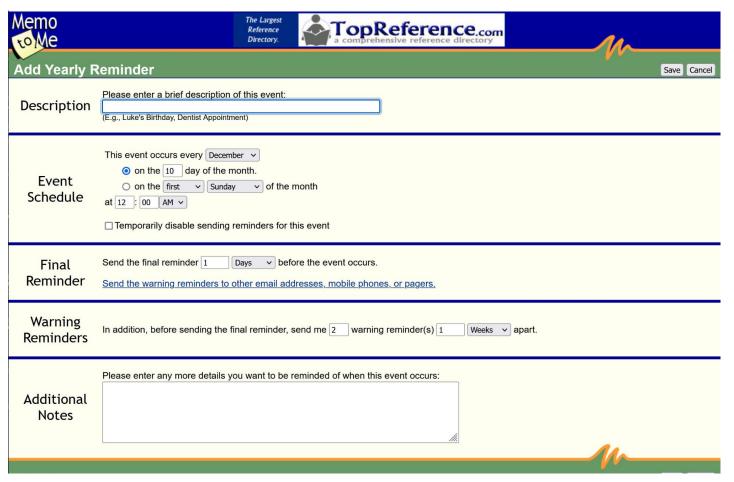# SelfMemo 2.0

Information Architecture and Web Usability 2024
Group 4

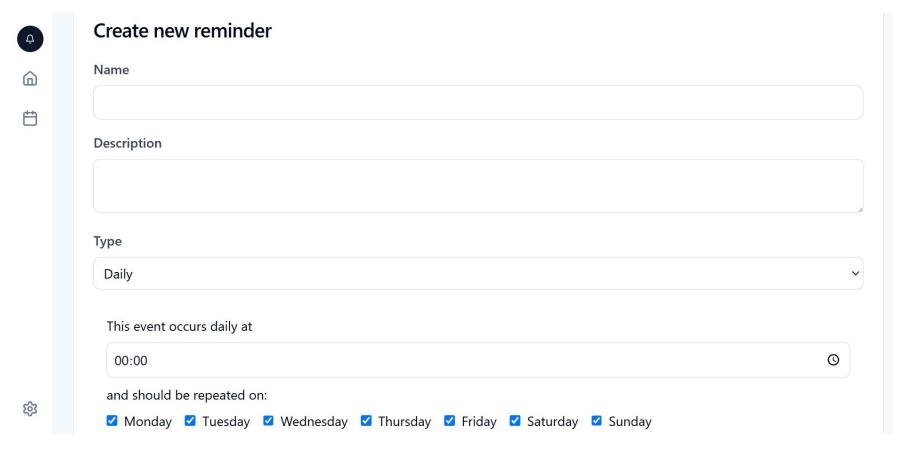Maria Seiser, Kilian Weisl, and Niklas Lorber

28 Jan 2025

Project Summary

- Created Reminder Service inspired by MemoToMe[1] and SelfMemo[2].

- Resolved backend issues by using cron-job.org[3].

- Demo-URL: https://self-memo2.vercel.app

- Repository of project: https://github.com/selfmemo2/SelfMemo2

[1] MemoToMe: http://www.memotome.com/
[2] SelfMemo: https://selfmemo.netlify.app/

MemoToMe

Screenshot taken by Keith Andrews, Source: http://www.memotome.com/

MemoToMe

SelfMemo 2.0

Create new reminder

Name

Description

Type

Daily

This event occurs daily at

00:00 🕐

and should be repeated on:

☑ Monday ☑ Tuesday ☑ Wednesday ☑ Thursday ☑ Friday ☑ Saturday ☑ Sunday

Screenshot taken by the authors, Source: https://self-memo2.vercel.app/

SelfMemo 2.0

Type

Daily

This event occurs daily at

09:05 🕐

and should be repeated on:

☑ Monday ☑ Tuesday ☑ Wednesday ☑ Thursday ☑ Friday ☑ Saturday ☑ Sunday

☑ Enable Warning Reminders

Additionally, before sending the final reminder, send me 1 reminder(s) 1 Minute(s) ⌄ apart.

☑ Is active

Create Reminder

SelfMemo 2.0

Reminders
Manage all of your reminders.

Create Reminder

Name	Type	Status	
IAWEB Progress Presentation	Daily	Active	Edit
IAWEB Final Presentation	One-time	Active	Edit
Test My Applications	N-weekly	Active	Edit
Somebodys Birthday	Yearly	Active	Edit
Renew Subscriptions For Server	N-yearly	Active	Edit

Page **1** of **1** out of a total of **5** results

< **1** >

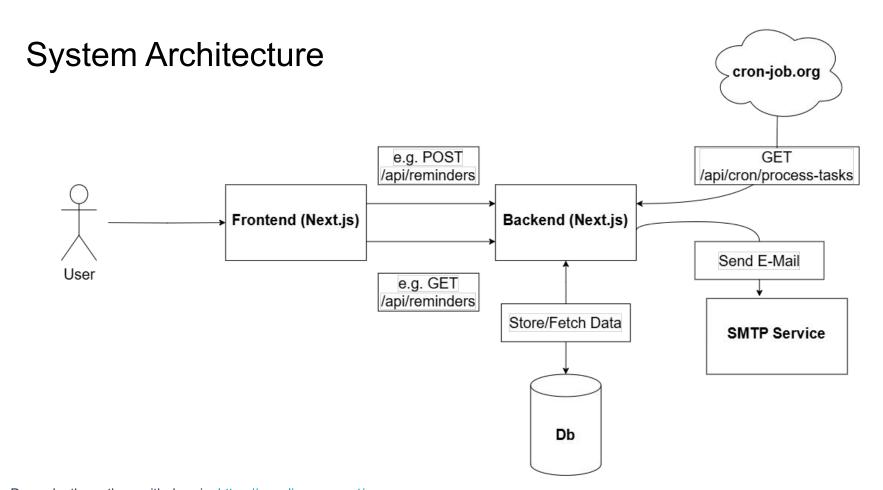Screenshot taken by the authors, Source: https://self-memo2.vercel.app/

