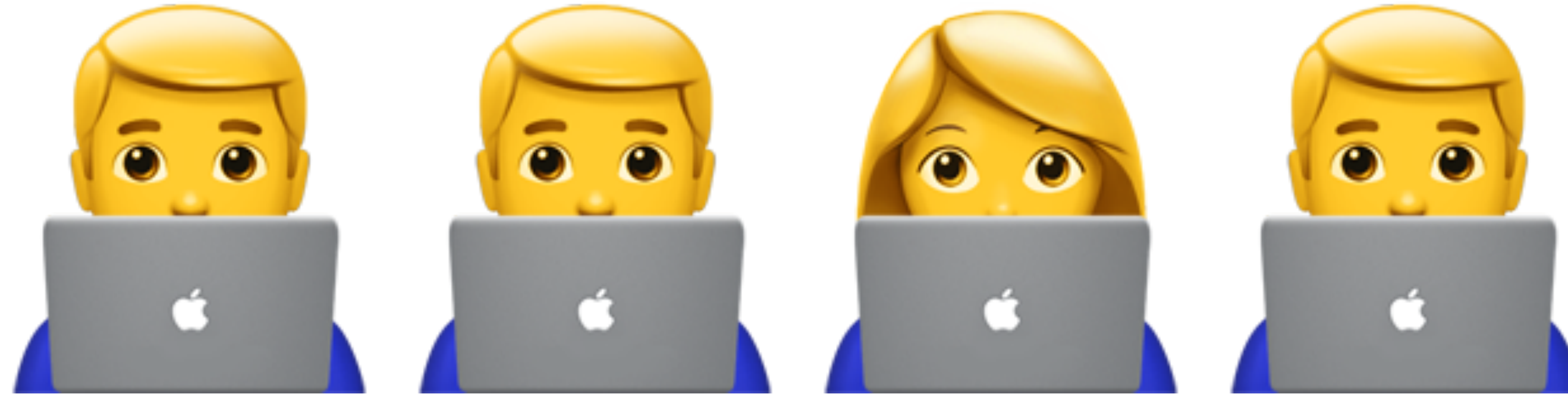# NeoDateFix

A solution to organising meetings in Matrix

FOSDEM 2024 - Matrix devroom

Who We Are

Milton Mikhail Nurjin Ahmad

Software Developers
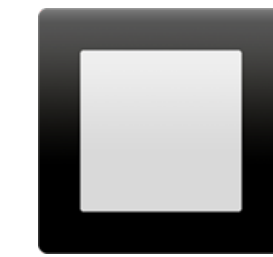for
Nordeck IT + Consulting GmbH

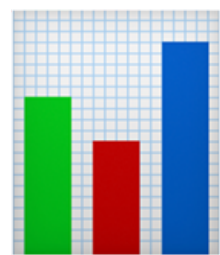https://nordeck.net

Who We Are

📔 NeoDateFix

Video Conference
Meetings + Calendar

◻️ NeoBoard

Realtime Collaborative
Whiteboard

📊 NeoChoice

Voting Polls (not
MSC3381)

🏛️ BarCamp

Self Organizing Events
Topics + Agenda

What Is NeoDateFix?

It's an open source application to create and
manage video conference meetings in Matrix clients
that support the Widget API.

Features

✅ Video conference meetings as Matrix rooms

✅ Presets for default and multiple widget layout in rooms

✅ Schedules recurring and non-recurring meetings

✅ Supports creating breakout sessions rooms

✅ Temporary users as guests

✅ Exposes API for third-party apps usage

✅ Fully accessible and multi-language support

What Is NeoDateFix?

📆 It's a Widget

Single Page Web App (React, Redux, Typescript)
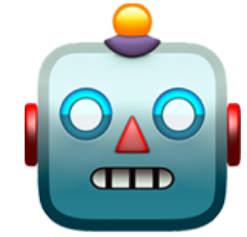
Your Next Widget?

NeoBoard   NeoDateFix   NeoChoice   BarCamp

Matrix Widget Toolkit

What is NeoDateFix?

