

Investigating Web Service Account Remediation Advice

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What is Account Remediation?

- A systematic process one performs to re-secure their compromised account.
- There are five phases to account remediation:
 1. Discover the compromise
 2. Recover access to the account
 3. Limit access to the account
 4. Restore the service to its pre-compromise state
 5. Take action to prevent future compromises

Account Remediation Advice

- Web services provide users with help pages on account remediation, however...
 - Account remediation is a technically complex process.
- The **quality of advice** for account remediation is of paramount importance.



Methods



**Develop Account
Remediation Codebook**



**Collect Advice
from Identified
Web Services**



**Code Account
Remediation Advice**

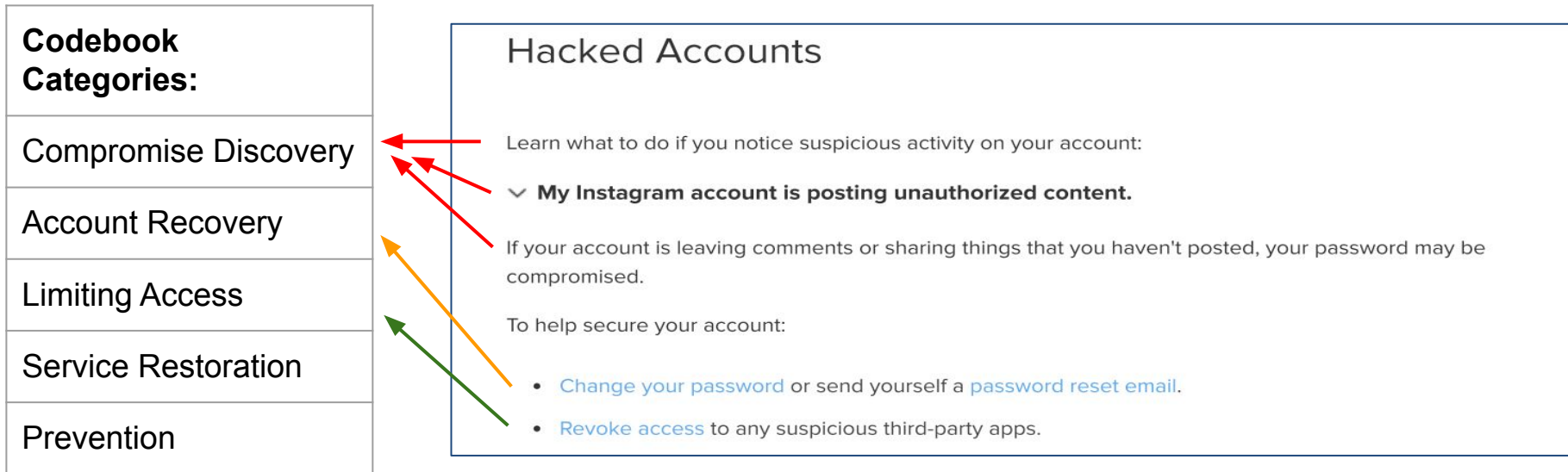
Modeled after account remediation model.

57 total web services:

U.S.-based and allowed account creation.

Split coding of services among authors.

Codebook Coding Example



Analysis



**Advice Coverage
Analysis**

Phase coverage among
services.



**Coverage vs.
Site Popularity**

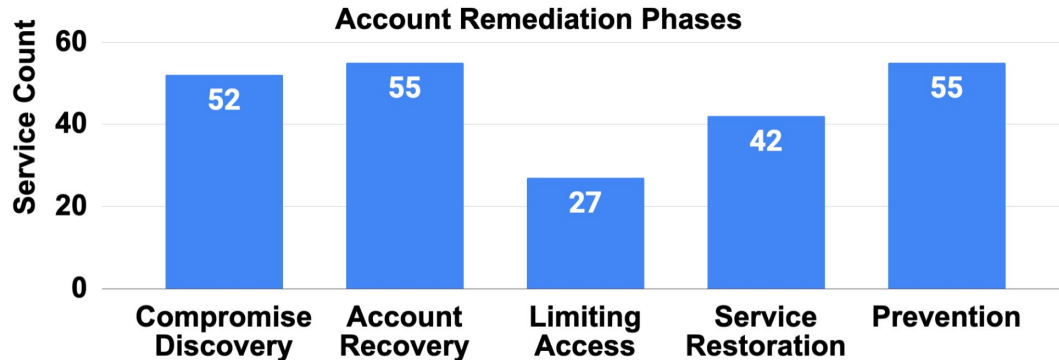
Very popular vs less popular
services.



