

When security meets accessibility: The challenge of encrypted files

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Telekom MMS

Digital Accessibility.

Competence Center for Digital
Accessibility and User Experience



A perfect fit.

Consulting in all
project phases,
agile or classic



Sustainable.

Designing strategic
and operational
processes



Conform.

Conformity testing
according to
EN 301 549



Legally compliant.

BFSG or BITV 2.0



Specialized.

40+ experts,
Expertise since
2009



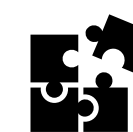
Independent.

Accredited
Testing Processes



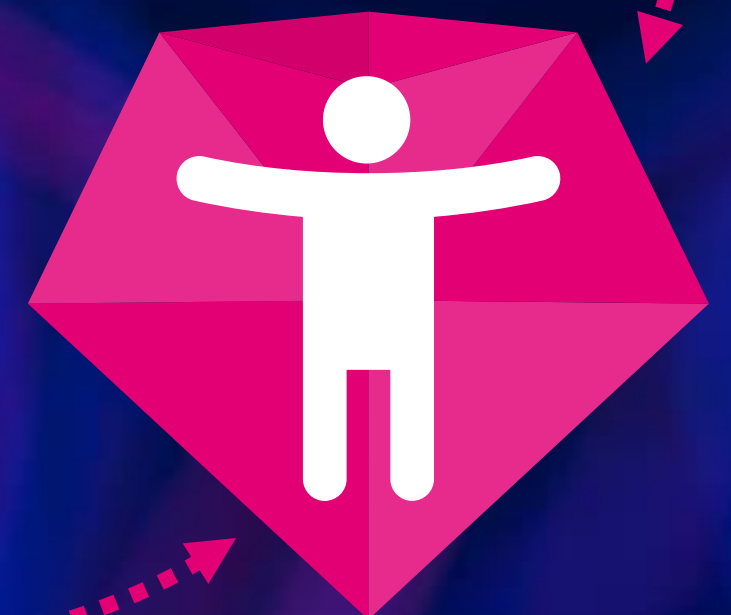
Practical.

Modular, role-
specific seminars



Across the board.

For all
technologies



Fiona Heilemann

Accessibility & Usability Expert

- M.Sc. Computer Science and Media
- Certified Professional in Web Accessibility
- Accessibility Expert for software applications
- 5 years experience



AGENDA

1. Introduction to accessibility
2. GreenShield success story
3. Technical challenge
4. Conclusion

What is „accessibility“

Accessible means:

Can be **found**, **accessed** and **used** in the generally usual way, without particular difficulty and basically without external help.

*German Act on Equal Opportunities for Persons with Disabilities
(Behindertengleichstellungsgesetz - BGG)*



Visual disability
and blindness



Motor
disability



Deafness,
Hard of hearing
and speech
disability



Cognitive
disability

The Problem: Security vs. Accessibility

Security = hide and protect

Accessibility = open and expose

- ! Accessibility and security might be mutually exclusive.

Examples:

- Password security
- CAPTCHAs



Compliance

Legal requirements for accessibility (examples)

