



DGRh Rheumazentrum
Rhein-Ruhr

DRFZ
Deutsches Rheuma-Forschungszentrum



Rhekiss

UX Design Challenge (Final)

with a focus on user participation

by Silas Kraume, Léon Lehnen, Anh-Thu Dinh and Alejandro Soto

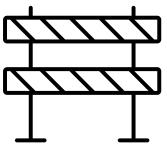


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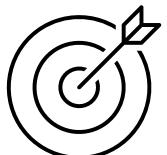
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Challenge & Goal

› Current State



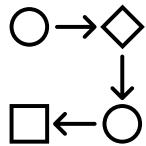
- › Functional but visually outdated & user-unfriendly
- › Lacks critical feedback & guidance
- › Risk of unintentional errors and incomplete tasks
- › Affects both patients and physicians



› Desired State

- › Improve clarity, usability & reliability
- › Low-burden experience
- › Ensure high-quality data collection
- › Adhere to non-profit budget constraints

Applied UX Research Methods



› **Workflow Review**

- › Accessed both patients and physicians platform
- › Reviewed all relevant processes



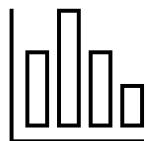
› **Interviews & Testing**

- › Conducted interviews with patients and physicians
- › Usability Testing



› **Technical Audit**

- › Collected technical and quality data (Google Lighthouse)
- › Accessibility testing
- › Device compatibility



› **Data Collection**

- › Gained click and usage data

Data Analysis Overview



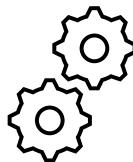
› **Quantitative**

- › Conducted clickstream analysis to map navigation paths
- › Identified redundant steps in workflow



› **Qualitative**

- › Analyzed feedback from 5 patients and 2 physicians
- › Identified emotional frustrations and confusions



› **Developer Input**

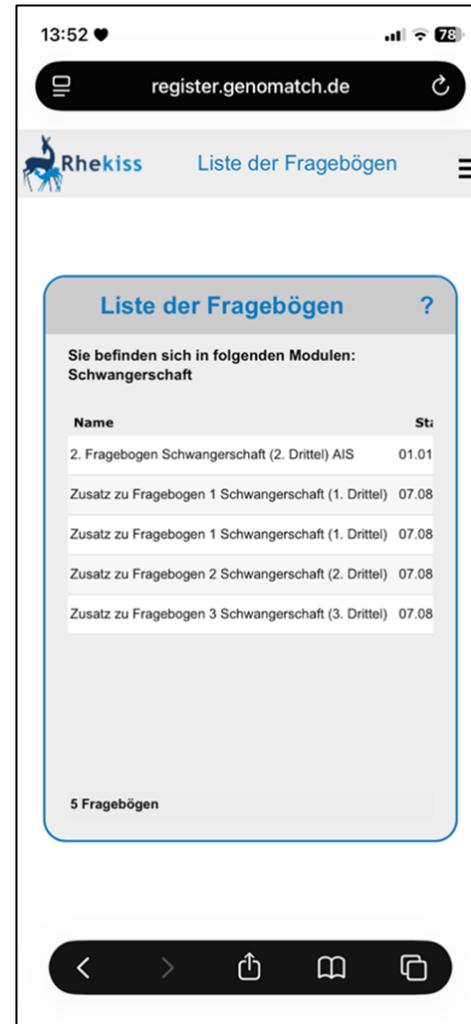
- › Validated findings and possibilities with software firm
- › Analyzed technical metadata

Patient Perspective

Patient Perspective

› Mobile Failure

- › Interface does not adapt to mobile screens
- › Questionnaires and buttons are cut off



Patient Perspective

- › **Mobile Failure**
 - › Interface does not adapt to mobile screens
 - › Questionnaires and buttons are cut off
- › **Status Confusion**
 - › Completed questionnaires aren't clearly marked
 - › Users reopend them unnecessarily

Liste der Fragebögen			
Sie befinden sich in folgenden Modulen: Kinderwunsch			
Name	Start	Ablauf	Status
1. Fragebogen Kinderwunsch RA	01.12.2025	01.03.2026	
1. Fragebogen Kinderwunsch RA	01.12.2025	01.03.2026	
3. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	
3. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	
4. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	
4. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	
5. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	
5. Fragebogen Kinderwunsch RA	01.12.2025	19.03.2028	



Rhekiss Liste der Fragebögen Infomaterial **Fragebogen** Mein Profil Willkommen: Leonie Lehnen Abmelden

Sie haben die Umfrage bereits beendet.

