13TH ANNUAL LEADERSHIP EVENT

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Social Engineering: Training The Human Firewall

Reanna Schultz
2023

Reanna Schultz

Team Leader of Information Security

- Kansas City, Missouri
- University of Central Missouri
- B.S & M.S In Cybersecurity
- Endpoint Security, Network Security, and SOC
- Huge Science Fiction Reader!

LinkedIn

Takeaways

Keep an open mind!

Starting/maturing your own education program

- Security mindset versus a user mindset
  - How this can create risk
- User architecture
  - Mindsets
  - User behavior
- Creating your own phishing program (affordable!)
- Improving your current phishing program
  - Creating realistic goals with click %
  - Maturing your user's education with phishing
  - Discovering education gaps and risk within a business's security education program

Historical Knowledge

Read the full research here

Presentation is based on conducted research

- Copyright protected (UCM)
- Psychological study
  - User architecture
- Phishing with algorithms
- Maturing a phishing program
- Training users in a "mature" threat mindset
  - Identifying gaps or opportunities for improvement

Security vs User Mindset

Security Mindset

“Leadership wants a small click percentage because it shows awareness is improving!”

“Annual education refreshers are important and must be mandated.”

User Mindset

“Security usually sends a phish second week of the month, this looks weird … Oh, coworker received the same email.” *report*

“Oh, another annual refresher….”