- WCAG
- EN 301 549
- PDF/UA

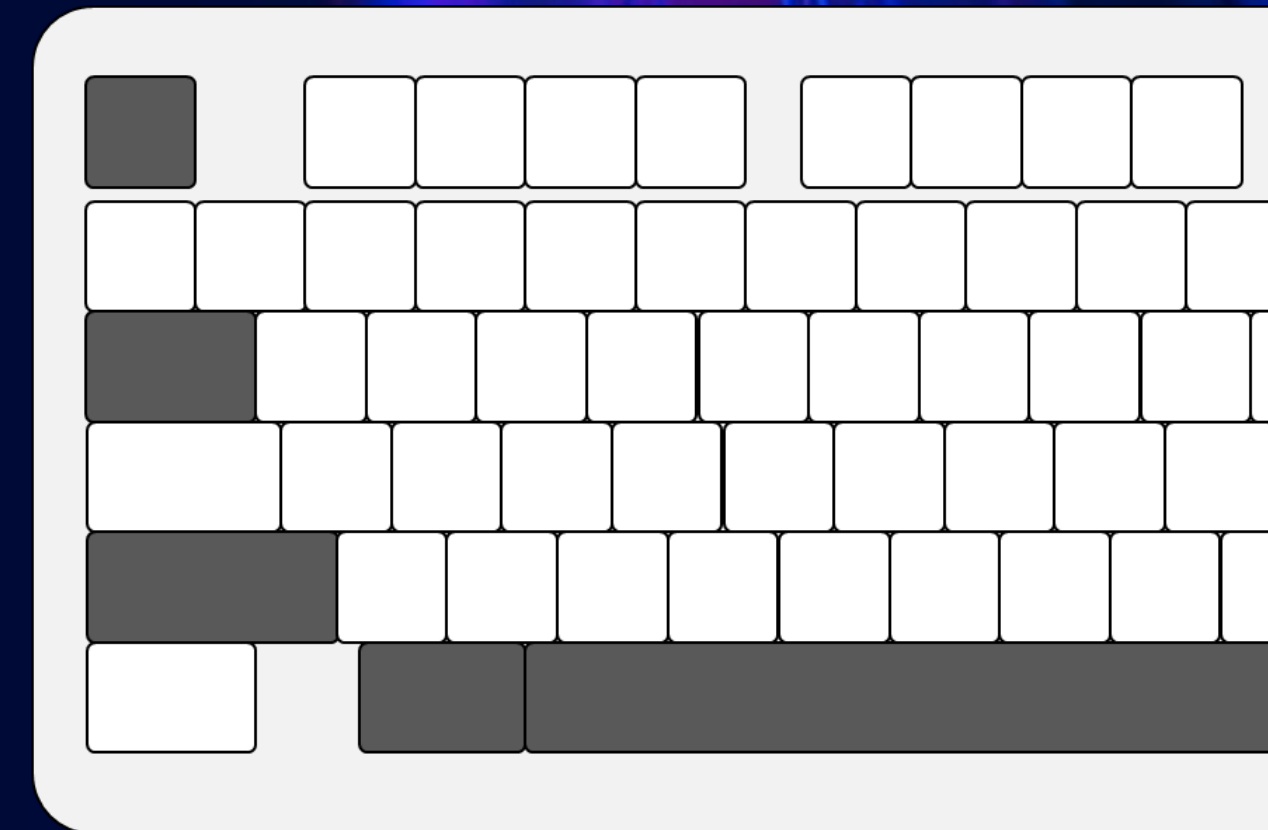
Key point:

- “Security reasons” are no excuse to ignore accessibility
- Compliance = security + accessibility

GreenShield: The Application

Common issues in software applications:

- Unlabelled buttons and input fields
- Missing content in high contrast mode
- Cut off content on zoom
- Elements are not keyboard focusable
- Very long labels via tooltips