**Coverage vs.
Disclosed Data
Breach**

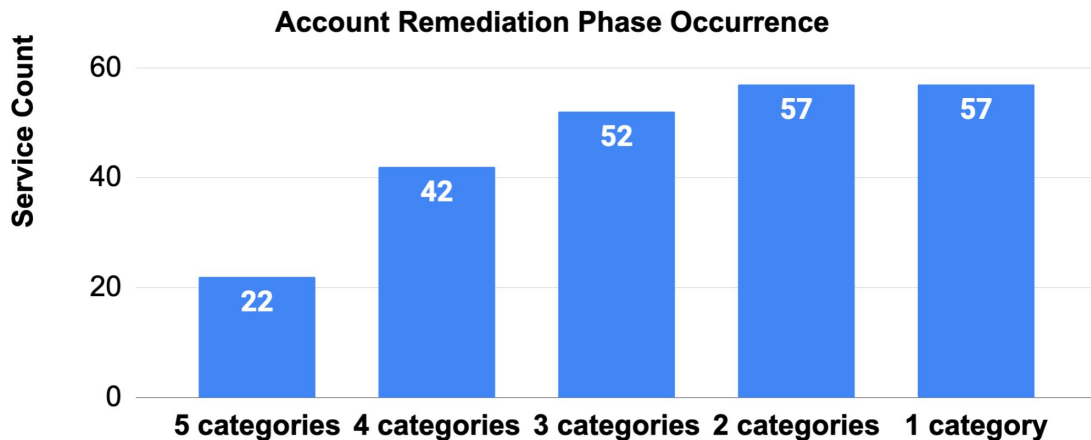
Data breach disclosed vs non
data breach disclosed
services.

Limiting Access Advice is Sparse



Limiting Access covered in <50% of services.

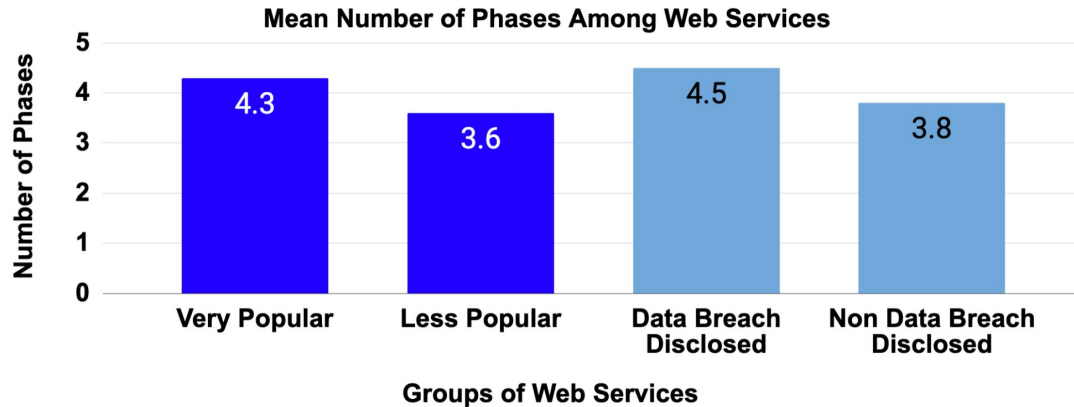
Most services do not cover all phases



39% of services covered all five phases.

74% of services covered at least 4 phases.

Differences in Advice Coverage



Popularity:

Mann-Whitney U Test
Significance ($p = 0.003$)

Data Breach:

Mann-Whitney U Test
Significance ($p = 0.027$)

Takeaways

Account remediation is a five phase process, yet less than 50% of services covered advice for limiting account access.

Coverage of all five phases was present in 39% of services.

Different groups of services presented different coverages of advice for account remediation.

Thank you!

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