Hack to the future

Marinus Kuivenhoven
Senior Security Specialist

#hitb2012ams

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Commodore 64

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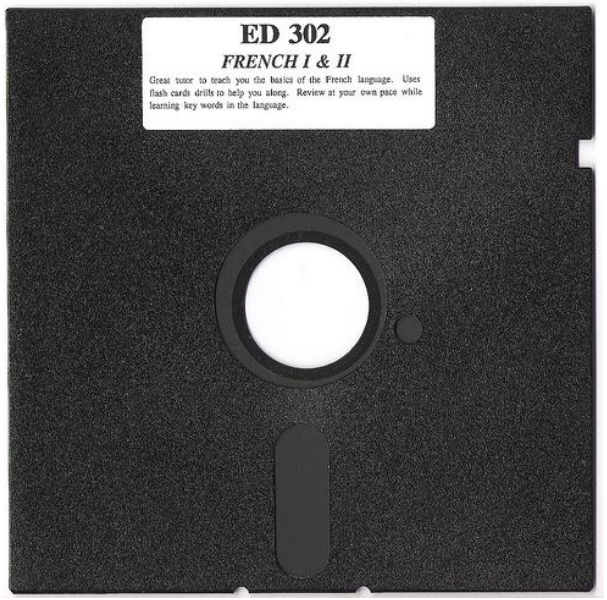
Commodore 1541 floppy drive



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Copy protection

- Difference in resources to buy and use vs. copy and use

Copy protection C64 #1

- **Bad Sector (1983)**

Copy protection reboot

- **Xbox 360 (2005)**

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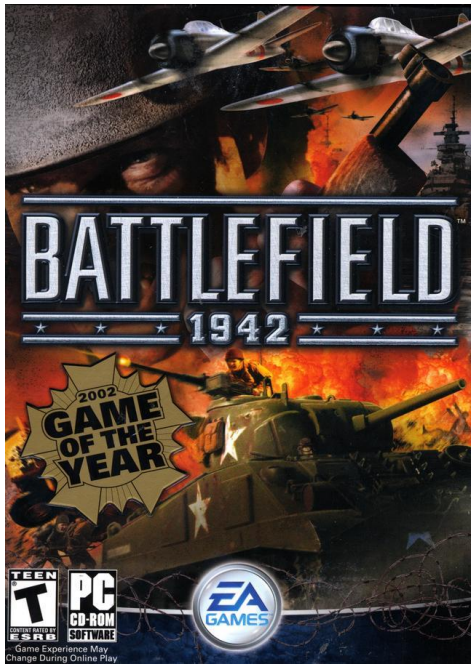
Copy protection C64 #2

- **Gap Bytes (1985)**

Copy protection reboot

- **PC games with SafeDisc (2002 – ….)**



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Copy protection C64 #3

- **Trackallignment (1987)**

Copy protection reboot

- **PlayStation 2 (2000)**
  - Afwijkende ruimte tussen blocks

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So..

We don’t learn from other people mistakes

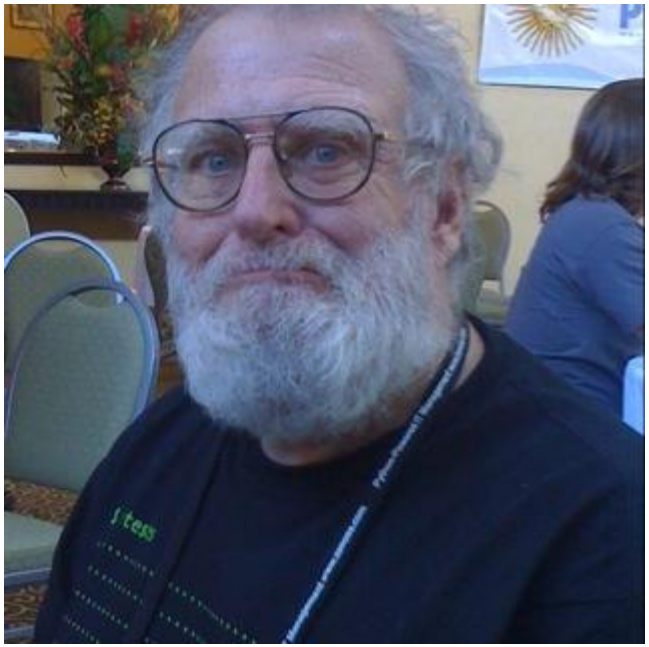
The ‘F’-test

An infection is the invasion of body tissues by disease-causing microorganisms, their multiplication and the reaction of body tissues to these microorganisms and the toxins that they produce. Hosts normally fight infections themselves via their immune system.