🤖 It's a Bot

NodeJS Typescript App, using **matrix-bot-sdk** + **nestjs** for REST API
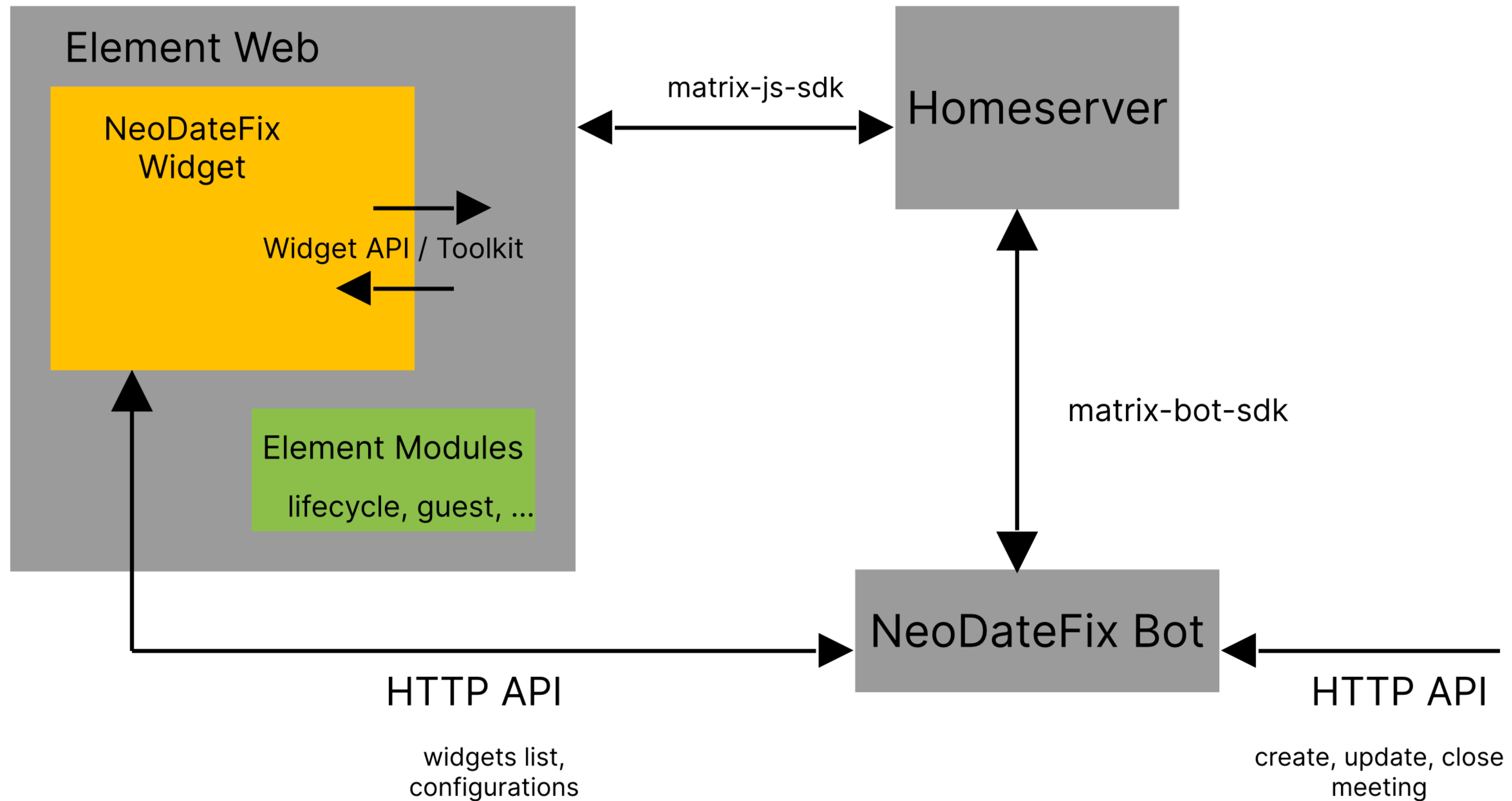
NeoDateFix Bot	
matrix-bot-sdk	nestjs
node	

