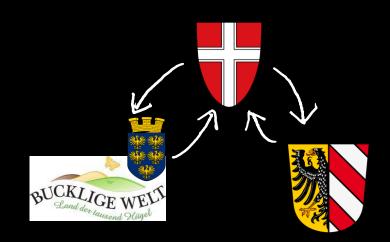
## Web (and) Application Security

WUAPS

#### whoami

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**Education:** 







Prof. Exp.:









## Who are you?

## Hacking webapplications is illegal

(https://www.oesterreich.gv.at/themen/bildung\_und\_neue\_medien/internet\_und\_handy\_\_\_sicher\_durch\_die\_digitale\_welt/3/Seite.1720213.html)

### But it's also fun!

### just become a whitehat and get legally paid for it

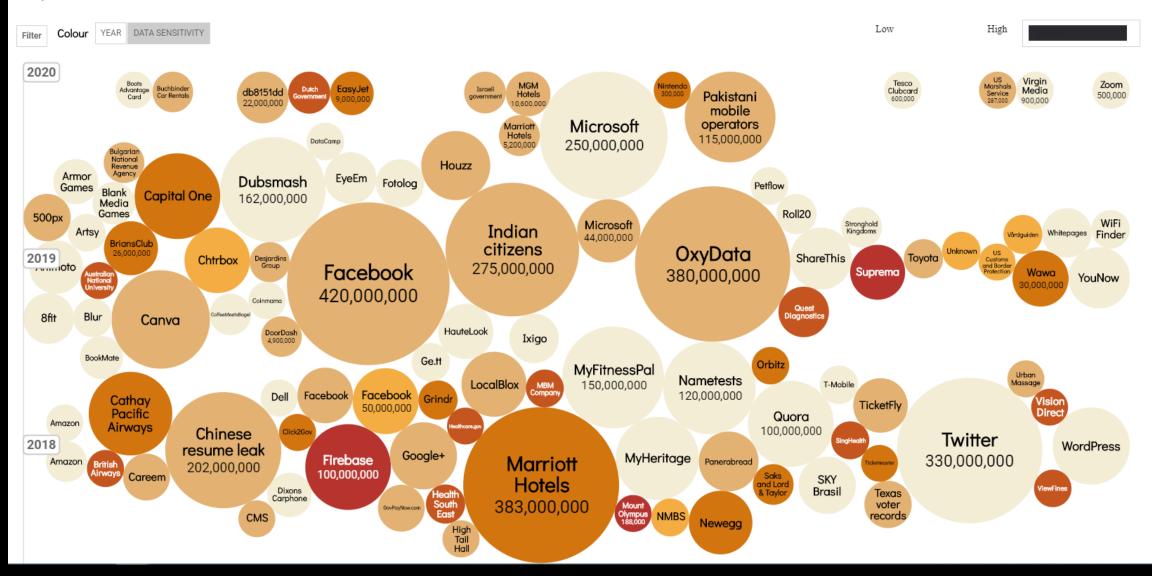
# and help making the internet a safer place

# Why is web (application) security important?

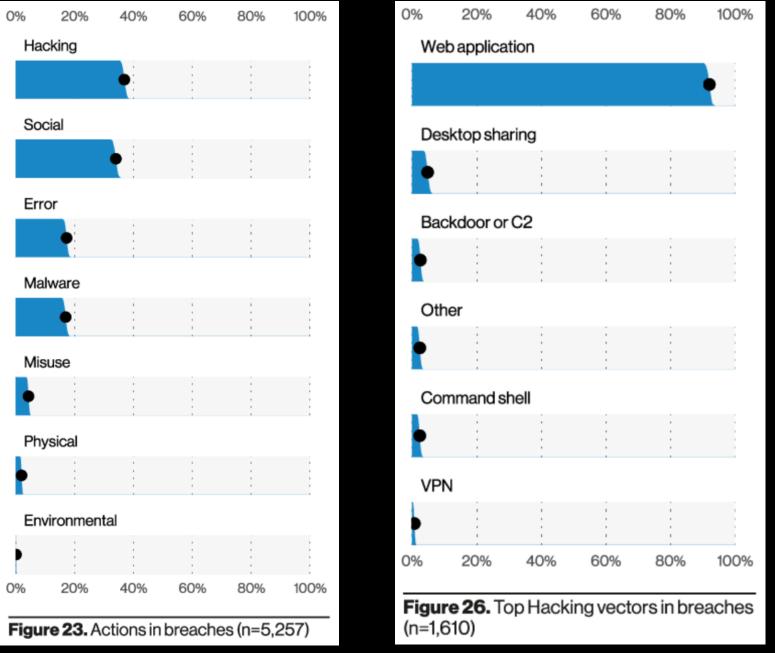
#### World's Biggest Data Breaches & Hacks



Select losses greater than 30,000 records
Last updated: 11th June 2020



Source: https://informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/



Source: Verizon 2021 Data Breach Investigation Report

## Why is it so hard to do it right? = secure

## The web is a complex combination of different technologies which evolved over time

#### You have to care about:

server-side code gets untrusted input

browser runs different applications at the same time

client-side code runs in an untrusted environment

the user well... we all know them...

#### Rough Overview

- 1. >> Introduction <<
- 2. Basic Principles and Resources
- 3. Architecture & Basic Web Procedure
- 4. Authentication and Session Management
- 5. Authorization
- 6. Server and Backend Attacks
- 7. Remaining Client Attacks
- 8. General Topics
- 9. Conclusions

#### Overall Conditions

- Grading
  - 50% Lab
    - more about that in the first lab session
  - 50% Theory
    - eCampus exam at the end of this course
    - You need to collect more than 25 of 50 points for a positive grade
- Attendance
  - Needs to be recorded on eCampus
- Breaks
- Camera
- Recording
- Material
  - Released under CC Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)
  - https://creativecommons.org/licenses/by-sa/4.0/
  - https://github.com/dschwarz91/websec-lecture

## After this course, you will be able to...

... explain the most common vulnerabilities in today's web applications

... identify vulnerabilities in web applications and give recommendations how to fix them

... use some of the most important tools to efficiently examine web applications

## Any questions before we start?