Very long tooltip that will lead to issues with zoom, keyboard

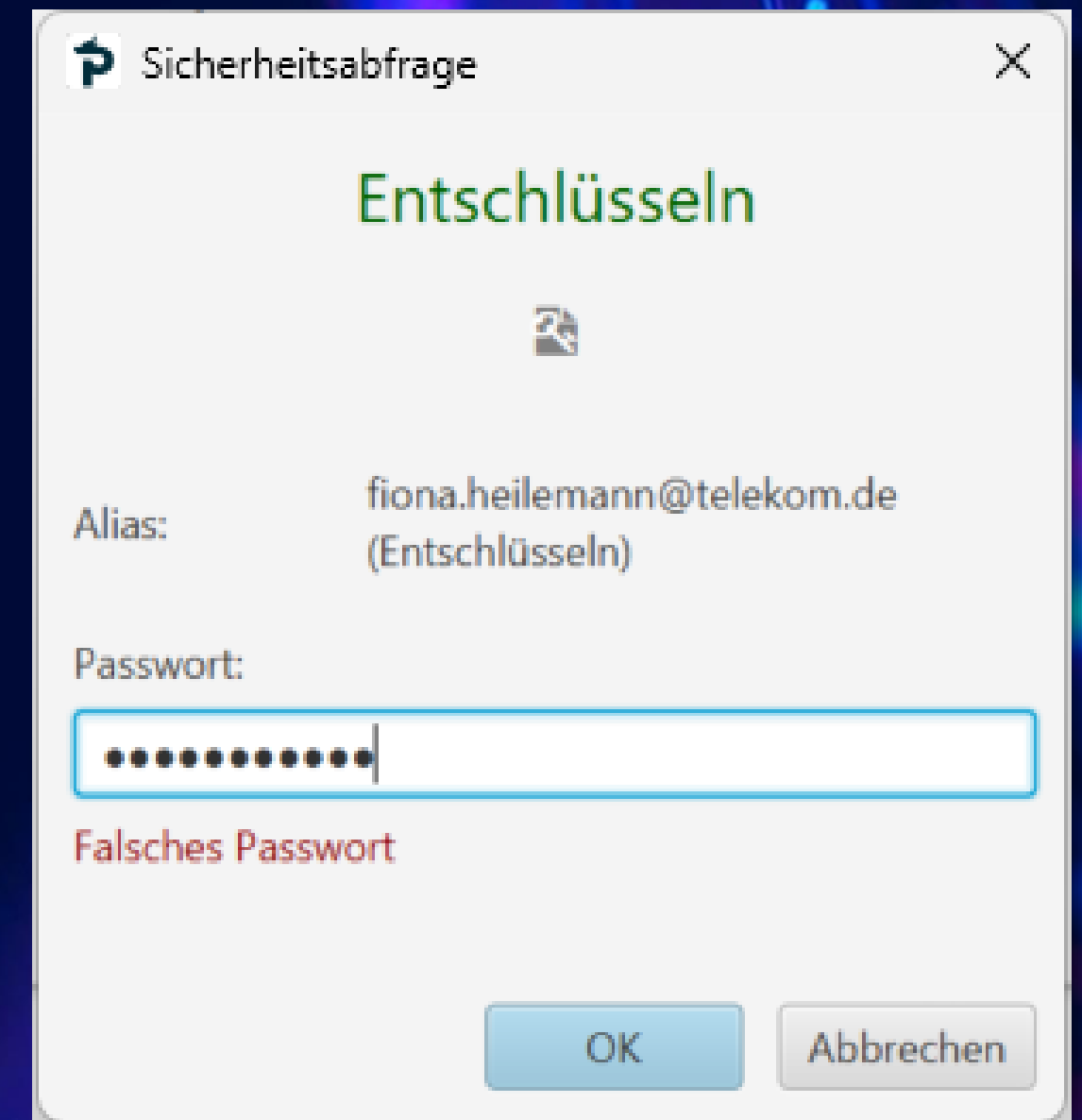
Button

GreenShield: The (Accessible) Application

15 issues solved

Examples:

- Application can be used with a screen reader
- Application can be displayed with zoom/enlargement
- Elements have better visibility, incl. when using high contrast mode
- Labels are easy to understand, and functions are explained



Digression: What does an accessible document need?

To be accessible, documents need:

- tags for a logical structure e.g. headings
- proper lists and tables
- alt-texts for images
- correct reading order
- ...



GreenShield: The Output

- Encrypted and/or signed emails and files are available in the explorer or mail client
- After decryption, they are unchanged and consumable in standard, accessible environments:
 - mail client
 - PDF reader
 - office applications
 - ...



Technical challenge

! Changing the structure of the document can break accessibility! !

Examples:

- „Print to pdf“
- Restricted rights settings



Conclusion

- Think accessible in all steps
- Train all groups of involved people (developers, designers...)
- Leverage existing, accessible environments
- Test for accessibility
- Include professionals!

Questions?

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