Architecture

Meeting room Hierarchy

Calendar Room

widgets: NeoDateFix

1:N

m.space.parent

m.space.child

Meeting Room
type: net.nordeck.meetings.meeting

widgets: Cockpit, Breakout sessions, Selected

1:N

m.space.parent

m.space.child

Breakout Session Room
type: net.nordeck.meetings.breakoutsessions

widgets: Cockpit, Selected widgets
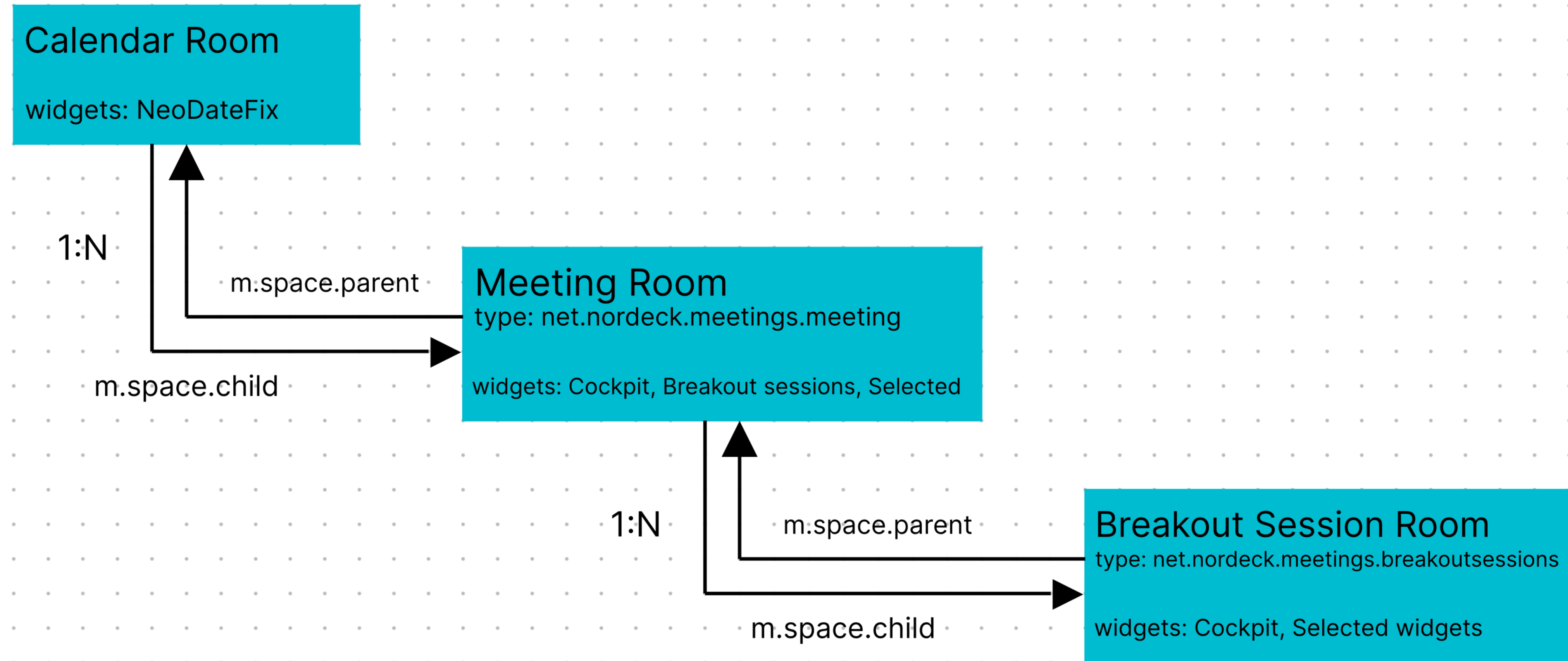
Events

Message Events:

All with "net.nordeck.meetings." prefix:

NeoBoard

- meeting.create
- breakoutsessions.create

- meeting.update
- meeting.change.message_permissions
- meeting.participants.handle
- meeting.widgets.handle

- meeting.close

- sub_meetings.send_message

State Events:

- m.space.parent - meeting parent room
- m.space.child - child rooms of the meeting

- m.room.create - contains meeting room type
- m.room.name - meeting name
- m.room.topic - meeting description
- m.room.member - meeting participants
- m.room.power_levels - sets events_default to control messaging

- m.vector.modular.widget - added widgets
- m.room.tombstone - if present, the meeting was deleted

- net.nordeck.meetings.metadata - calendar entries

Meeting Calendar Data

Single

NeoBoard

```
"calendar": [
  {
    "uid": "bPPAg6eBl5Citk1sixo-b",
    "dtstart": {
      "value": "20240205T090000",
      "tzid": "Europe/Berlin"
    },
    "dtend": {
      "value": "20240205T100000",
      "tzid": "Europe/Berlin"
    }
  }

],
"creator": "@userId",
"force_deletion_at": 1707127200000,
```

Recurring with excluded dates and override

```
"calendar": [
  {
    "uid": "bPPAg6eBl5Citk1sixo-b",
    "dtstart": {"value": "20240205T090000", "tzid": "Europe/Berlin"},
    "dtend": {"value": "20240205T100000", "tzid": "Europe/Berlin"},
    "rrule": "FREQ=DAILY;INTERVAL=1",
    "exdate": [
      {"value": "20240209T090000", "tzid": "Europe/Berlin"}
    ]
  },
  {
    "uid": "bPPAg6eBl5Citk1sixo-b",
    "dtstart": {"value": "20240208T020000", "tzid": "Europe/Berlin"},
    "dtend": {"value": "20240208T030000", "tzid": "Europe/Berlin"},
    "recurrenceId": { "value": "20240208T090000", "tzid":"Europe/Berlin"
    }
  }
],
"creator": "@userId",
"force_deletion_at": 1709028000000
```