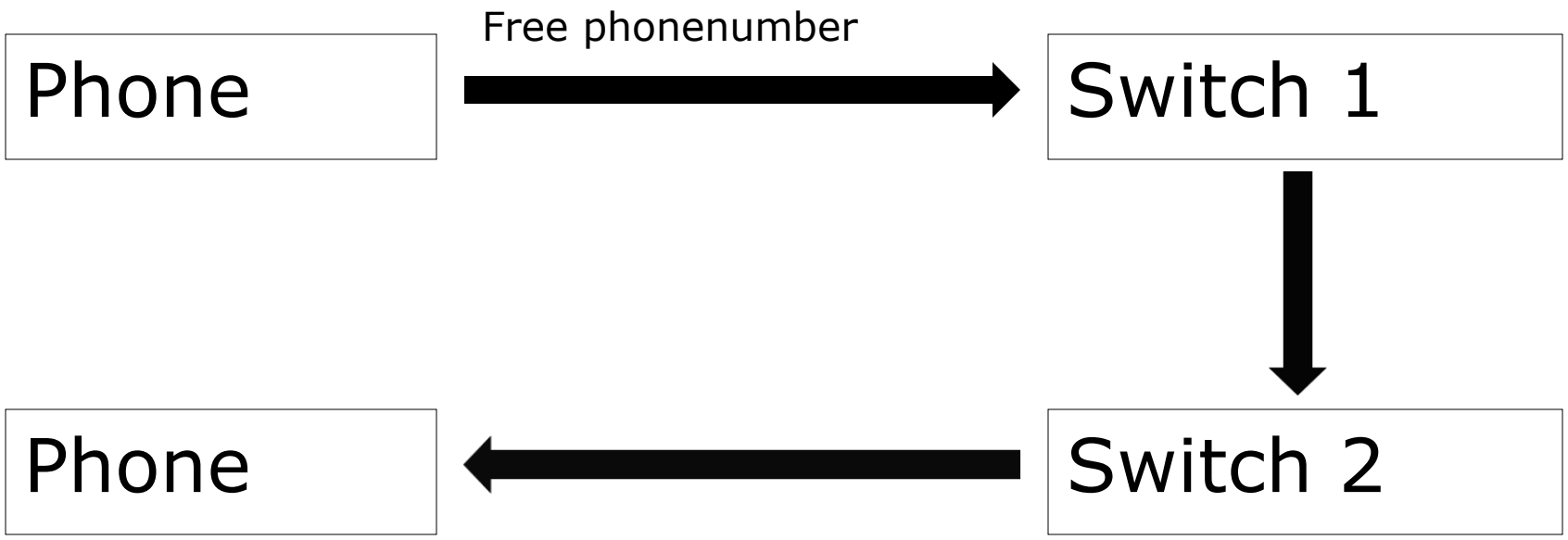
Assignment:
Count the number of times the character 'F' appears on this slide.
Write it on a paper, put your fingers up or yell the amount.
Don’t cheat and countit in one go.

Phone + Freak = Phreak

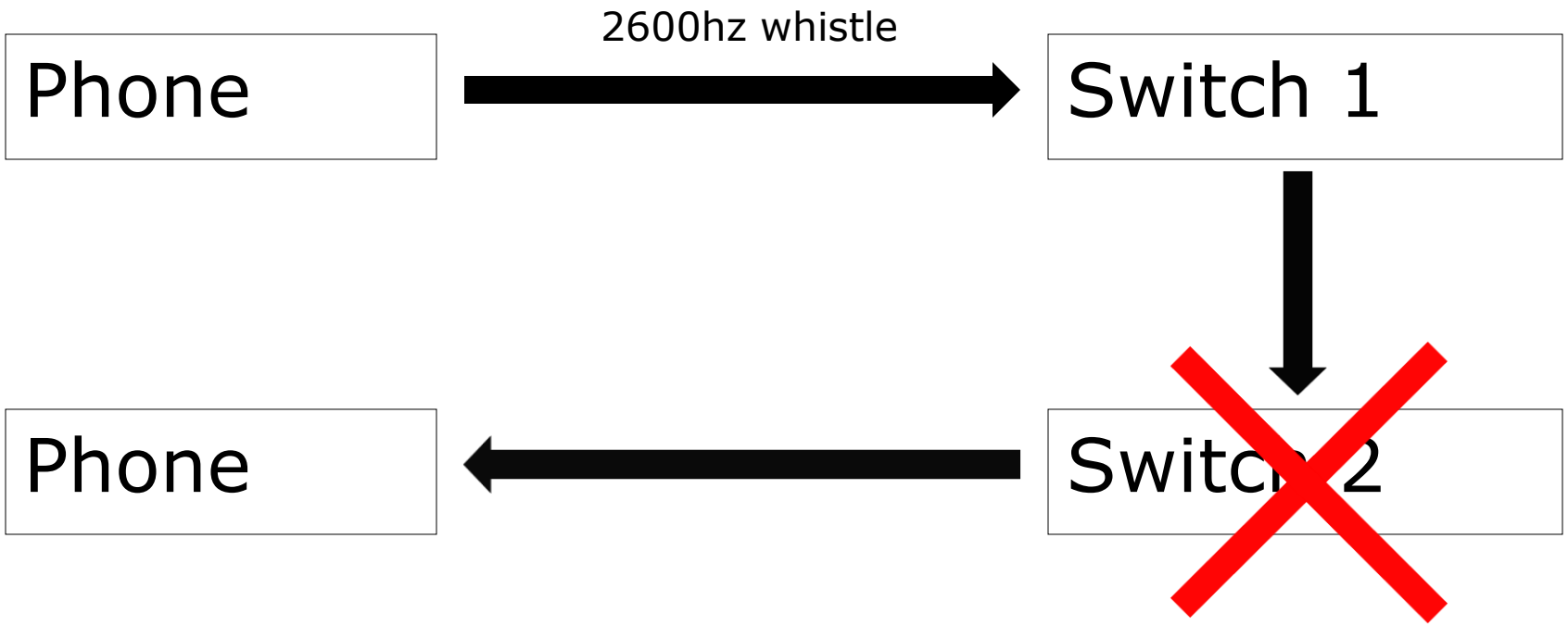
"Joybubbles" & "Captain Crunch"



