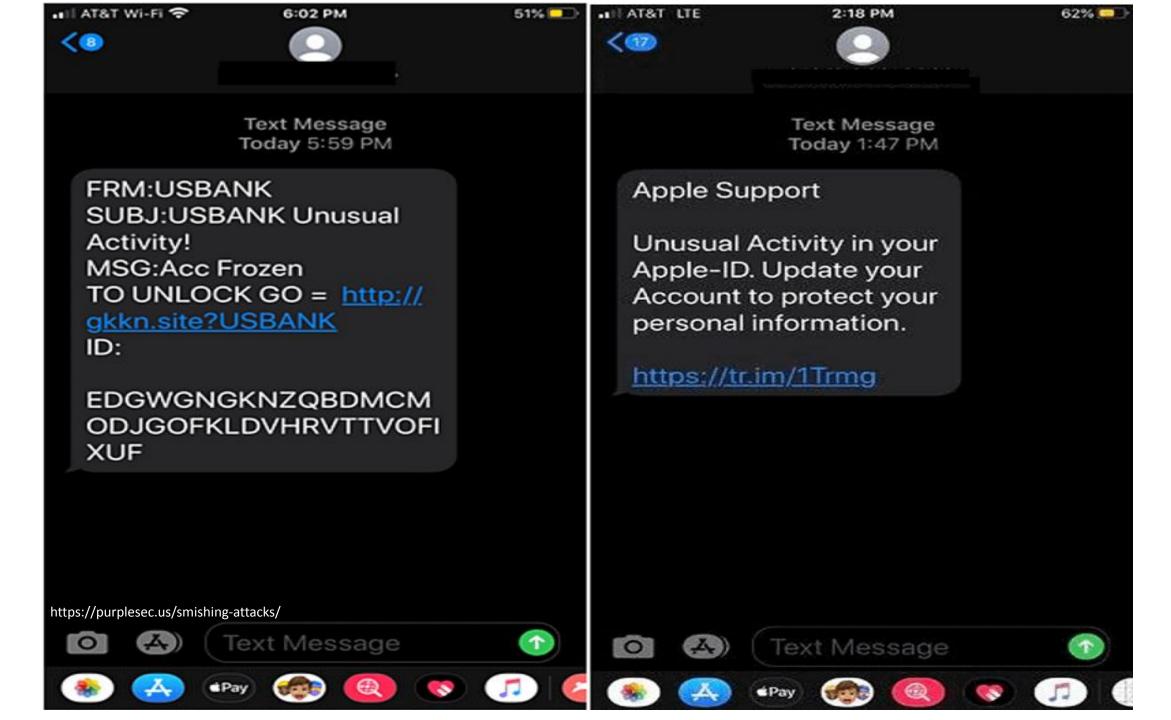
# **Smishing Attacks**

o2Mobile: we were unable to process your last bill. To avoid suspension of your contract, please update your billing information now We would like to inform you that you have been recorded as leaving your home on 3 occasions yesterday. A fine of £35 has been added to your gov.uk account. For further information please visit gov.uk/

We have identified some unusual activity on your online banking. Please log in via <a href="http://bit.do/dq3WJ">http://bit.do/dq3WJ</a> to secure

Your AppleID is due to expire Today, Please tap <a href="http://bit.do/cRqb6">http://bit.do/cRqb6</a> to update and prevent loss of services and data.





# How to spot SMISHING attack?

- 1. Is the message urgent and requiring me to click on a link immediately?
- 2. Have I previously setup this type of notification on my account?
- 3. Does the short URL in the message look like it's a message from my bank or Apple support?
- 4. In the URL, should the bank be requesting me to logon to an unsecured web link http compared to https?
- 5. I've already registered my account and my bank knows my identity, why would they text me to update my account?

# Preventive tips - SMISHING

- Don't respond to text messages that reconstronate of financial information from you.
- If you get a message that appears to be from your bank, financial institution, or other entity that you
  do business with, contact that business directly to determine if they sent you a legitimate request.
   Review this entity's policy on sending text messages to customers.
- Beware of messages that have a suspicious number in beginning or some other number that is not a cell number. Scammers often mask their identity by using email-to-text services to avoid revealing their actual phone number.
- If a text message is urging you to act or respond quickly, stop and think about it. Remember that criminals use this as a tactic to get you to do what they want.
- Never reply to a suspicious text message without doing your research and verifying the source. If your bank is really going to cancel your credit card, you should be able to call the number on the back of your card to discuss this matter with them.
- Nover call a phone number from an unknown toyter







