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)
What is NeoDateFix?

🤖 It’s a Bot

NodeJS Typescript App, using `matrix-bot-sdk + nestjs` for REST API
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:
- 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

```
"calendar": [
    "uid": "bPPAg6eBI5Ctk1sixo-b",
    "dtstart": {
        "value": "20240205T090000",
        "tzid": "Europe/Berlin"
    },
    "dtend": {
        "value": "20240205T100000",
        "tzid": "Europe/Berlin"
    }
],
"creator": "@userId",
"force_deletion_at": 1707127200000,

"calendar": [
    {
        "uid": "bPPAg6eBI5Ctk1sixo-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": "bPPAg6eBI5Ctk1sixo-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

Implemented as a Synapse module

☠️ Meeting Rooms Reaper

Currently a separate process but…
End-to-end Testing

QA

Run Test Specification

Browser running Element Web + Widgets

Synapse Homeserver

Playwright + Testcontainers

NeoDateFix Bot
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