

User Centred Security

TPM025A (TU Delft)

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Challenges

- Cybersecurity attacks often target or involve people
 - Organizations, home users, specific groups
- We must understand the human perspective when securing the IT that people use
 - Bad solutions burden users: effort, dilemmas, complex demands
 - Bad solutions encourage workarounds
- Examples
 - Hard-to-use authentication (passwords, 2FA)
 - Forced software updates
 - Looking after smart home devices
- Course focuses on human factors in security

Content

- The role of security next to the primary task
 - Current practice aims to ‘make’ people behave securely
 - Usability: we would not have to *force* secure behaviour if security was a natural fit to user goals
- Perceived and actual costs of security tasks
- The role of motivation and perception in security
 - Why am I doing security? (being told to follow policy/rules)
 - Why am I asked to do the impossible? (someone else’s job?)
 - Why is security unclear? (e.g., ‘be vigilant’ advice for emails)
- Methods to assess and design solutions so users can *do what they want to do, securely*

Content (2)

- Security from the user perspective
 - Role of employees and training in organizations
 - Privacy-related decisions and trust online
 - Human factors of risks, attacks and countermeasures
 - Authentication and identity technologies
- Human-centred security design
 - Interface and policy design
 - Behaviour change and interventions
 - What is needed *around* security technologies and policies to ensure they work for people

Format

- Period: Q4, access via TU Delft Brightspace, **now available for all 4TU students in 2021-22**
- Structured lectures, background reading (including core literature), problem-driven group discussions
 - Informed by real-world research and studies
- Assessment:
 - Individual assignment on assigned reading material (20%)
 - A final individual assignment essay (80%)

- Some challenges are nicely summarised in US NIST ‘Cybersecurity Fatigue’ video: <https://www.nist.gov/news-events/news/2016/10/security-fatigue-can-cause-computer-users-feel-hopeless-and-act-recklessly>
(Or search ‘NIST security fatigue’)