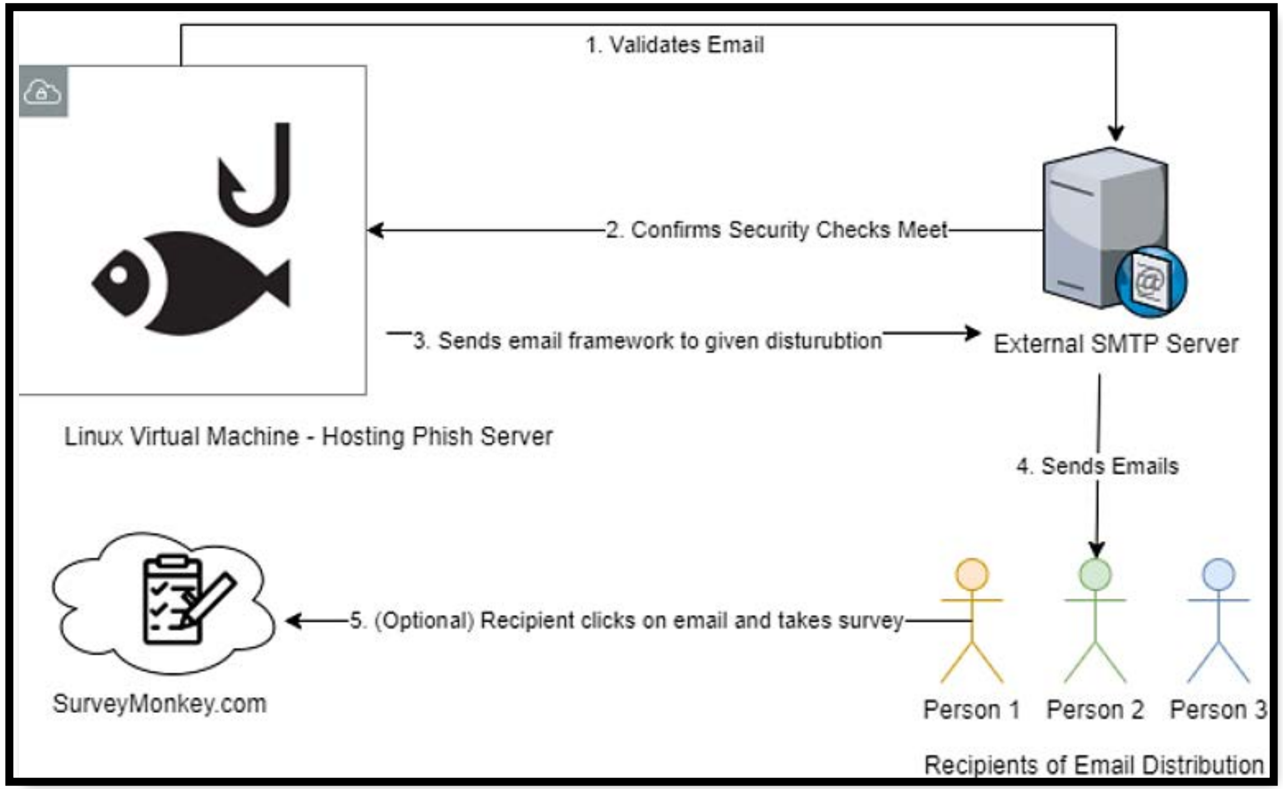
Know Thy Audience

Dave in Finance

Steve in Sales

Research Environment

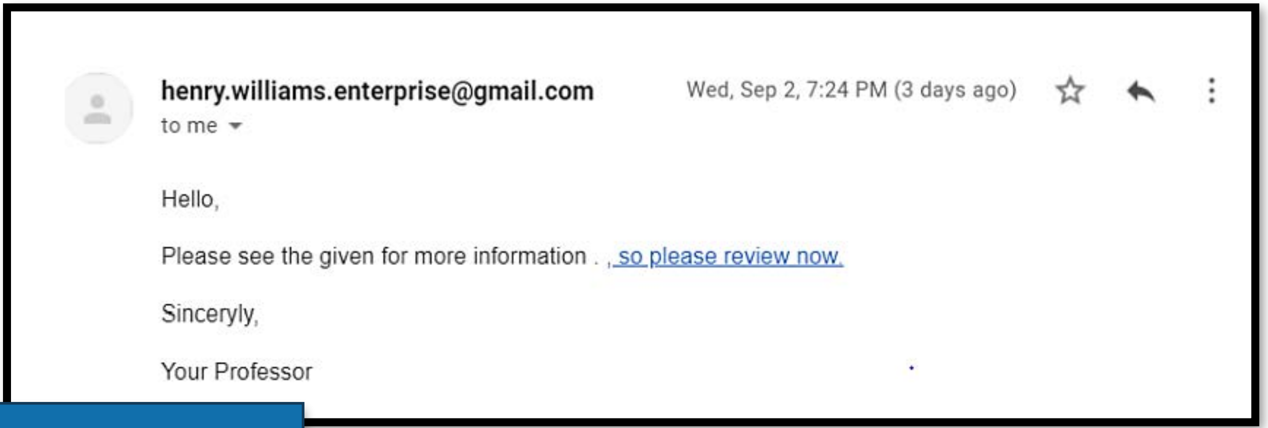
Copyright Warning


1. Validates Email
2. Confirms Security Checks Meet
3. Sends email framework to given disturubtion
External SMTP Server
Linux Virtual Machine - Hosting Phish Server
4. Sends Emails
5. (Optional) Recipient clicks on email and takes survey
SurveyMonkey.com
Person 1
Person 2
Person 3
Recipients of Email Distribution

GoGetPhish Download

Security Education Software

“Phish in a Barrel”



henry.williams.enterprise@gmail.com
to me
Wed, Sep 2, 7:24 PM (3 days ago)