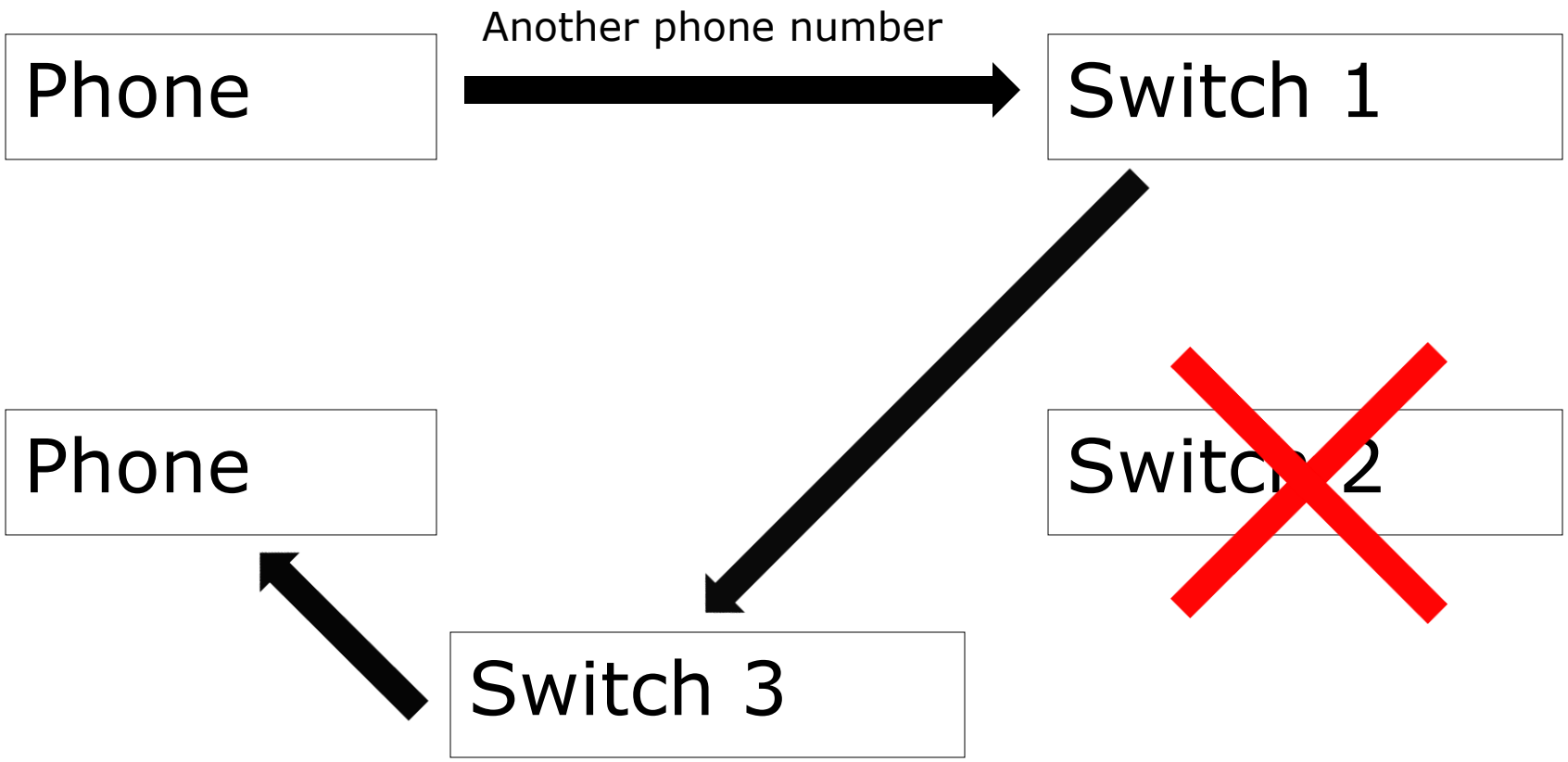
Bluebox (1960)



Bluebox (1960)



Bluebox (1960)



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Trygve Reenskaug

- **DBO, MVC, OO, UML, ect..**

Database Oriented Application (1965)

Front-end:
USERNAME:[PERSONA]
PASSWORD:[SECRET12]

Back-end:
Is access the account permitted when :

the username is 'PERSONA'
en

the password is `SECRET12';

SQL injection (1997)