Patient Perspective

› Mobile Failure

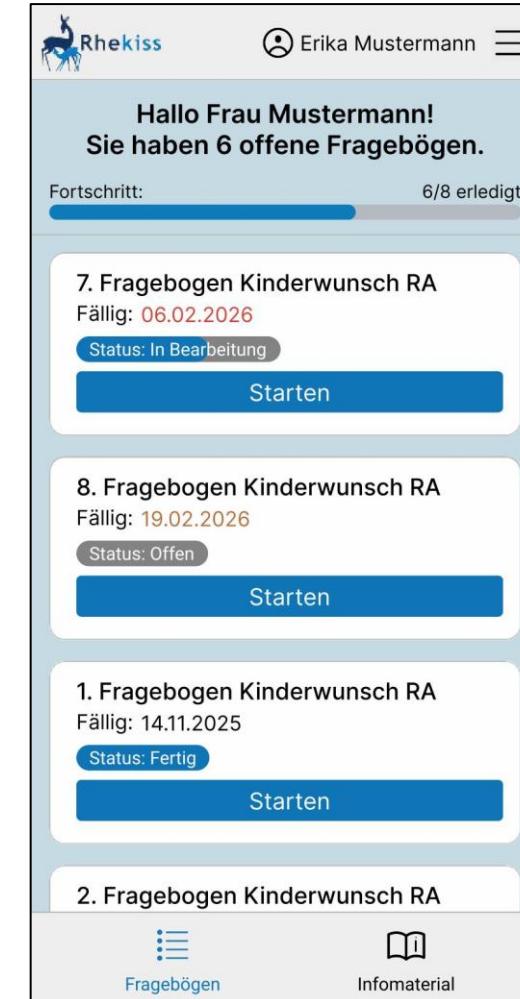
- › Interface does not adapt to mobile screens
- › Questionnaires and buttons are cut off

› Status Confusion

- › Completed questionnaires aren't clearly marked
- › Users reopend them unnecessarily

› Solution

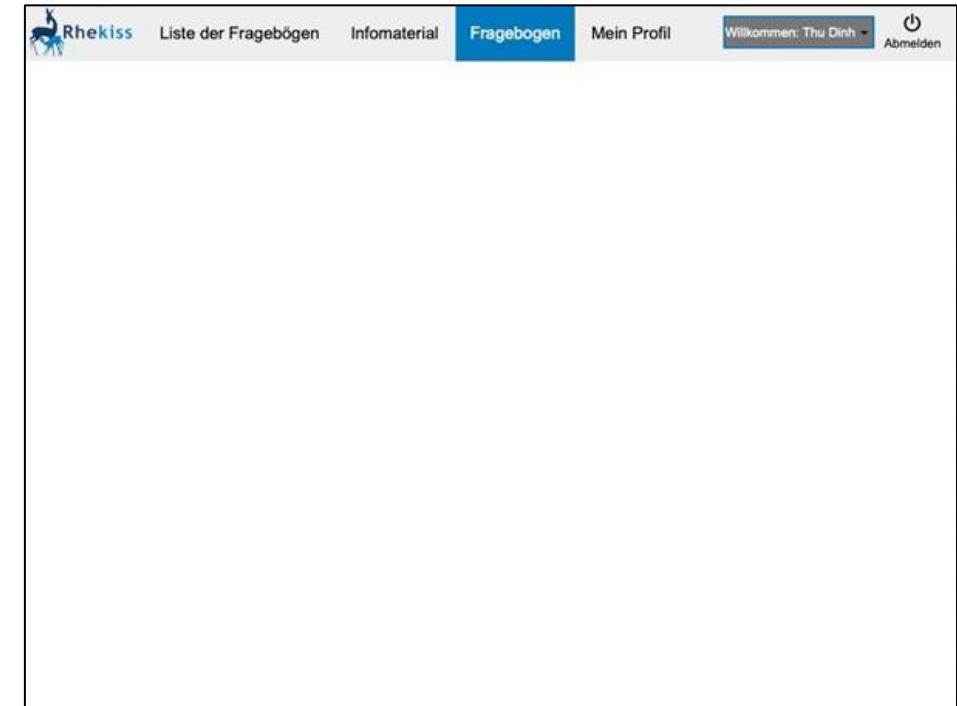
- › Mobile-optimized layout with large touch targets
- › Clear status indication using badges and progress bars
- › Noticeable colors for due date



Patient Perspective

› Lack of Feedback

- › Patients are unsure if they completed a task
- › Submission of questionnaire leads to blank page



