

Please log in with your account.

Email

Password

Your account is compromised?

Log In



A Transcontinental Analysis of Account Remediation Protocols of Popular Websites

Philipp Markert, Andrick Adhikari, and [Sanchari Das](#)

February 27, 2023 | Symposium on Usable Security and Privacy

Account Remediation (Neil et al. [1])



Analyzed official advice of US based websites



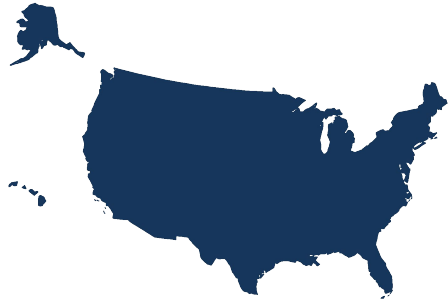
Identified 5 account remediation steps



➔ Advice provided by websites is incomplete

[1] Neil et al., Investigating Web Service Account Remediation Advice. SOUPS '21, Virtual Conference, August 2021.

From a US to a Transcontinental Analysis



Neil et al. [1]:
Analyzed US-based websites



This Work:
Analyze websites popular across the globe

[1] Neil et al., Investigating Web Service Account Remediation Advice. SOUPS '21, Virtual Conference, August 2021.

Which Websites to Analyze?

1

Take 5 Continents

2

Take 6 countries
(3 best and 3 worst based
on security maturity [2])

3

Take 50 most popular
websites for each country
according to Tranco [3]

4

Remove duplicates

Africa: $6 \cdot 50 = 300$

Americas: $6 \cdot 50 = 300$

Asia: $6 \cdot 50 = 300$

Europe: $6 \cdot 50 = 300$

Oceania: $6 \cdot 50 = 300$

1500 - duplicates = 158 unique websites

[2] International Telecommunication Union, Global Cybersecurity Index 2020, June 2021.

[3] Le Pochat et al., Tranco: A Research-Oriented Top Sites Ranking Hardened Against Manipulation. NDSS '19, San Diego, California, USA, February 2019.

Findings



Lack of information present across nations



Global South significantly more affected by the lack of advice

**Compromise
Discovery**
49%–54%

**Account
Recovery**
69%–77%

**Limit Unwanted
Access**
42%–52%

**Service
Restoration**
40%–52%

**Prevent Future
Compromise**
37%–43%

Example 1: Billing/Finance Issues

(Information for users, e.g., about irregular charges)

Lowest-ranked Oceania **32%** vs. **64%** Best-ranked Europe

Example 2: Password Advice

(Information on how to create a strong password)

Lowest-ranked Oceania **47%** vs. **79%** Best-ranked Asia

Discussion & Future Work



Account Deletion Is an Option

Users may want to delete their accounts

20% of websites do not provide information on account deletion

Enforce Account Remediation Procedures

For all websites that maintain user accounts

Similar to data breach notification laws in the US or GDPR in the EU



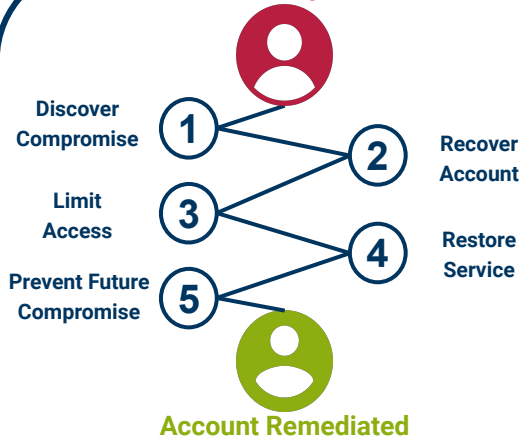
Provide Guidance for Users and Website Providers

General advice for users if steps are missing on websites

Best practices for website providers on how to improve

Method

Account Compromised



Analyze 158 websites popular across all 5 continents

Results



Lack of information present across nations



Global South significantly more affected by the lack of advice

- 1 Compromise Discovery
49%–54%
- 2 Account Recovery
69%–77%
- 3 Limit Unwanted Access
42%–52%
- 4 Service Restoration
40%–52%
- 5 Prevent Future Compromise
37%–43%

Password Advice

(Information on how to create a strong password)

Lowest-ranked Oceania 47% vs. 79% Best-ranked Asia

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