# Beware of 'Fake online offers'

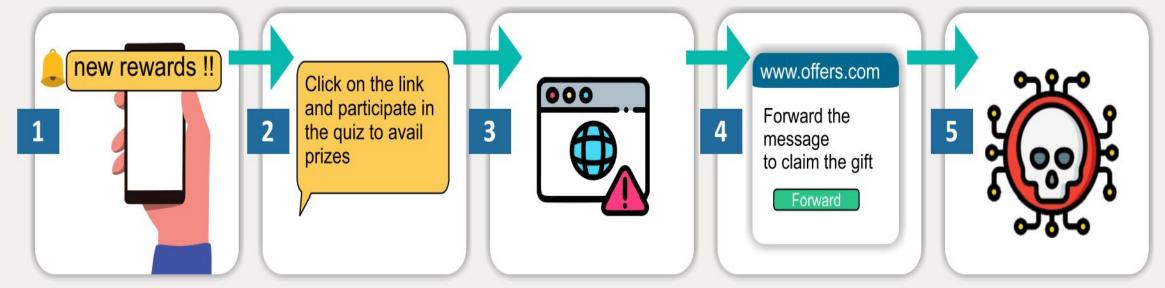
Be aware of the fake links being circulated on social media platforms by fraudsters as bait to lure people. They make use of these links to gather critical user information to siphon money, hack accounts/passwords, infect devices, etc. Using the fake offer message as bait, they manage to convince people to forward it to a chain of people to victimize as many citizens as possible.



http://qietssoted.top/tanishq-qf/tb.php?mfjecwyv1650272991649

#### **Modus Operandi**





User receives messages / links/ posts of offers / gifts/rewards.

Prompts the user to click on the link or participate in Quiz/survey

Redirects the user to suspicious sites/links

Prompts to forward the message to a chain of people for claiming the gift Leads to data leaks, malware/virus attacks, and cyber frauds

#### **Warning Sings - Few pointers to spot the scam**





Tweaked website or email id of the sender





No genuine website would ask you to share the link with your contacts



Impersonalized / generic message/mail



Messages with spelling & punctuation mistakes







Requesting unrelated personal details





Can sound too good to be true





Fake reviews/ comments on the fake website links





Avoid searching for customer care numbers on google, as they can be misleading



Never share your personal details or financial information like login credentials/passwords/cre dit or debit card details



Never believe the gift offers messages or emails circulated which are usually used as bait by cyber fraudsters



Never click on unknown links or download unauthorized apps or software on your digital device s as it can install malicious software on your device.



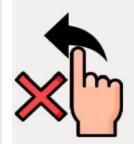
Immediately block the number and report against such fake offers



Install anti-virus on your digital devices for security and protection.



Only visit authorized/legitimate company/organization website for valid information



Do not forward fake messages, links, or mails to people as prompted by senders without proper verification or authentication.

#### STAY ALERT

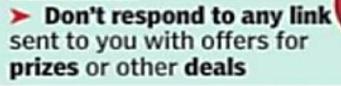
#### Do's

The Check the authenticity of the organisation or the company, which is sending messages on lucrative discounts for hotel bookings

Keep your social media accounts private and locked

Only respond to the calls or messages from those known to you

#### **Don'ts**



Don't respond to any unknown caller who tries to convince you of booking rooms

Don't press any link, where you are said to be a "Lottery Winner" or something like that



Don't share any OTP
 with anyone

Don't believe any unknown person who says that you

are a lucky customer of their business **Vishing Attacks** 

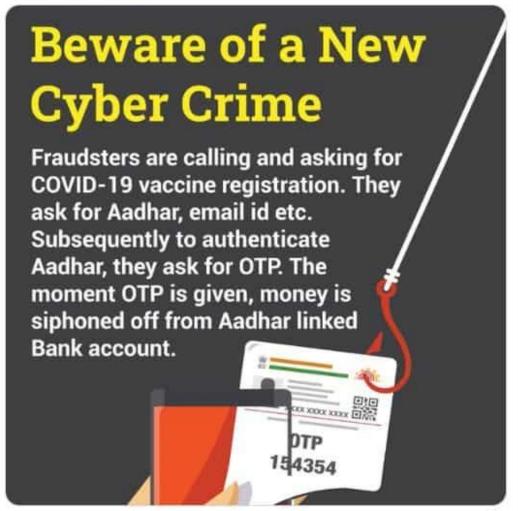








@LtGovDelhi @CPDelhi @DelhiPolice #WearAMask #WashYourHands #SocialDistancing



# Beware of Covid vaccine registration fraud

K V Kurmanath Hyderabad | Updated on December 30, 2020 Published on December 30, 2020



Cyber criminals never run out of ideas. As the Central and State Governments are getting ready for mass vaccination for Covid-19 and people anxiously

wait for a vaccine shot, cybercriminals have quickly devised a method to cash in on the situation.