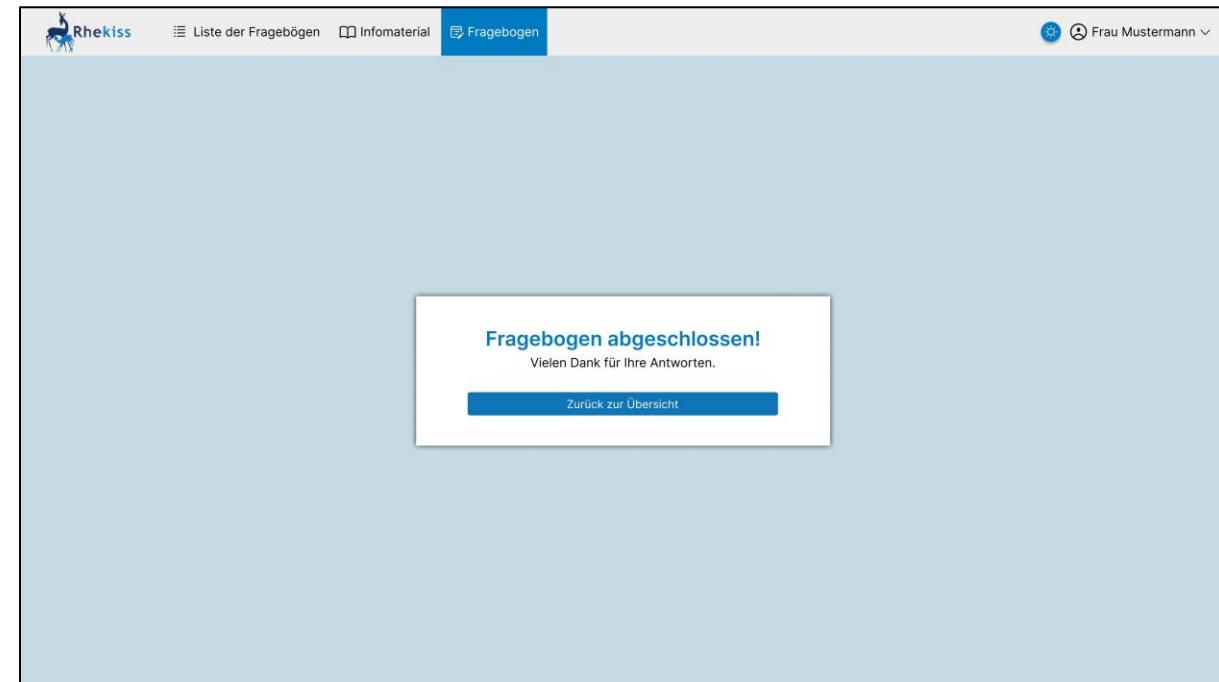
Patient Perspective

› Lack of Feedback

- › Patients are unsure if they completed a task
- › Submission of questionnaire leads to blank page

› Solution

- › Confirmation at the end of the questionnaire
- › Button to navigate back to the overview



Patient Perspective

› Tedium Questionnaire

- › Medication names needs to be typed manually
- › No indication of progress inside questionnaires
- › Navigation to specific sections cumbersome

material Fragebogen Mein Profil

Mit den folgenden Fragen möchten wir erfahren, ob Sie durch Ihre rheumatische Erkrankung im Alltag beeinträchtigt sind. Bitte kreuzen Sie jeweils nur die Antwort an, die am besten Ihre Fähigkeiten während der vergangenen 7 Tage beschreibt.

	Ohne jede Schwierigkeit	Mit einigen Schwierigkeiten	Mit grossen Schwierigkeiten	Nicht dazu in der Lage
1. Ankleiden und Körperpflege				
Können Sie:				
• sich ankleiden, inkl. Binden von Schnürsenkeln und Schließen von Knöpfen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• sich die Haare waschen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Aufstehen				
Können Sie:				
• von einem Stuhl ohne Armlehnen aufstehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• sich ins Bett legen und wieder aufstehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Essen				
Können Sie:				
• Fleisch schneiden?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• eine volle Tasse oder ein gefülltes Glas zum Munde führen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• eine neue Milchtüte (Tetrapack) öffnen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Gehen				
Können Sie:				
• im Freien auf ebenem Gelände gehen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• fünf Treppenstufen hinaufsteigen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Patient Perspective

› Tedium Questionnaire

- › Medication names needs to be typed manually
- › No indication of progress inside questionnaires
- › Navigation to specific sections cumbersome

› Solution

- › Autocompletion for common medication names
- › Clickable navigation bar with completion status