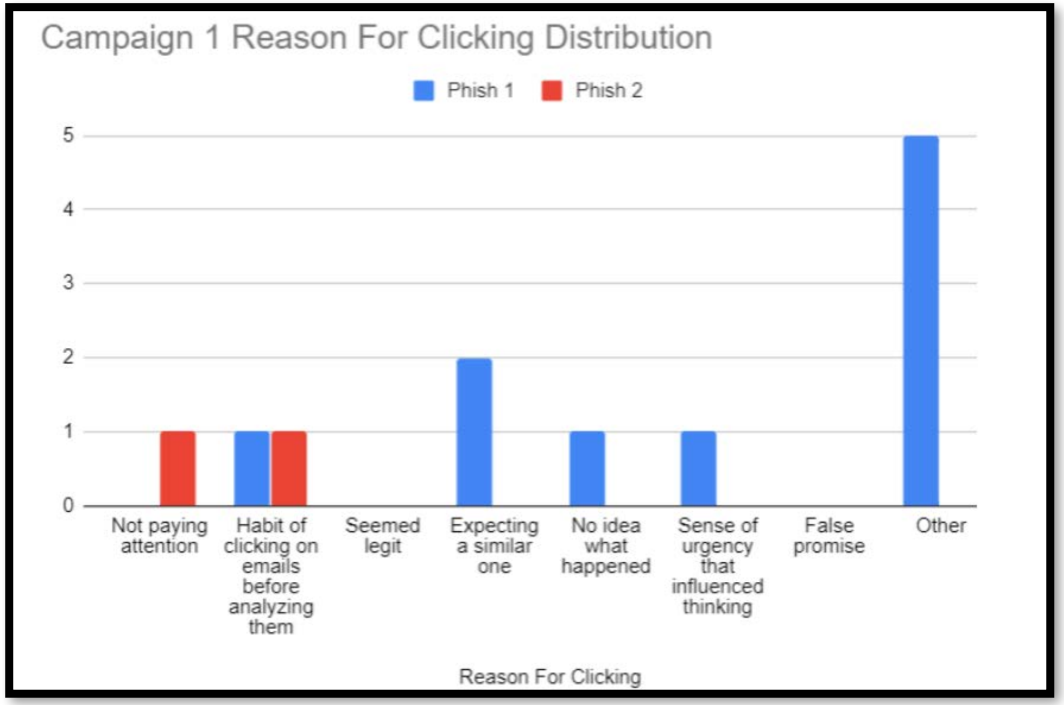
Hello,

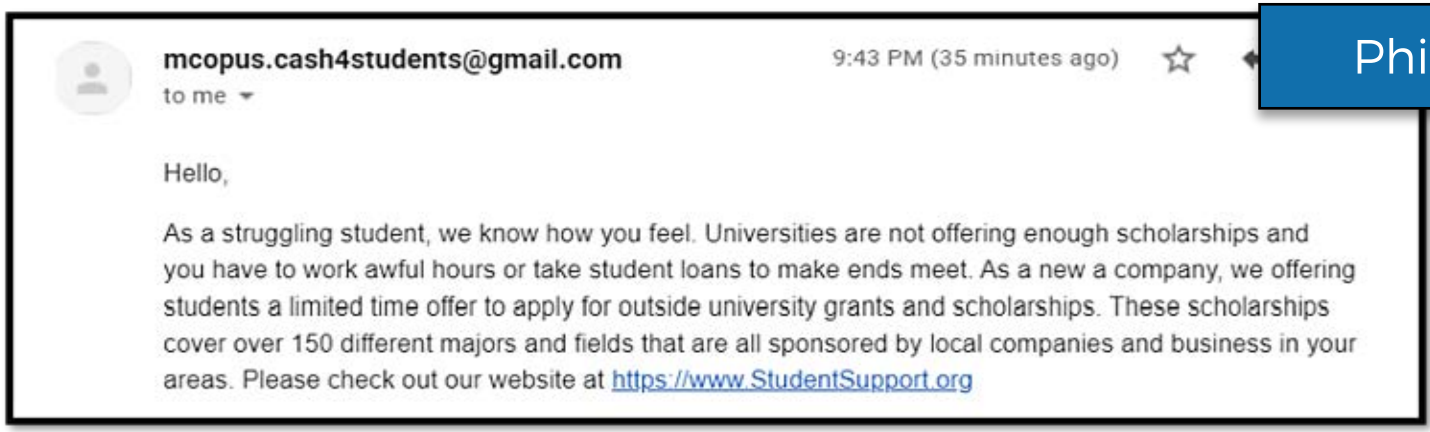
Please see the given for more information . , so please review now.