7:35 PM - Dec 28, 2020



From The Economic Times

# ETBFSI EXCLUSIVE BANKING INSURANCE ∨ NBFC FINTECH ∨ BFSI VIDEOS

MILLENNIAL FINANCE \* FINTECH DIARY \* BFSI TECH TALES \* GREEN FINANCE \* IBC \* ETBFSI EXPLAIN

BFSI News / Latest BFSI News / Editor's View

# Jamtara, India's phishing paradise steals the show on Netflix

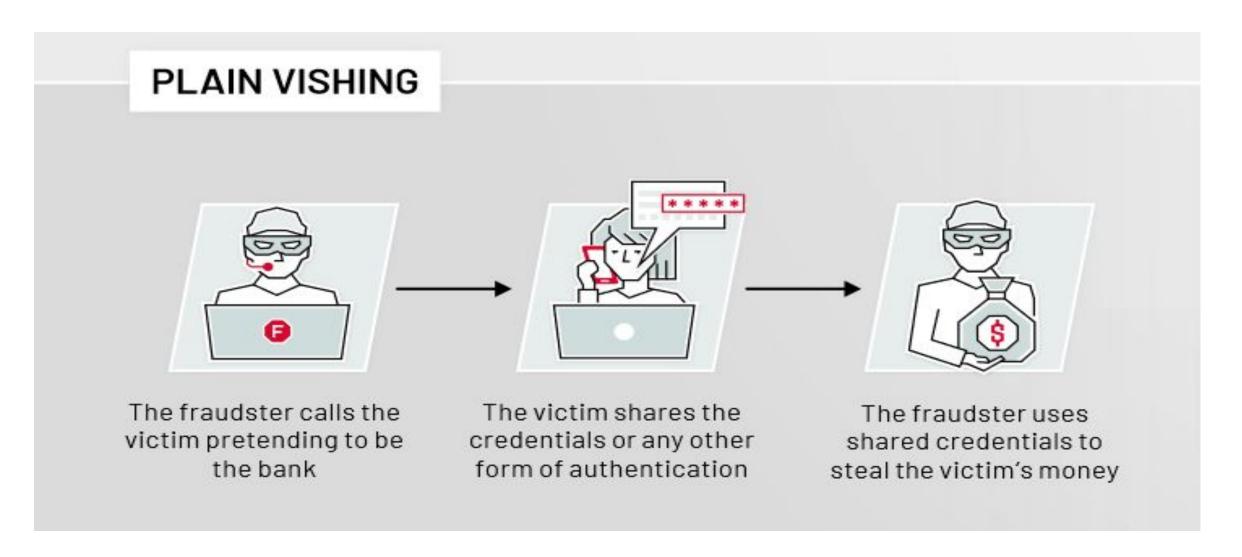
They neither break into your house nor threaten you at gunpoint. They are neither goons nor 'wanted' criminals. They are just minors from Jamtara, but they rob people across India. Their only weapon is a mobile phone, and their only education is the art of persuasion. Jamtara calls them cyber ke bachhe..(kids who grew up on cybercrime).

Amol Dethe • ETBFSI • Updated: April 06, 2020, 18:10 IST



## Vishing follows the familiar social engineering setup:

- An attacker creates a scenario to prey on human emotions, commonly greed or fear, and convinces the victim to disclose sensitive information, like credit card numbers or passwords.
- In that sense, vishing techniques mirror the phishing scams that have been around since the 1990s. But vishing calls exploit the fact that we're more likely to trust a human voice and may target the elderly and technophobic who are naive and have no experience with these types of scams.



In *plain vishing* type, the fraudster calls the victim pretending to be the bank and by implying urgency and authority sways the user to share the credentials and/or any other incoming second form of authentication. In this type, the fraud is completed on the fraudster's computer.