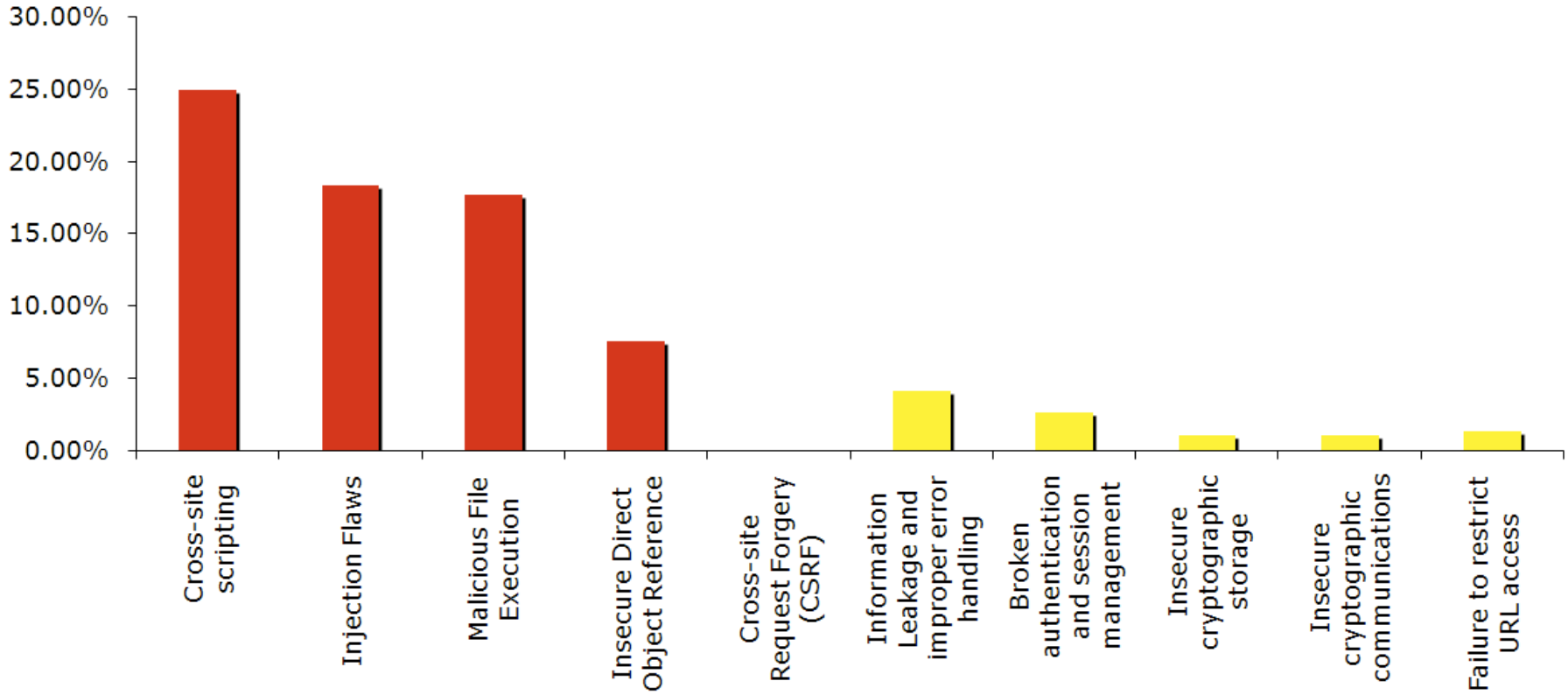
Front-end:
USERNAME:[PERSONA]
PASSWORD:[IDUNNO or 1=1]

Back-end:
Is access to the account permitted when:

the username is 'PERSOONA'
and

the passwordis IDUNNO or 1=1;

Attacks on webapplications



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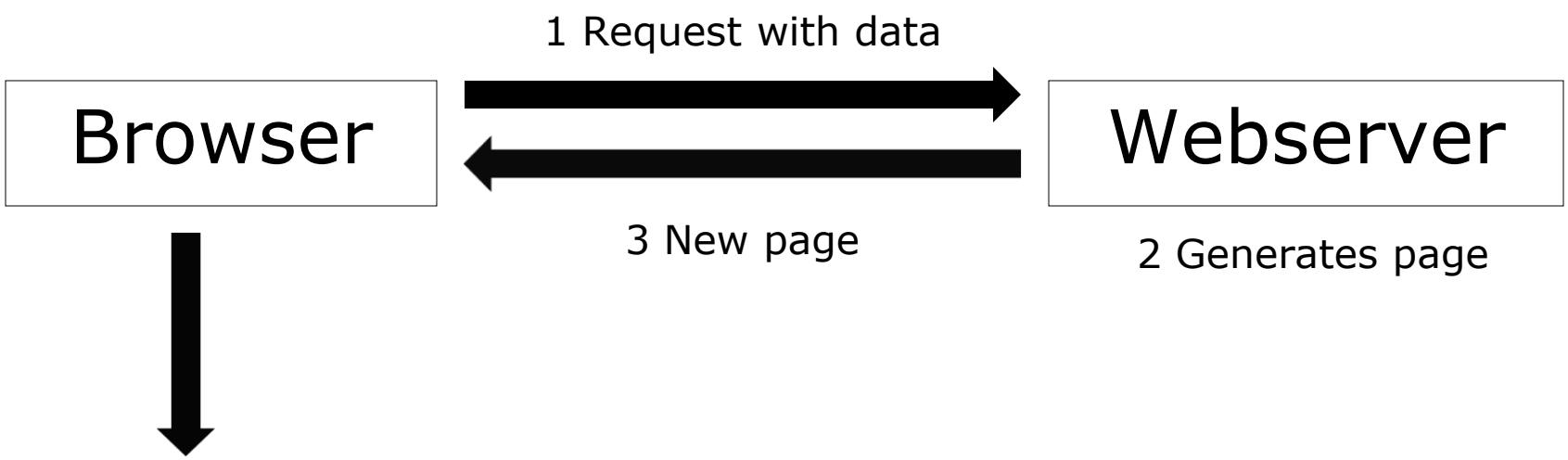
Dynamic HTML+Javascript (1995)



