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Computer Systems B

COMS20012

Introduction to Operating Systems and Security

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Threat 2

The recovery problem

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Password recovery

- External knowledge
  - Social Media
  - Famous people
  - Environment vulnerability
  - etc…
- Social engineering
  - Fake e-mail
  - Fake website
  - Ask over the phone
  - etc…
- Entropy of recovery is very bad! Entropy = Min(Ent(password), Ent(Recovery))
  - e.g. what's your favorite color? (likely red or blue)
  - User selected questions are terrible (e.g. 2+3)

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Examples

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E-mail recovery

- Policy: you need to know the password to access an account

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E-mail recovery

- Policy: you need to know the password to access an account
- … or you need to know the answer to the recovery questions?

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E-mail recovery

- Policy: you need to know the password to access an account
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KIM ZETTER SECURITY 09.10.08 10:05 AM

PALIN E-MAIL HACKER SAYS IT WAS EASY

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E-mail recovery

- Policy: you need to know the password to access an account
- … or you need to know the answer to the recovery questions?
- DoB, ZIP, where did you meet your partner?
- Just Google it!

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E-mail recovery

- Policy: you need to know the password to access an account
- … people started to get more creative

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E-mail recovery

- Policy: you need to know the password to access an account
- … people started to get more creative

- Took over twitter account deleted google account etc.
- A real story!

HOW APPLE AND AMAZON SECURITY FLAWS LED TO MY EPIC HACKING

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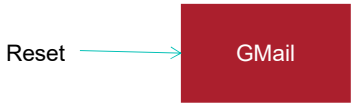
What happened?

- Took over twitter account, deleted google account etc.



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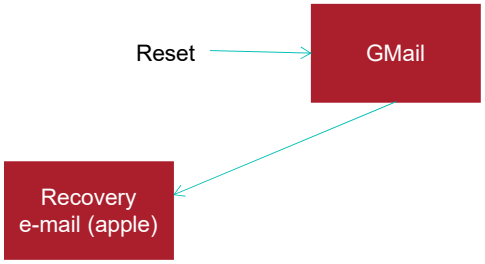

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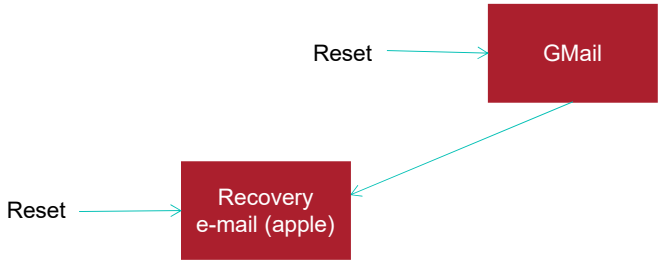

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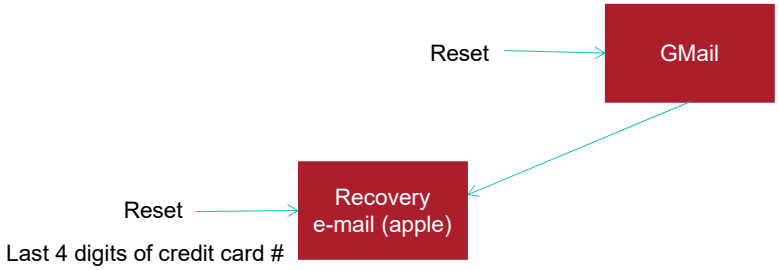

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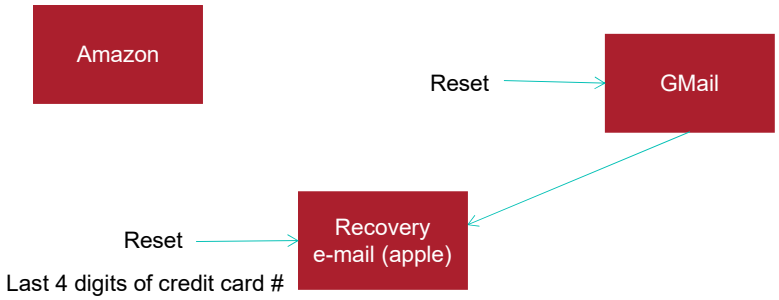

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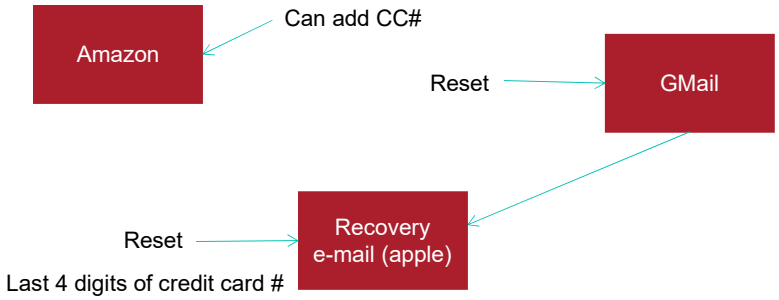

