



# Infosec through People, Process and Technology

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Presentation at kLab, Kigali



# About me

- Studied information security in Hungary and France
  - PhD in RFID and embedded systems security
  - Worked for German security consultancy where we broke A5/1, MiFare, GPRS, 3G, SIMs
  - Currently working for Cisco in the UK
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# Topics

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1. What are the goals of infosec for a particular product or service?
2. How do people, process and technology help achieve these goals?
3. Technical failures that were saved by process and technology

# Goals of Infosec

## What

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- Prevent unauthorised access (authentication, authorization)
- Prevent data manipulation (integrity checking, separation of duty)
- Prevent denial of service (incentivisation, distributed systems architecture)
- Non-repudiation (audit logs)

## For whom

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- For the customer (e.g. data encryption)
- For the company (e.g. protect assets)
- For third parties (e.g. regulations)

# The three aspects of Infosec



## People

Enabling people to take responsibility, continuous learning, culture of security



## Process

Setting responsibilities, regular meetings using standard cookbooks, managerial oversight and sign-off



## Technology

Use known, tested technology, don't try to roll your own, keep it simple, think both top down and bottom up

# People

- Encourage going to presentations, conferences
  - Buy books on security and encourage staff to take them home, read
  - Encourage open discussion of known issues
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# Process

- Call regular meetings with the explicit agenda of security
  - Use and adapt cookbooks to needs (OWASP, Sec. Threat Modelling, Security engineering)
  - Pick some high - impact TODOs every 2-3 months
  - Make someone responsible for watching out for CVEs
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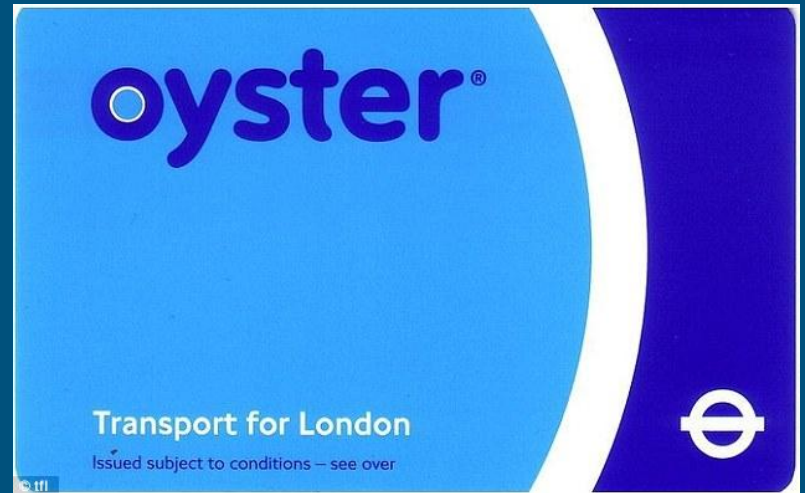
# Technology

- Tech is bottom up (libraries) and top down (tech stack)
  - Use well-known protocols. OpenSSL, REST, HTTP, etc.
  - Use well-known tech stack. nginx, MySQL, Redis, etc
  - KISS: Keep it simple, stupid
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# The Oyster card

## Fail or success?



# A5/1

# Fail or success?



Thank you for  
your time

Questions?