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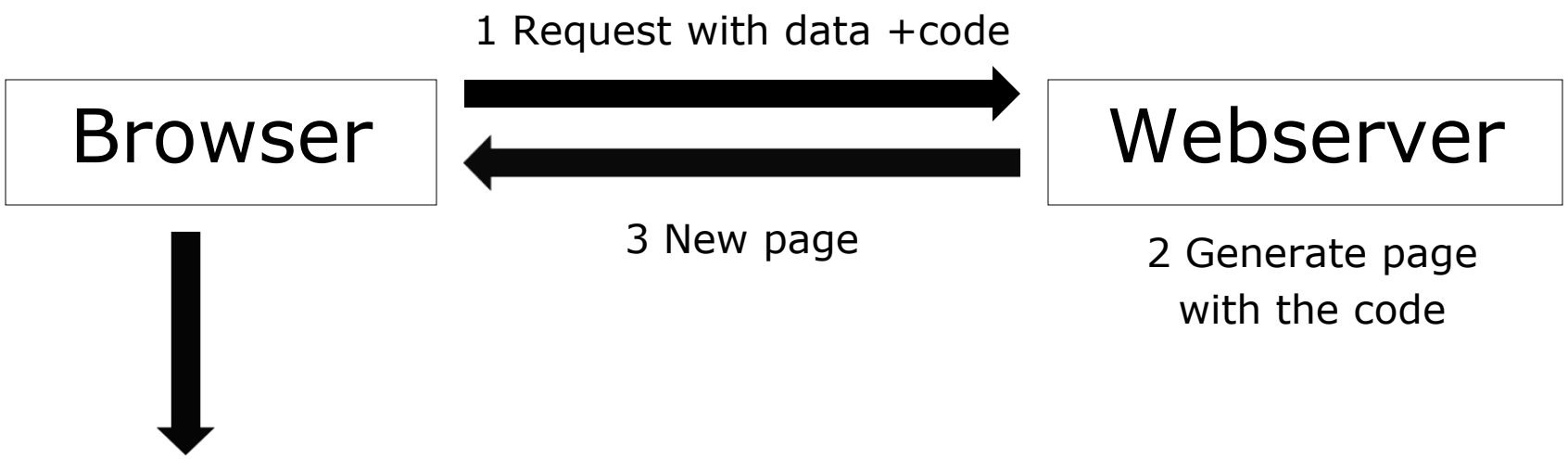
Cross-site scripting (1996)



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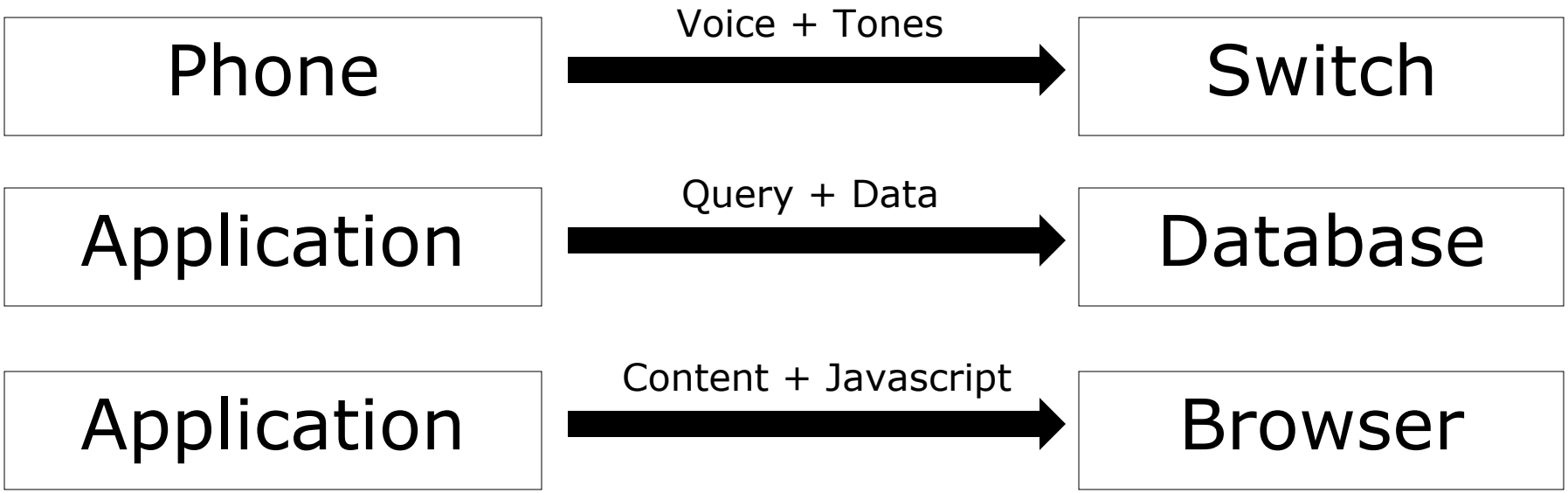
Cause