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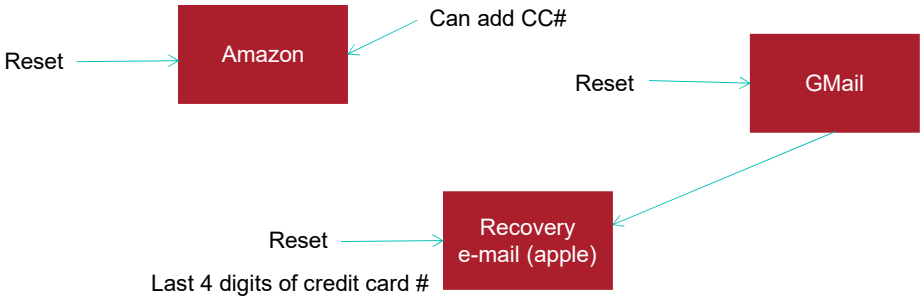

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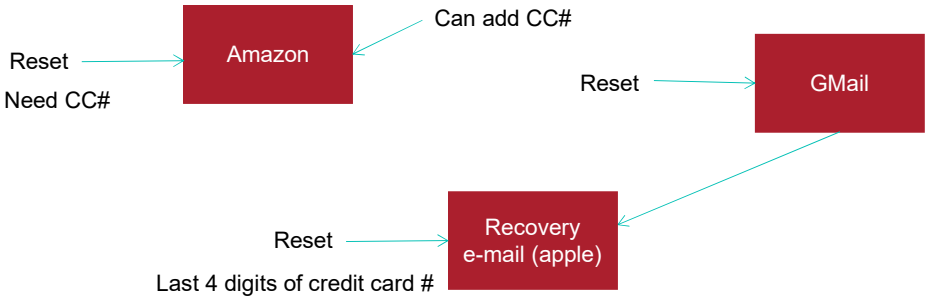

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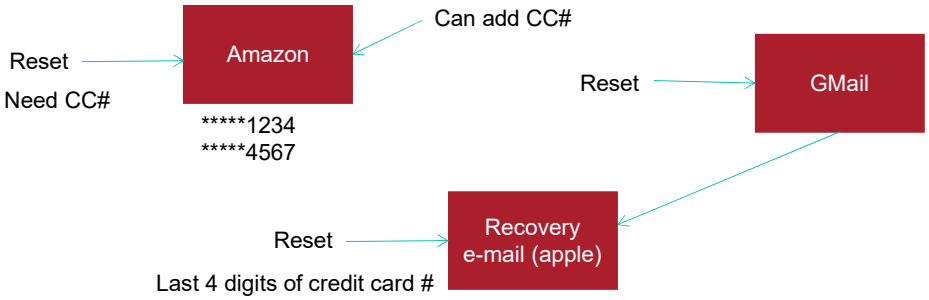

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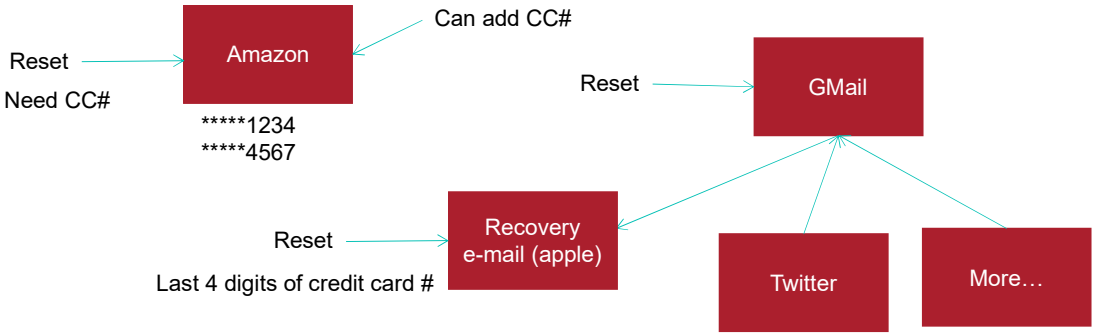

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E-mail recovery

- Individual policies made sense
- Did not take in consideration the larger environment

- Now?
  - Two factor authentication etc…
  - Until someone find a vulnerability?

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Thank you

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