Phishing Awareness
Simulation

Using Social Engineering Techniques

Major Project Submission

The Problem: The Human Factor

- **#1 Threat Vector:** Phishing remains the most common entry point for cyberattacks.

- **Psychology over Technology:** Attackers exploit human trust, fear, and urgency rather than just technical vulnerabilities.

- **Objective:** To measure user behavior under pressure and explore effective countermeasures.

Project Objectives

Research

Identify current social engineering techniques and psychological triggers used in modern phishing.

Simulate

Ethically design and execute a controlled phishing campaign to test user susceptibility.

Mitigate

Analyze the data to propose data-driven training and technical defense strategies.

Methodology: Pilot Design Study

Pilot Study Design

Due to ethical constraints, a pilot study methodology was used. The attack vector was fully designed and validated, with results projected based on industry-standard susceptibility metrics (20% PPP).

Tools & Execution

Gophish/SET: Specified tools for campaign management.

**Metrics:** Open Rate, Click-Through Rate, and Credential Submission Rate were the key KPIs.

The Lure: Urgent Email

Scenario: "Urgent Account Suspension"

Psychological Trigger: Fear & Urgency ("24 hours to prevent closure").

Red Flags:

- Generic Greeting ("Dear Customer")
- Mismatched Sender Domain
- Threatening Language

File   Edit   View   Go   Message   Tools   Help

📥 Get Messages ⌄   ✏ Write   💬 Chat   📖 Address Book   🏷 Tag ⌄

From ▬▬▬▬ <admin@serveradminhelpdesk.com> ☆

Subject **Kindly Validate** ▬▬▬▬▬ **to Avoid Suspension.**   5/23/2023, 5:47 PM

Reply to ▬▬▬▬▬ ☆

To ▬▬▬▬▬ ☆

We are pleased to contact you today

Alert!

Suspension Notification

Dear Esteemed User's Of ▬▬▬▬,

This is a notification that mail service for your ID: ▬▬▬▬▬ will be suspended.

Suspension Reason: Expired Security Token
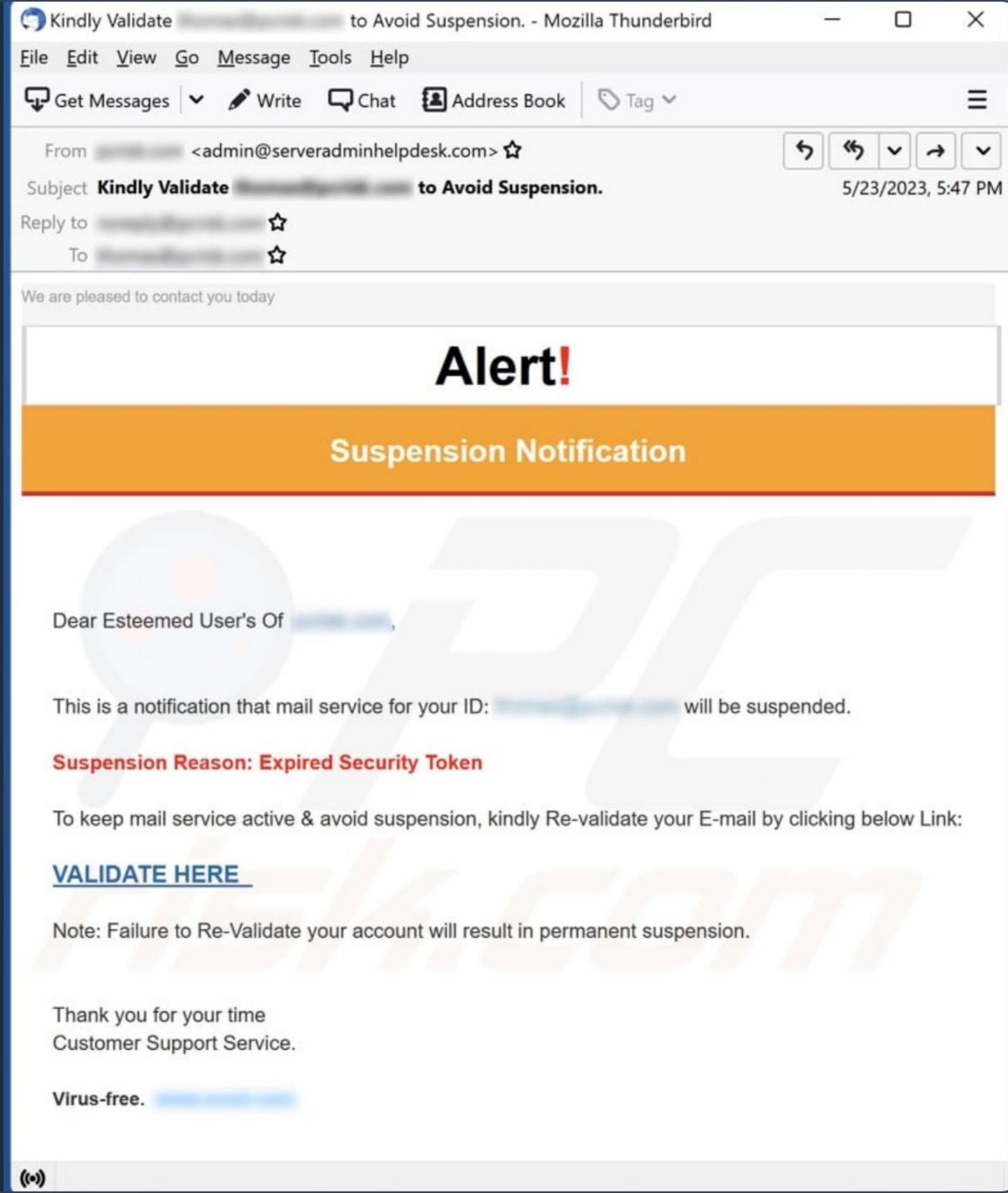
To keep mail service active & avoid suspension, kindly Re-validate your E-mail by clicking below Link:

VALIDATE HERE

Note: Failure to Re-Validate your account will result in permanent suspension.

Thank you for your time
Customer Support Service.

Virus-free. ▬▬▬▬▬

The Trap: Fake Login

Design Strategy: Clean, professional, and familiar.

Mechanism:

- HTML/CSS replica of a standard portal.
- Configured to capture credentials.
- **Harmless Redirect:** Immediately sends user to a legitimate site after submission to avoid suspicion.
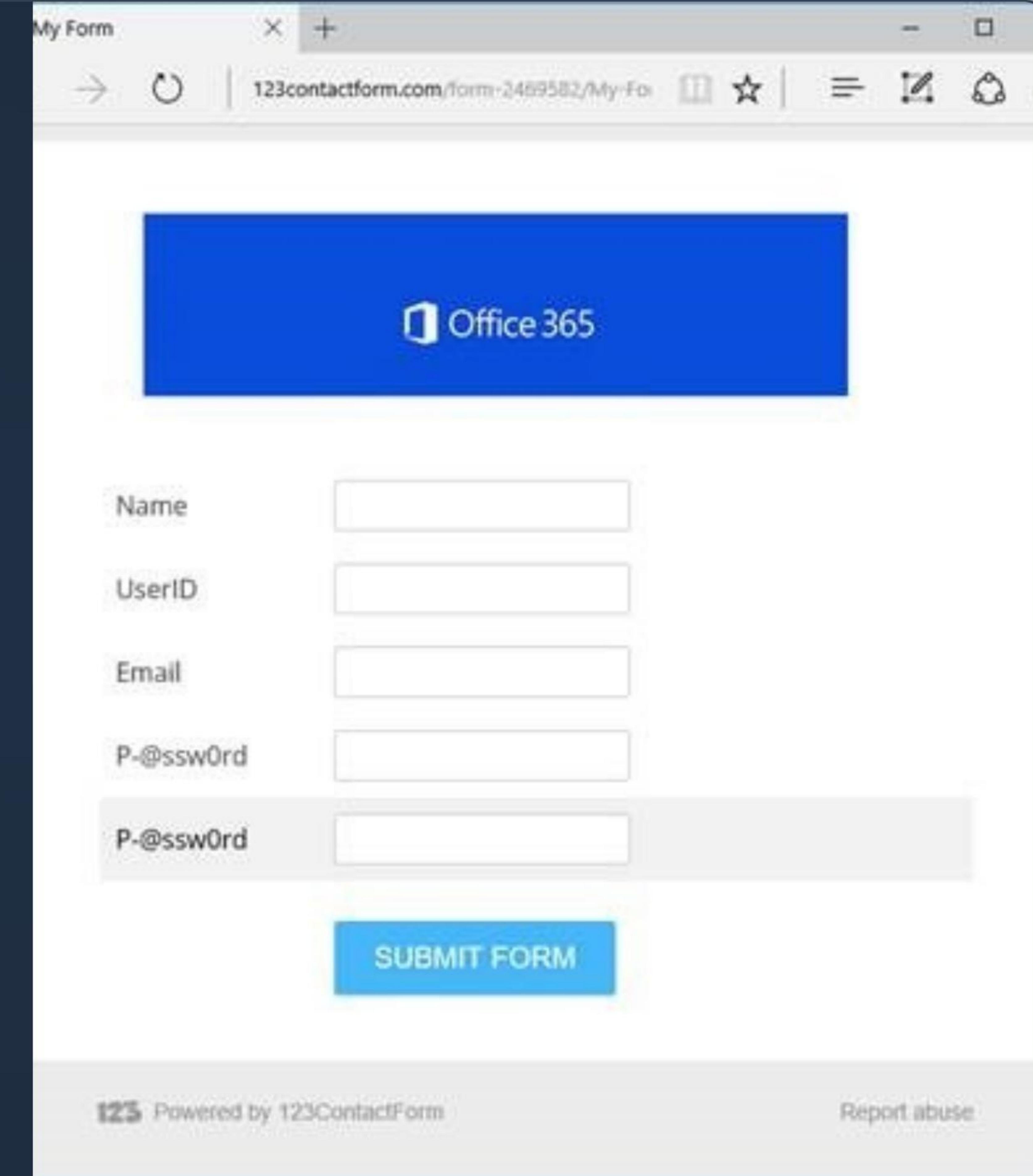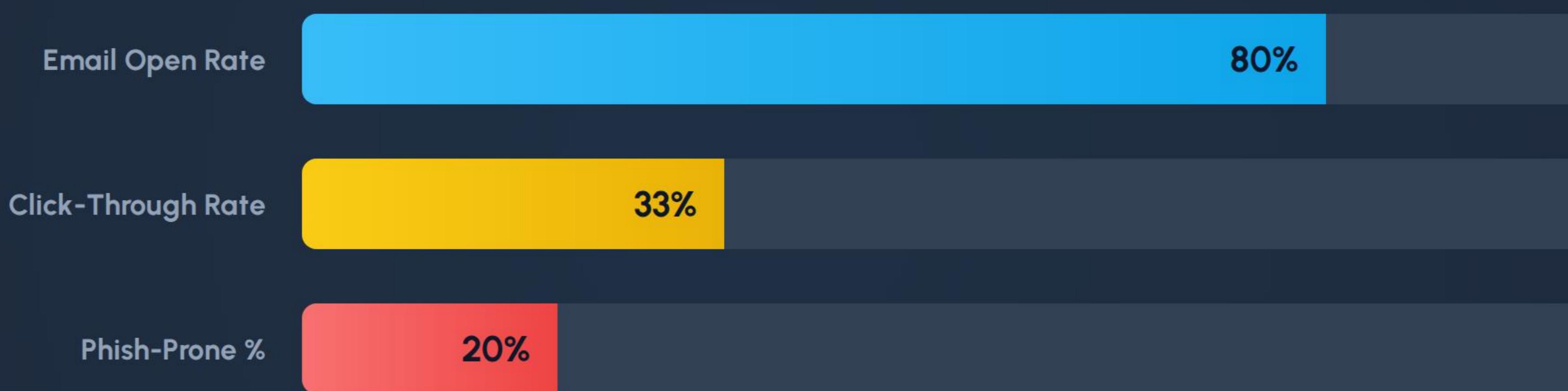
Projected Quantitative Results