Sinceryly,

Your Professor

Phish 1





mcopus.cash4students@gmail.com
to me
9:43 PM (35 minutes ago)

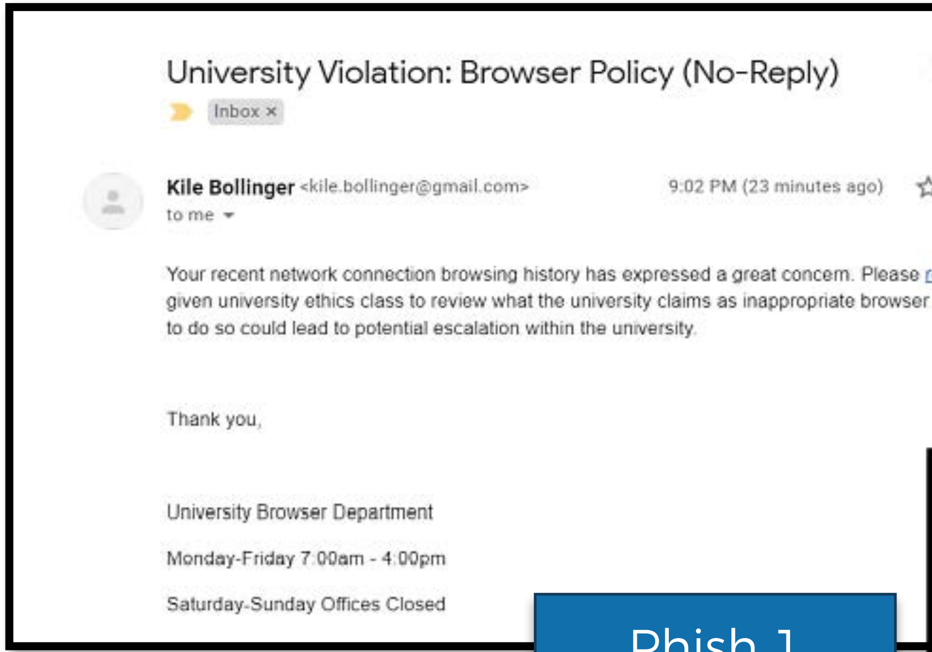
Hello,

As a struggling student, we know how you feel. Universities are not offering enough scholarships and you have to work awful hours or take student loans to make ends meet. As a new a company, we offering students a limited time offer to apply for outside university grants and scholarships. These scholarships cover over 150 different majors and fields that are all sponsored by local companies and business in your areas. Please check out our website at https://www.StudentSupport.org

Phish 2

Copyright Warning

Spear Phishing



University Violation: Browser Policy (No-Reply)

Kile Bollinger <kile.bollinger@gmail.com> 9:02 PM (23 minutes ago)

to me

Your recent network connection browsing history has expressed a great concern. Please register for the given university ethics class to review what the university claims as inappropriate browser usage. Failure to do so could lead to potential escalation within the university.