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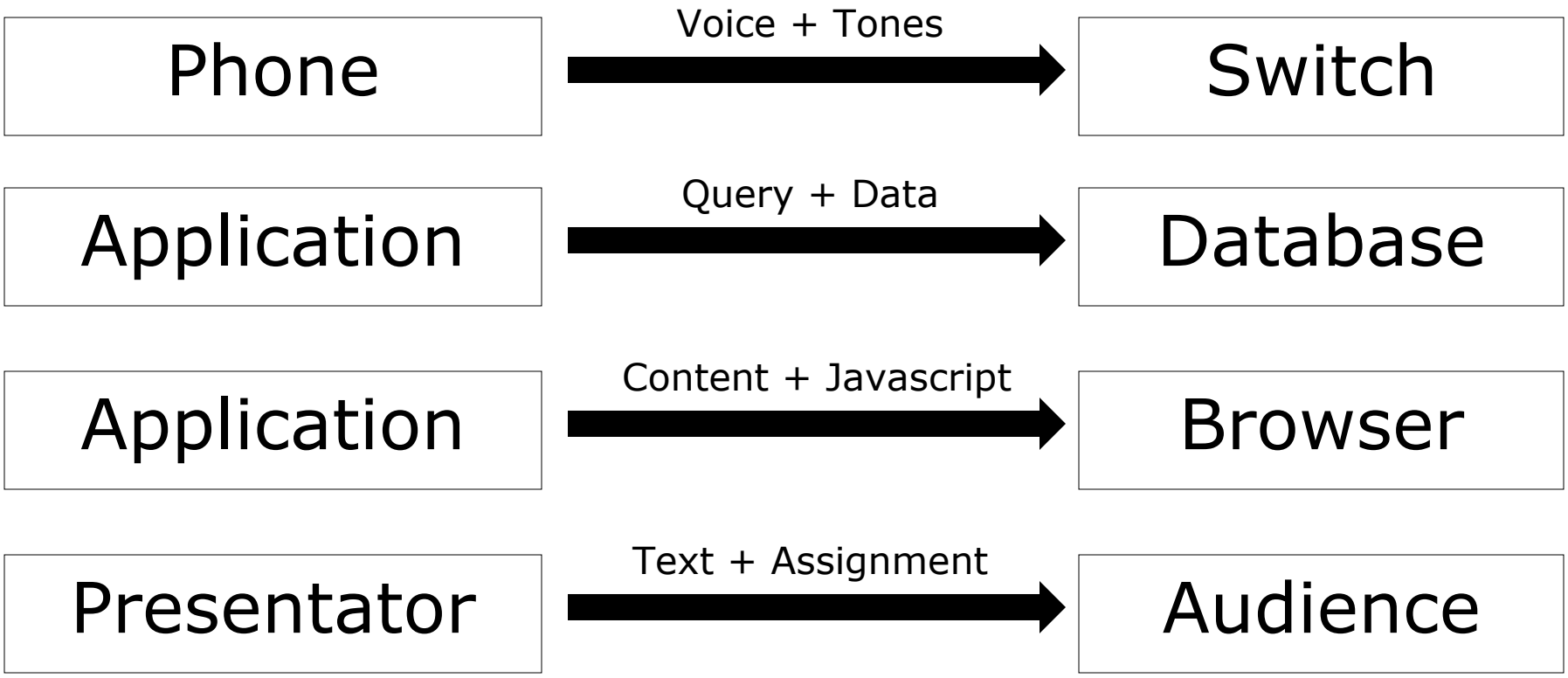
Cause



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Root cause

The interpreter can’t distinguish between data and logic

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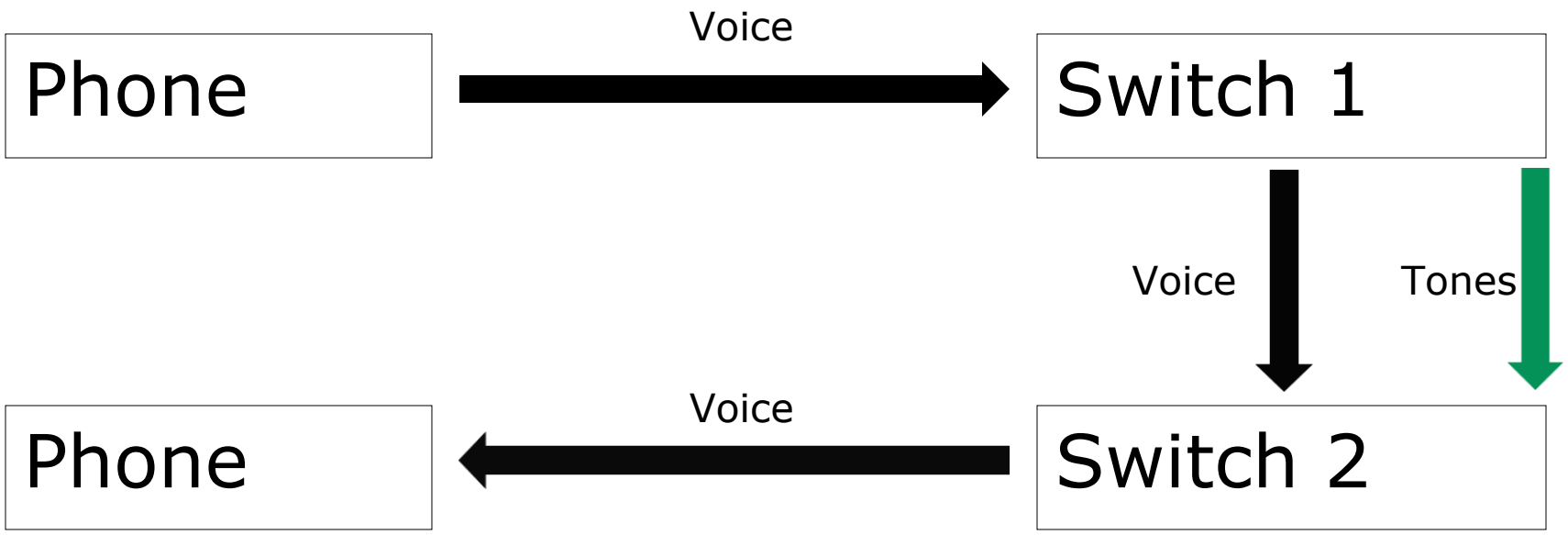
Out of band communication - Telefoon