#### SOPHISTICATED (RAT) VISHING The fraudster instructs the victim The fraudster controls to install a remote desktop victim's computer to application (e.g. TeamViewer) steal the money The fraudster calls The fraudster may ask for other credentials or second the victim pretending to be the bank authentication on the phone while controlling the device

In this sophisticated vishing type of an attack the fraudster persuades the user to install a remote access tool (such as TeamViewer), share the credentials, second authentication factors, and any other information if needed. Once the software is installed by the user, the fraudster assumes control of their computer and continues

# Four Common Vishing

#### Tachniquae

#### 1. Wardialing

The cyber criminal uses software to call specific area codes, using a message that involves a local bank, business, police department, or other local organization. When the call is answered, the automated message begins, urging the person to provide their full name, credit card details, bank account information, mailing address, and even social security details. The recorded message may suggest that this information is needed to confirm that the victim's account has not

#### 2. VoIP

VoIP makes it very easy for cyber criminals to create fake numbers and hide behind them. These numbers are tough to track and be used to create phone numbers that appear local or use a 1-800 prefix. Some cyber criminals will create VoIP numbers that appear to come from a government department, local hospital, or police department.





# Four Common Vishing Techniques



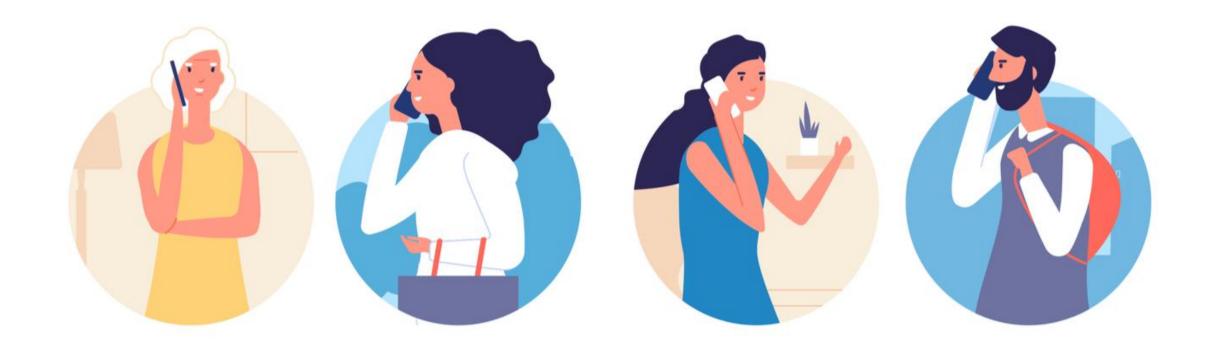
#### 3. Caller ID Spoofing

Like VoIP vishing, the cyber criminal hides behind a fake phone number by spoofing the caller ID. They may list their name as Unknown or pretend to represent a legitimate caller, using an ID such as Government, Tax Department, Police, etc.



#### 4. Dumpster Diving

A simple and popular method of collecting valid phone numbers is to dig through dumpsters behind banks, office buildings, and random organizations. Often criminals will find enough information to deliver a targeted spear vishing attack against the victim.



# Prevention from Vishing Attacks

#### **BE VIGILANT**



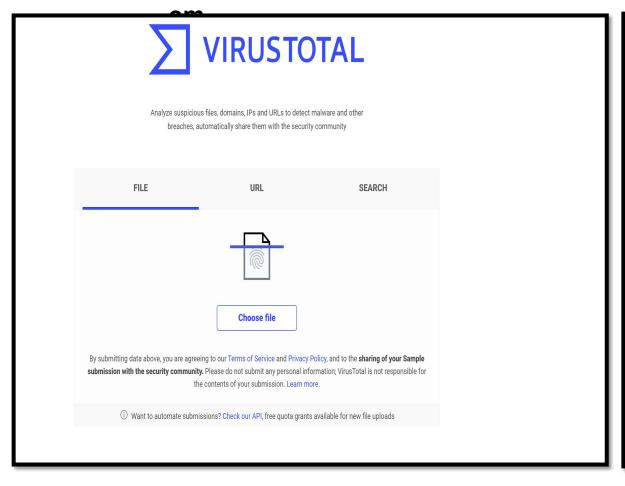
DON'T GIVE OUT VALUABLE INFORMATION OVER THE PHONE

