Matrix Widgets
in the "Sovereign Workplace" for the German public sector
about: nordeck

- IT Consulting based in Hamburg, Germany
- ~40 IT professionals
- Develop FOSS Matrix integrations with productivity software for public sector
Matrix in the Sovereign Workplace

- Productivity Suite
- Independent from US providers
- Completely open source
- Matrix & Jitsi for real-time communication
- Integrate with other components
- Individual Business Cases with Element through widgets
- Element as application platform
What is a Widget?
What is a Widget?
Widget API

Browser

Element Messenger

Widget – web app

<iframe>

Client-Server API

Homeserver (Synapse)

Widget API
Widget API Features

Client Interactions

• Capability requests
• Display: Always on top, modals

Matrix / Room Interactions

• Send / receive room and state events / to device messages
• Read Relations
• Request OIDC Identity Token
Widget Capabilities

- Widgets can **access a lot**
- Other users can add widgets to a room
- Capabilities keep control at user
- Compare to permissions in Android
State of the Widget API

- Available in Element Web / Desktop
- Not part of the Matrix spec
How to extend the Widget API?

- Example: Upload to content / media repository
- Create an MSC with:
  - `_matrix/media/v3/upload` behavior from CS API
- Capabilities
- Implement in `matrix-widget-api`
- Implement in Element
Alternative Widget API designs

- Use Client-Server API directly (MSC3008)
- OIDC scopes – capabilities
- Benefit: Feature parity, no relay, easier to implement
- Challenges: Sync, E2EE, Delegate access to the widget?
Widgets as an App Platform

- Collaborative tools, be creative!
- Data storage in rooms
- Real-Time communication with MatrixRTC?
- Communicate with bots for broader workflows
Our Use Cases

Polls
https://github.com/nordeck/matrix-poll

BarCamp
https://github.com/nordeck/matrix-barcamp

Meetings

Whiteboard
Thank You!

Time for Q&A