System Architecture

Full Tech Stack 1

- Frontend + Backend with Next.js[1]:
  - Simple and modern framework.
  - Based on React.js.
  - Uses TailwindCSS for styling.

- Cronjob Scheduling with cron-job.org[2]
  - Easy, reliable and free-to-use scheduling of API calls for reminders.

[1] Next.js: https://nextjs.org/
[2] cron-job.org: https://cron-job.org/

Full Tech Stack 2

- Deployment with Vercel[1]

  - Free hosting provider

  - Serverless API routes

  - Automatic integration of database

- Database Hosting with Neon (Postgres)[2]

  - 190 computation hours

  - 10 Projects

  - 500 MB of Storage

[1] Vercel: https://vercel.com/
[2] Neon: https://neon.tech/

Features of SelfMemo2

- Admins can create and manage users.

- User can create and manage reminder.

- Available Reminder-Types:
    - One-Time
    - Daily
    - Weekly
    - N-Weekly
    - Monthly
    - Yearly
    - N-Yearly

Live Demo

https://self-memo2.vercel.app
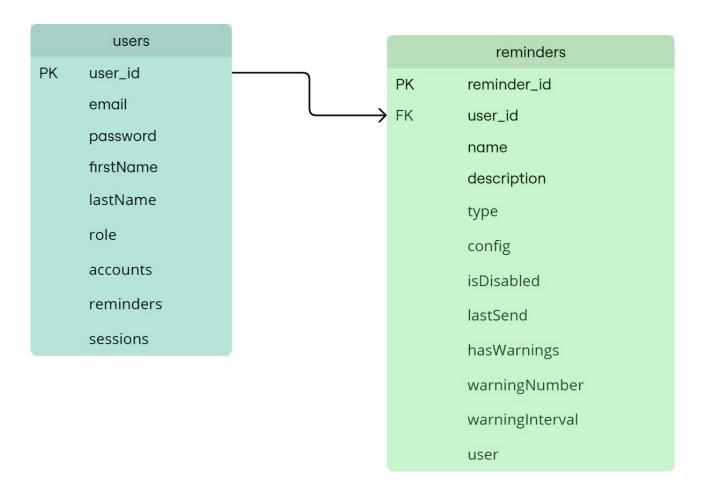
https://youtu.be/_f-c79lkzfo

New Features since SelfMemo v1

- Backend issue solved with cron-job.org.

- Multiple admins can be created.

- Warning Reminders are enabled.

- Editable template for email notifications.

- Page for reminder statistics.

- Disabling reminders.

- Users can change their credentials (Email, Name, Password).

Prerequisites for Vercel-Deployment

- GitHub Account for accessing source code.

- Vercel Account for deploying globally.

- SMTP Account to send emails.

- cron-job.org Account to wake-up backend.

- Neon Account to host database and link to Vercel deployment.

Database Schema

users

PK	user_id
	email
	password
	firstName
	lastName
	role
	accounts
	reminders
	sessions

reminders

PK	reminder_id
FK	user_id
	name
	description
	type
	config
	isDisabled
	lastSend
	hasWarnings
	warningNumber
	warningInterval
	user

Required Environment Variables

- NEXTAUTH_URL= use domain or http://localhost:3000

- DATABASE_URL= connection string from neon or database connection url

- AUTH_SECRET= generate on https://generate-secret.vercel.app/32

- SMTP_USER= yoursmtpuser

- SMTP_PASS= yoursmtppassword

- SMTP_MAIL= yoursmptmail

- SMTP_HOST: mail.smtp2go.com or preferred smtp provider

- ADMIN_EMAIL= youradmin@mail.ad

- ADMIN_NAME= youradminname

- ADMIN_PASSWORD= youradminpassword

Setup Guide for SelfMemo2 with Vercel

- Fork the repository: https://github.com/selfmemo2/SelfMemo2

- Import git repository into Vercel.

- Setup Database on Neon: https://neon.tech/docs/guides/nextjs

- Set required environment variables and deploy.

- Send a request to create admin user: GET https://your-vercel-url.com/api/seed

- Setup cronjob pointing to: https://your-vercel-url.com/api/reminders/trigger

Limitations

- No Sqlite databases with hosting on Vercel.[1]

- Extensive setup required.

[1] Compatibility of Vercel and Sqlite: https://vercel.com/guides/is-sqlite-supported-in-vercel

Future Work

- Import and export for reminders (JSON, CSV etc).

- Visualize reminders in calendar.

- Make template for email notifications customizable by each user.

- Adapt reminders to current timezone of user.

Thank you for your attention!
Questions?