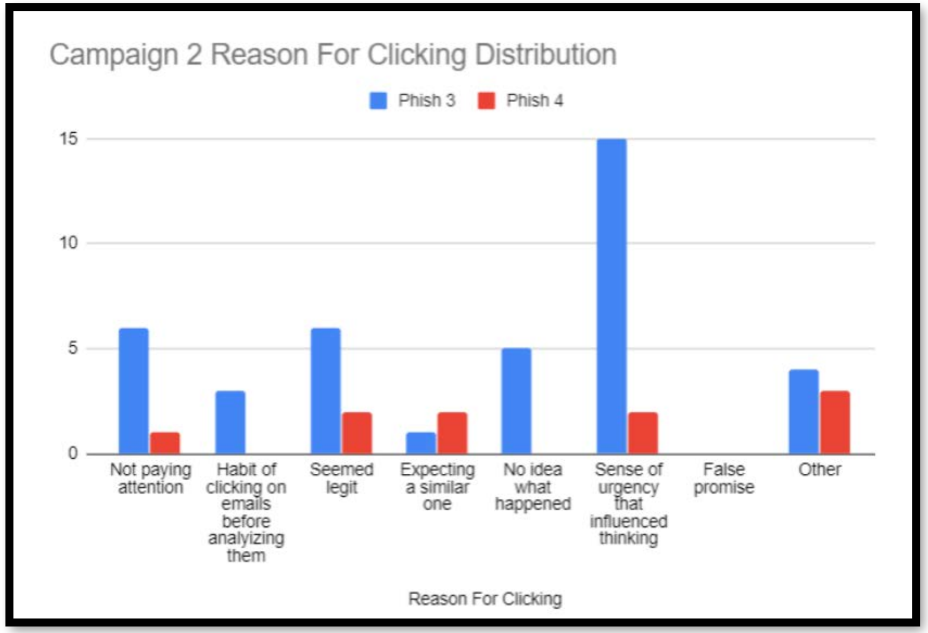
Thank you,

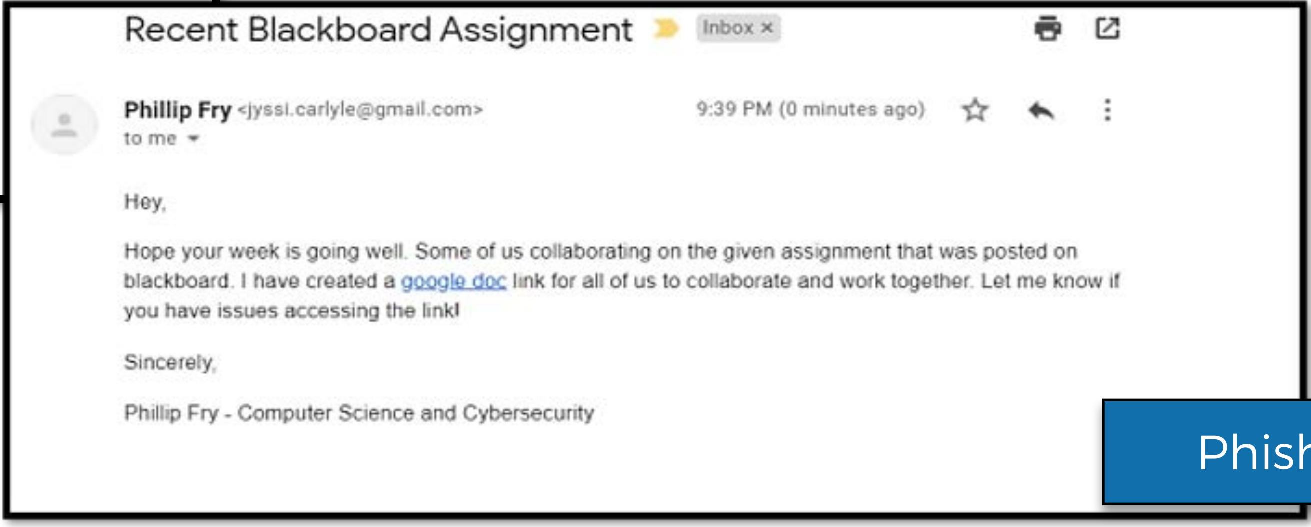
University Browser Department

Monday-Friday 7:00am - 4:00pm

Saturday-Sunday Offices Closed

Phish 1





Recent Blackboard Assignment

Phillip Fry <jyssi.carlyle@gmail.com> 9:39 PM (0 minutes ago)

to me

Hey,

Hope your week is going well. Some of us collaborating on the given assignment that was posted on blackboard. I have created a google doc link for all of us to collaborate and work together. Let me know if you have issues accessing the link!