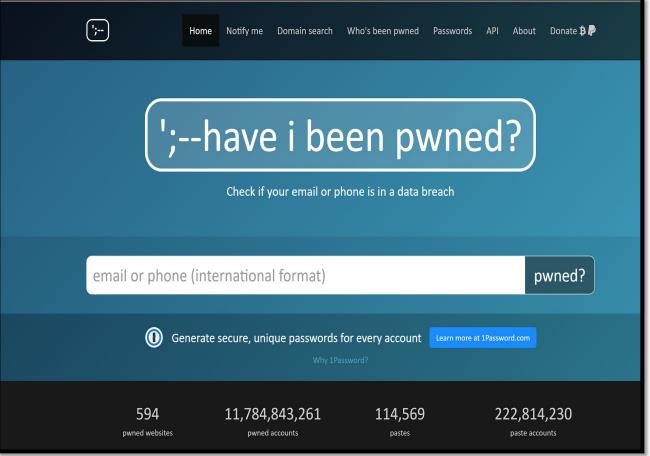
**CALL THEM BACK!** 

# Vishing Prevention Techniques

- Remain Vigilant and Pay Attention During Phone calls.
- Verify the identity of those who ask for information in person or over the phone, before you release any information.
- Be Cautious When Giving Out Your Information.
- Be Suspicious of Unrecognized Phone Numbers.
- check your bank statement regularly.

#### www.virustotal.c





https://haveibeenpwned.com/

# **FOR PARENTS**



#### **CYBER PREDATORS**

81% INCREASE

since the start of the COVID-19 pandemic.<sup>1</sup>



#### **MALWARE**

Installed on **50,000+ DEVICES** through apps & children's games in February 2020.<sup>2</sup>



#### **MALICIOUS ADS**

Google removed
OVER 790,000
malicious apps
in 2019.3



#### **IDENTITY THEFT**

**OVER ONE MILLION** 

minors were identity fraud victims in 2017.4



#### **ONLINE GAMING**

**13% OF YOUTHS** 

11 – 16 have played gambling-style games online.<sup>5</sup>

## Five cybersecurity tips for parents:

**Teach** passwords & privacy

Monitor & communicate

Protect identity & location

Use **secure** Wi-Fi

Utilize parental controls

# Cybersecurity Threats faced by Students



#### **DATA THEFT**

Can cost **\$200** per educational record.<sup>1</sup>



#### **MOBILE MALWARE**

Targeted attacks have RISEN BY 50% since 2018.<sup>2</sup>



#### MALICIOUS SOCIAL MEDIA MESSAGING

Facebook phishing INCREASED 155.5% in Q1 2019.<sup>3</sup>



#### **CAMFECTING**

**1 IN 2** Americans are clueless about webcam hacking.<sup>4</sup>



### SOCIAL ENGINEERING

Relied on by **98%** of cyber attacks.<sup>5</sup>

#### Five cybersecurity tips for learners:

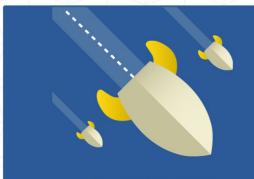
- Avoid sharing personal information
- 2 Use virus **protection**
- Keep **software** up-to-date
- Be on guard for **phishing**
- Be **careful** what you click

#### **FOR TEACHERS**



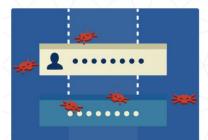
#### **PHISHING**

Marks the start of **OVER 90%** of modern cyberattacks.<sup>1</sup>



# DISTRIBUTED DENIAL-OF-SERVICE (DDOS)

Can cost victims up to \$40,000 PER HOUR.<sup>2</sup>



#### **DATA BREACH**

Attacks nearly **TRIPLED** in the last year.<sup>3</sup>



#### **RANSOMWARE**

Impacted **89**universities, colleges
& school districts
in 2019.4



#### IoT VULNERABILITIES

Responsible for an average of **5,200 ATTACKS PER MONTH.**<sup>5</sup>

### Five cybersecurity tips for teachers:

- **Encrypt** your data
- Comply with your institution's cyber **protocols**
- **Safeguard** your devices from physical attacks
- Back up your data
- Practice good **password** management



## https://cybercrime.gov.in

**भारत** एक कदम स्वच्छता की ओर



**National Cyber Crime Reporting Portal** 

**HOME** 

REPORT WOMEN/CHILD RELATED CRIME ~

REPORT OTHER CYBER CRIME

**RESOURCES** ~

**CONTACT US** 

HELPLINE



I dream of a Digital India where cyber security becomes an integral part of our National Security.

— Narendra Modi —

Filing a Complaint on National Cyber Crime Reporting Portal