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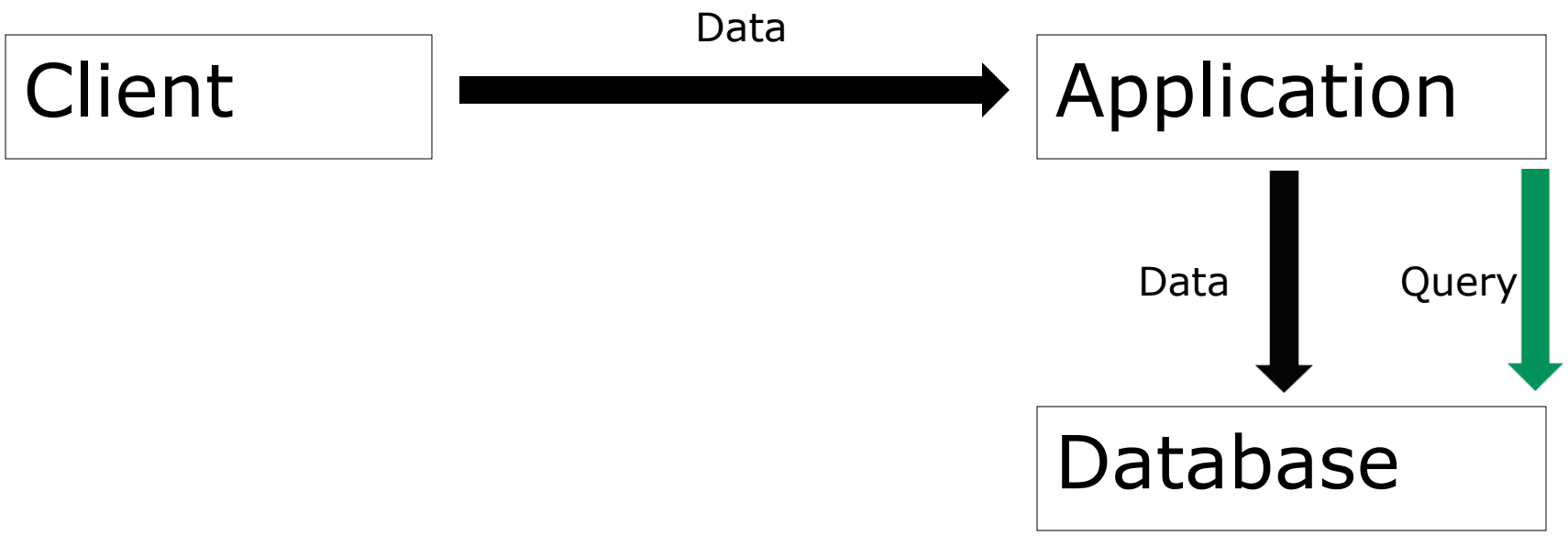
Out of band communication - Database



Out of band communication - Database

1:
stmt = ‘select something from table where column =‘ + variable;

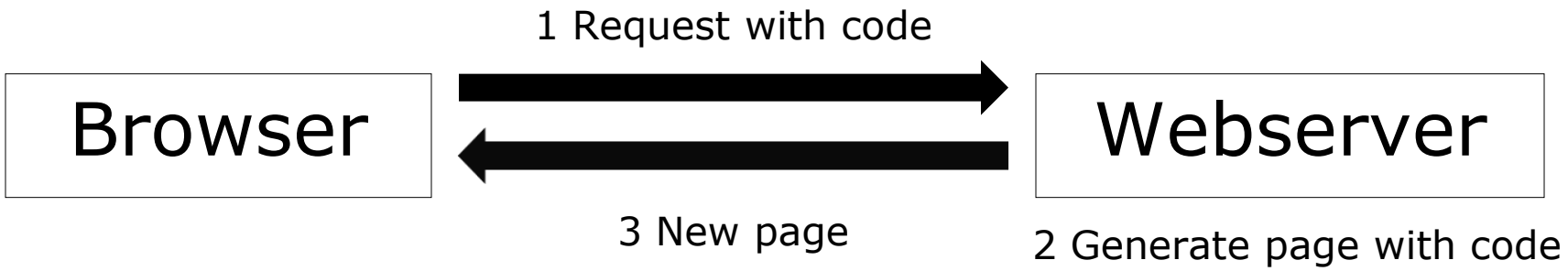
2:
stmt = ‘select something from table where column = ?‘;
Bind(1,variable);

1:
var: a, -> hash = 0cc175b9c0f1b6a831c399e269772661
var: b, -> hash = 92eb5ffee6ae2fec3ad71c777531578f

2:
var: a, then hash = 4a8a08f09d37b73795649038408b5f33
var: b, then hash = 4a8a08f09d37b73795649038408b5f33

Out of band communication - Browser

HTTP only has in band communication



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Focus on incidents..