Email Open Rate — 80%

Click-Through Rate — 33%

Phish-Prone % — 20%

Data indicates that 1 in 5 users would have compromised their credentials.

Analysis: Why It Worked

Emotional Overload

The threat of "Permanent Termination" triggered a reactive stress response, bypassing rational analysis.

Visual Trust

The high quality of the HTML/CSS login page maintained the illusion of legitimacy established by the email.

Failure to Inspect

Users failed the "Hover Test"—clicking the link without inspecting the actual destination URL.

Lessons Learned

- **Human Vulnerability:** Even with firewalls, the human element remains the critical weakness.

- **Training Gaps:** Passive reading of policies is ineffective. Users learn best through experience (simulation).

- **Urgency is Key:** Any communication demanding "Immediate Action" should be treated as hostile by default.

Top Mitigation Strategies

🔑 **Enforce Multi-Factor Authentication (MFA)**

The single most effective technical control. Even if credentials are stolen, access is denied.

🔍 **Mandatory Link Inspection**

Train users to "Hover" over links and check the domain before clicking.

📞 **Out-of-Band Verification**
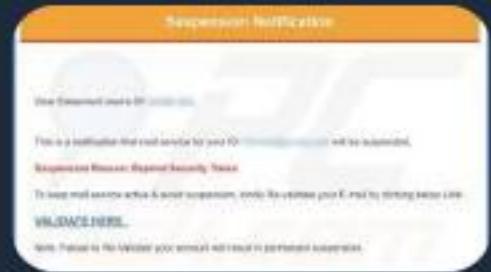
Never click urgent links. Navigate directly to the service URL or call to verify.

Image Sources
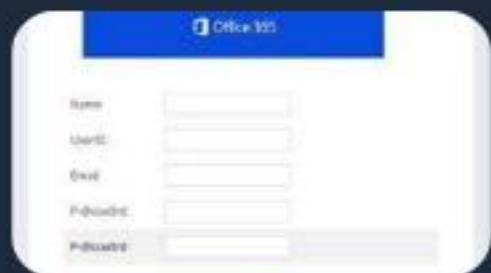
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Source: www.istockphoto.com

https://www.pcrisk.com/images/stories/screenshots202305/alert-suspension-notice-email-scam-main.jpg

Source: www.pcrisk.com

https://www.msvu.ca/wp-content/uploads/2020/05/LoginExample2jpg.jpg

Source: www.msvu.ca

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