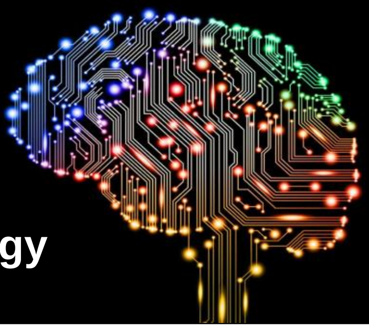
CHARACTERISATION OF HUMAN BEHAVIOURS AGAINST CYBER ATTACKS

Chanon Kachornvuthidej, c.kachornvuthidej@uqconnect.edu.au

Supervisor: Dr. Dan Kim

#CyberPsychology



Background Information

Phishing: impersonating a trustworthy entity to gain sensitive information

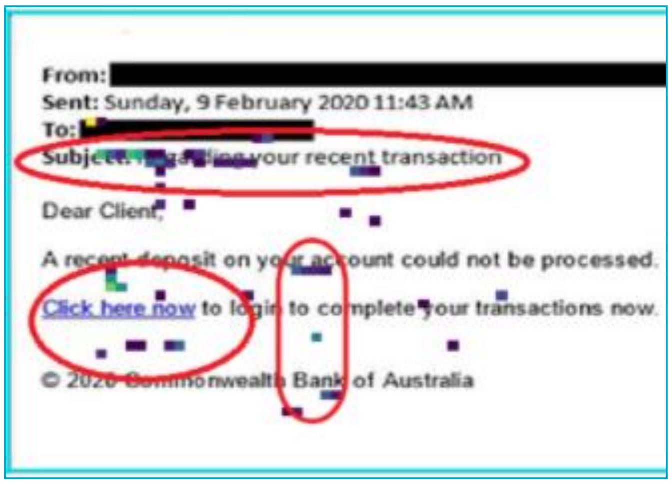
Why does anti-phishing software fails?

1) Users are ignoring the warnings
2) Security indicators are ineffective
3) Overlooked the nature of human psychology

Gap: Very little efforts are made to investigate the human factors and thought processes of online users when encountering phishing scams

70% of cyber attacks began with phishing

Exponential phishing growth worldwide, 65% growth in 2019 compared to past year



From: [redacted]
Sent: Sunday, 9 February 2020 11:43 AM
To: [redacted]
Subject: Regarding your recent transaction

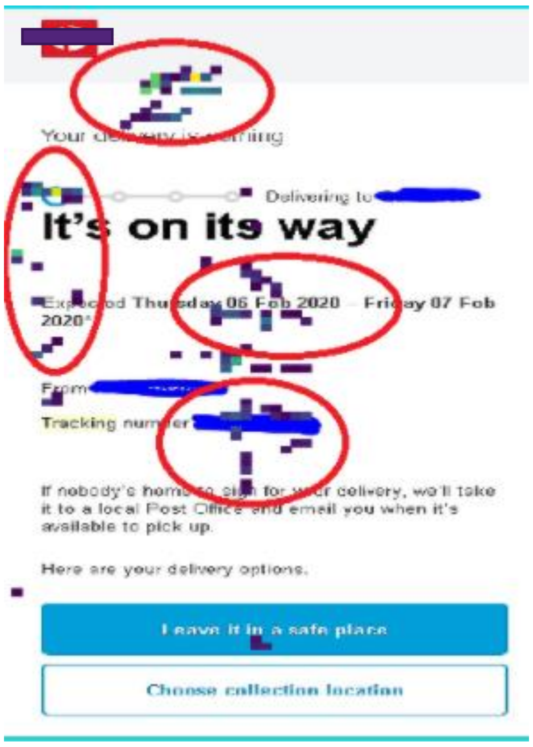
Dear Client,

A recent deposit on your account could not be processed.

Click here now to login to complete your transactions now.

© 2020 Commonwealth Bank of Australia

Fig.1, Sample phishing email



Your delivery is coming

Delivering to [redacted]

It's on its way

Expected Thursday 06 Feb 2020 – Friday 07 Feb 2020

From [redacted]

Tracking number [redacted]

If nobody's home to sign for your delivery, we'll take it to a local Post Office and email you when it's available to pick up.

Here are your delivery options.

Leave it in a safe place

Choose collection location

Fig.2, Sample genuine email

Current Research

Aim: Investigate what visual components of email does user use to gauge whether it is a genuine or phishing email.

Methods: Participants will classify series of email as phishing or genuine while their gaze are captured with an eye-tracker. This is followed by answering a short survey about the task and demographics.

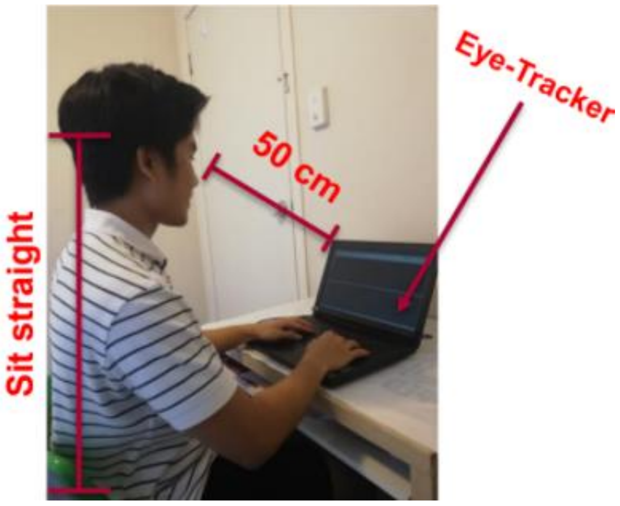
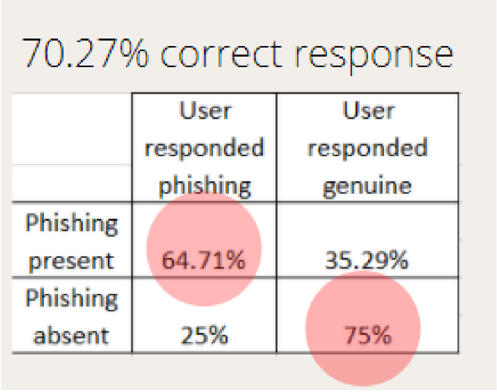


Fig.3, Experiment session

Results

-Users spent on average 26 seconds reading each email

-**Government email** samples have the highest incorrect response rate of 60%. **Social media** has 100% correct response rate.



70.27% correct response

	User responded phishing	User responded genuine
Phishing present	64.71%	35.29%
Phishing absent	25%	75%

Fig.4, User performance results

Proposed Framework

1. Stimuli Design
2. Research & Selection of Apparatus
3. Data Gathering and Analysis
4. Discussion and Improvement suggestions

SCAN ME

2020 Innovation Showcase

School of Information Technology & Electrical Engineering

The University Of Queensland
AUSTRALIA
CREATE CHANGE