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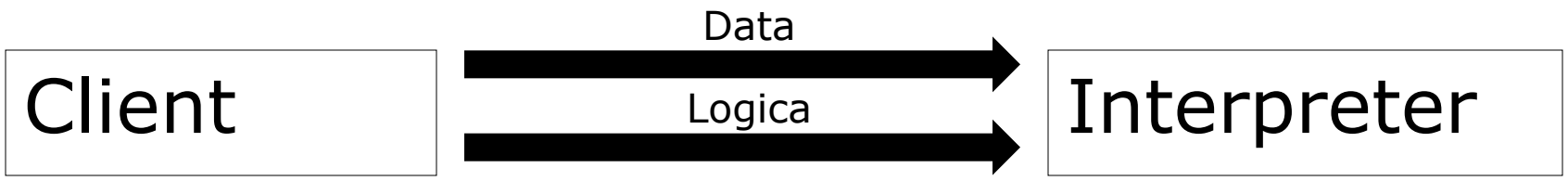
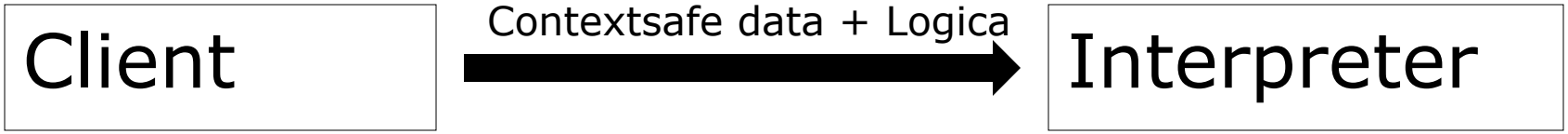
..specific a blacklist of incidenten

- OWASP top 10
  - Injection
  - Cross-Site Scripting (XSS)
  - Broken Authentication and Session Management
  - Insecure Direct Object References
  - Cross-Site Request Forgery (CSRF)
- SANS CWE/25
  - Improper Neutralization of Special Elements used in an SQL Command ('SQL Injection')
  - Improper Neutralization of Special Elements used in an OS Command ('OS Command Injection')
  - Improper Neutralization of Input During Web Page Generation ('Cross-site Scripting')
  - Unrestricted Upload of File with Dangerous Type
  - Cross-Site Request Forgery (CSRF)
  - URL Redirection to Untrusted Site ('Open Redirect')
- WASC 24+2
  - Cross-Site Scripting
  - Cross-Site Request Forgery
  - SSI Injection
  - SQL Injection
  - XPath Injection
  - XQuery Injection

Principe





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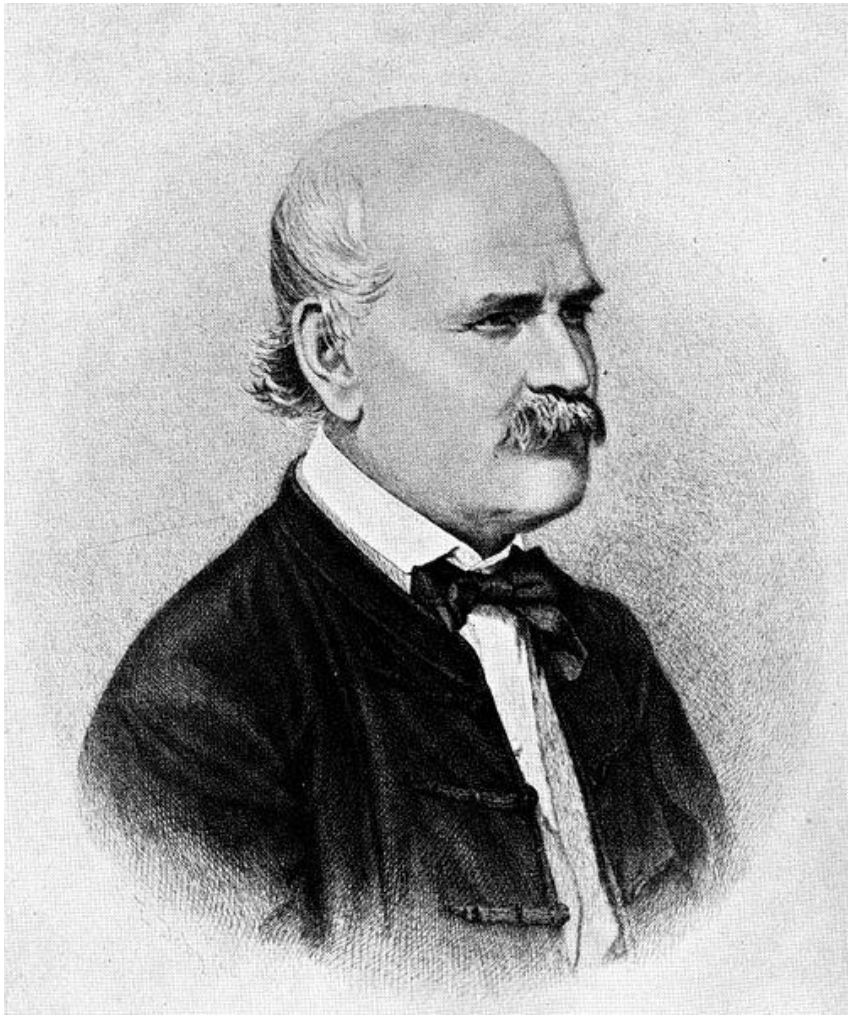
Ignaz Semmelweis



Listerine

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Thus..

We have the right ideas

We know the solutions

We just use them in the wrong way

And present them in the wrong way

We can learn from history how to this right

More on this stuff

C64:

Michael Steil / c64.org

Nate / root.org

XSS/SQL/Injection flaws:

www.owasp.org

Engressia/Draper/Semmelweis/Lister:

www.wikipedia.org

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staat voor resultaat