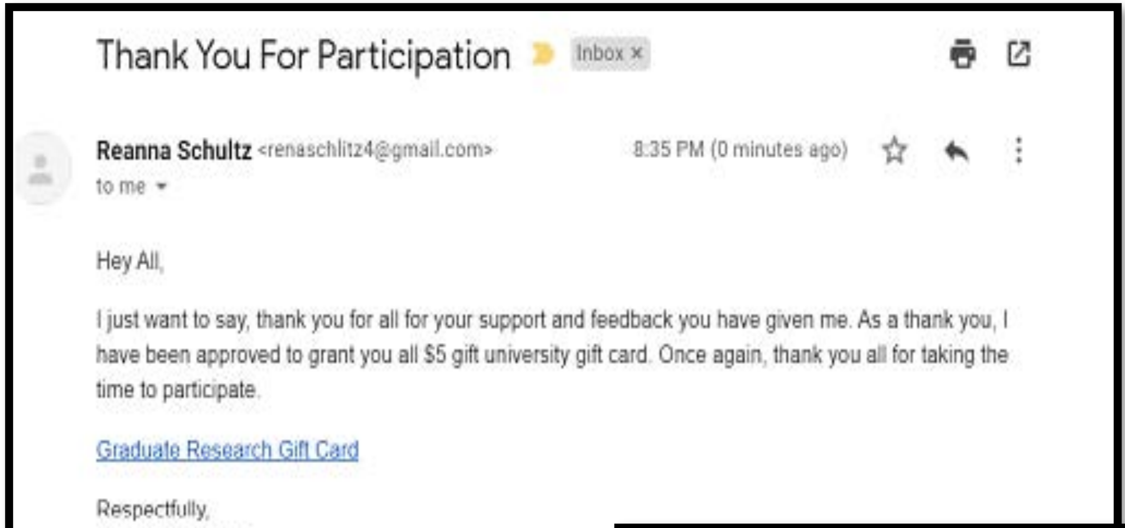
Sincerely,

Phillip Fry - Computer Science and Cybersecurity

Phish 2

Copyright Warning

Spoofing



Reanna Schultz <renaschlitz4@gmail.com> 8:35 PM (0 minutes ago)
to me

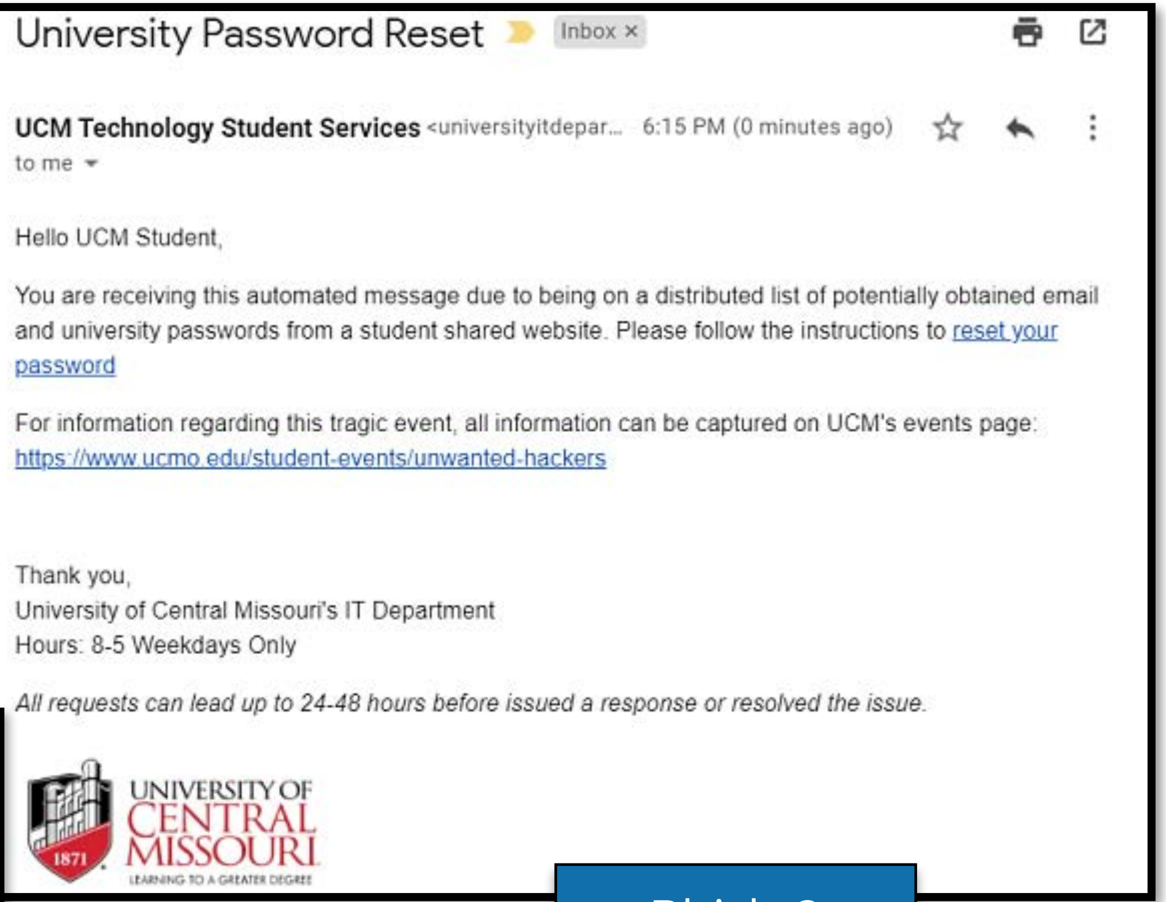
Hey All,

I just want to say, thank you for all for your support and feedback you have given me. As a thank you, I have been approved to grant you all $5 gift university gift card. Once again, thank you all for taking the time to participate.

Graduate Research Gift Card

Respectfully,
Reanna Schultz
B.S Cybersecurity - Secure Software Development UCM
M.S Cybersecurity - Information Assurance UCM

Phish 1



UCM Technology Student Services <universityitdepar... 6:15 PM (0 minutes ago)
to me

Hello UCM Student,

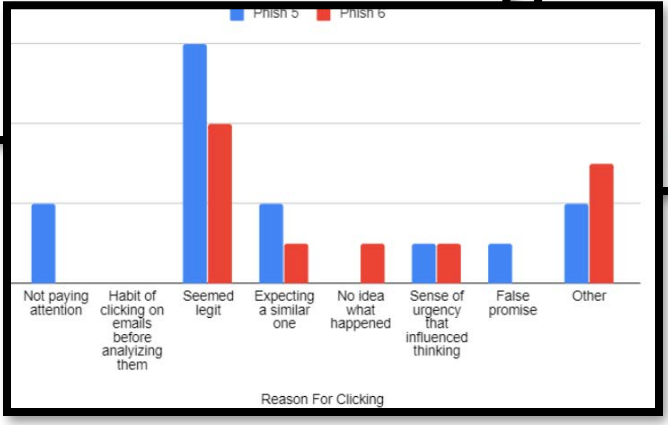
You are receiving this automated message due to being on a distributed list of potentially obtained email and university passwords from a student shared website. Please follow the instructions to reset your password

For information regarding this tragic event, all information can be captured on UCM's events page: https://www.ucmo.edu/student-events/unwanted-hackers

Thank you,
University of Central Missouri's IT Department
Hours: 8-5 Weekdays Only

All requests can lead up to 24-48 hours before issued a response or resolved the issue.

Phish 2



Copyright Warning

Improve Your Mindset!

Set a realistic report goal for your business

- "Know thy users"

Report/click percentage

- Find an average for your users
  - Use a variety of phish for your pool
- Low report could be negative
  - Not challenged users
  - Shared information
- This data can represent risk for security education

Growth is done by challenges

- Challenge your users!

Maturing The Phish Pool

- You do not have to be creative to have a good phish pool!
- Read the news – learn new phishing threats
  - Add these threats to your pool
  - "Upgrade" Your human firewall
- Setup a reporting method for users
  - Collect what is getting reported each month
  - Collaborate with your SOC or service desk
    - Incorporate those reported threats into your pool
    - User architecture
    - Incorporate known threats identified by security into your pool

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Thank You For Attending!

GoGetPhish Download

Research Link

GitHub

LinkedIn