Demo

🧹 Cleaning up…

Because we support temporary guest users…

Because (maybe) meetings in the past are not relevant anymore…

💀 Guest Users Reaper
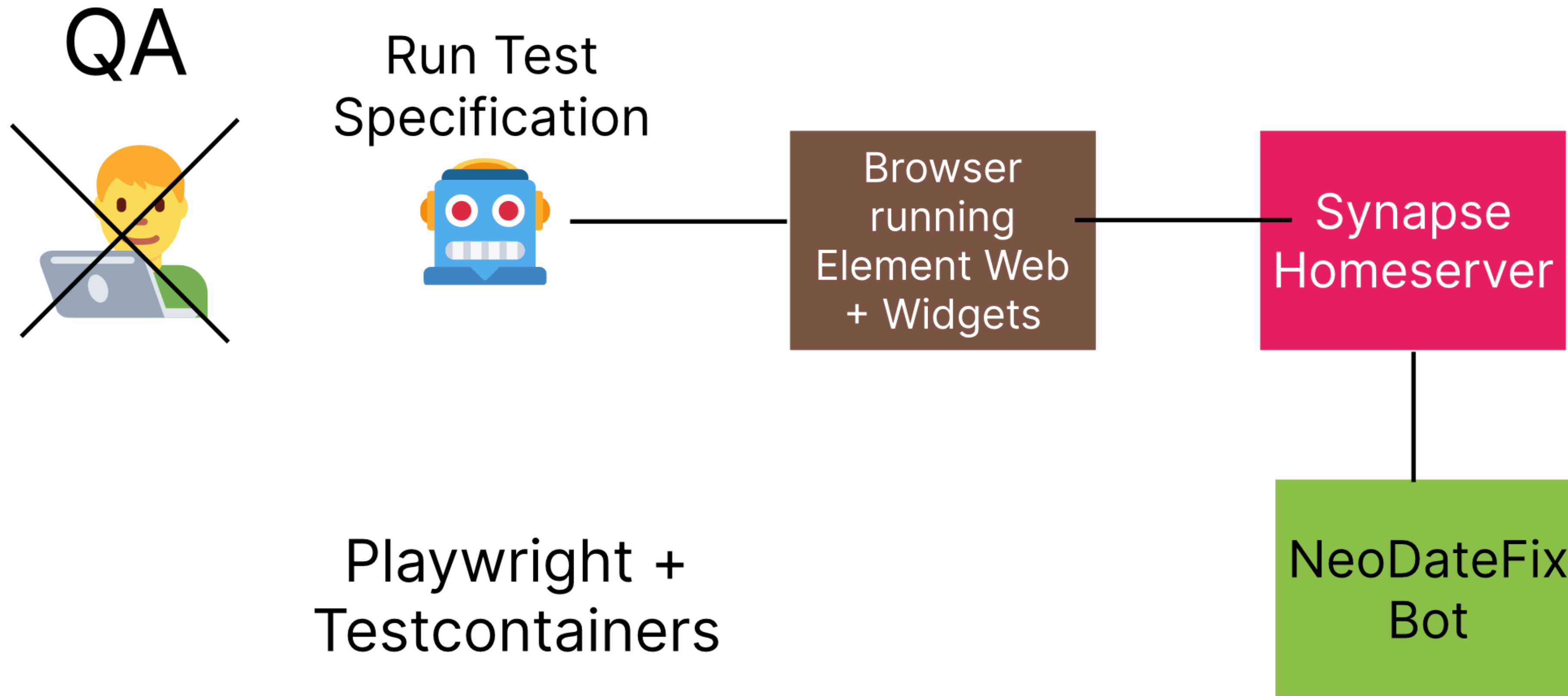
💀 Meeting Rooms Reaper

Implemented as a Synapse module

Currently a separate process but…

End-to-end Testing

QA

Run Test
Specification

Browser
running
Element Web
+ Widgets

Synapse
Homeserver

NeoDateFix
Bot

Playwright +
Testcontainers

Potential Future Improvements

✅ • Encrypted meeting rooms and bot control rooms

⌛ • Make the Bot clean up the meeting rooms

🤷‍♀️ • Support Element Call for video-conference

❓ • Space-scoped calendars

❓ • Publish calendar using CalDAV

Resources

NeoDateFix

https://github.com/nordeck/matrix-meetings

Matrix Widget Toolkit

https://github.com/nordeck/matrix-widget-toolkit

Element Web Modules

https://github.com/nordeck/element-web-modules

openDesk - Sovereign Workplace

https://gitlab.opencode.de/bmi/opendesk/deployment/opendesk

Q&A

We welcome your questions!

info@nordeck.net