The screenshot shows a web-based questionnaire interface for 'Rhekiss'. At the top, there's a navigation bar with 'Rhekiss', 'Liste der Fragebögen', 'Infomaterial', and 'Fragebogen' (which is highlighted). A user profile 'Frau Mustermann' is also visible. Below the navigation, there's a section for general information like 'Allgemeine Angaben/Kinderwunsch' and 'Gesundheitszustand'. The main part of the screen is titled 'Wie regelmäßig haben Sie Ihre ärztlich verordneten Medikamente in den letzten 4 Wochen eingenommen?'. It asks users to note down the names of their medications as they appear on the packaging. A table provides four options for dosing frequency: 'wie verordnet', 'häufiger oder höhere Dosierung', 'seltener oder geringere Dosierung', and 'fast nie oder gar nicht'. On the left, a dropdown menu lists various medications: Hydroxychloroquin, Sulfasalazin, Methotrexat, Certolizumab, Adalimumab, Etanercept, Prednisolon, and Ibuprofen. At the bottom, there's some placeholder text: 'Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor. Invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.'

Physician Perspective

Physician Perspective

Complex Navigation

- Features are hidden in separate categories
- “New Patient” button at unexpected location

The screenshot displays a physician's interface with two main panels:

Patienten Panel: This panel shows a list of patients with the following columns: Name, Modul, Woche, Offene Bögen, Nächstes Ablaufdatum, and Nächste Dokumentation. The data is as follows:

Name	Modul	Woche	Offene Bögen	Nächstes Ablaufdatum	Nächste Dokumentation
Herr	Schwangerschaft 18	7	09.02.2026 SS: 17.02.26 - 07.04.26		
Frau	Schwangerschaft 15	7	03.03.2026 SS: 11.03.26 - 29.04.26		
Frau	Kinderwunsch	8	10	02.03.2026 KW: 10.03.26 - 02.06.26	
Frau	Kinderwunsch	8	10	01.03.2026 KW: 09.03.26 - 01.06.26	
Frau	Schwangerschaft 10	7	09.04.2026 SS: 17.04.26 - 05.06.26		
Herr	Schwangerschaft 22	6	10.03.2026 SS: 18.03.26 - 01.07.26		
Frau	Schwangerschaft 25	6	18.02.2026 SS: 26.02.26 - 11.06.26		

Termine Panel: This panel shows a calendar view for the period from Jan 26 to Feb 1, 2026. The columns represent the days of the week: Mo 26.01, Di 27.01, Mi 28.01, Do 29.01, Fr 30.01, Sa 31.01, and So 01.02. The vertical axis represents time from 0:00 to 12:00. The calendar grid is mostly empty, with only a few small gray boxes indicating scheduled events.

Physician Perspective

› Complex Navigation

- › Features are hidden in separate categories
- › „New Patient“ button at unexpected location

› Solution

- › Moved „New Patient“ button from navigation bar to patient list

The screenshot displays a physician's dashboard with the following components:

- Header:** Rhekiss logo, Patientenliste, Infomaterial, Studienstatus, Nachrichten, and a user profile for Dr. Max Mustermann.
- Patienten List:** A table showing patient details. Columns include Name, Modul, Woche, Offene Bögen, Ablaufdatum, Nächste Dokumentation, and Patientendaten. Each row has an "Öffnen" (Open) button. The data is as follows:

Name	Modul	Woche	Offene Bögen	Ablaufdatum	Nächste Dokumentation	Patientendaten
Frau Erika Mustermann	Schwangerschaft 17	7	7 Offen	09.02.2026	17.02.2026 – 17.03.2026	<button>Öffnen</button>
Frau Christine Müller	Schwangerschaft 15	15	2 Offen	10.02.2026	18.02.2026 – 18.03.2026	<button>Öffnen</button>
Frau Sophie Hüber	Kinderwunsch	7	1 Offen	24.02.2026	01.03.2026 – 01.04.2026	<button>Öffnen</button>
Frau Yvonne Meier	Schwangerschaft 21	21	10 Offen	01.03.2026	09.03.2026 – 09.04.2026	<button>Öffnen</button>
Frau Ursula Ebersbach	Kinderwunsch	26	5 Offen	18.04.2026	24.04.2026 – 24.05.2026	<button>Öffnen</button>
Frau Sabrina Schwarzt	Schwangerschaft 12	12	3 Offen	22.04.2026	30.04.2026 – 30.05.2026	<button>Öffnen</button>
Frau Julia Thalberg	Schwangerschaft 2	2	1 Offen	25.04.2026	03.05.2026 – 03.06.2026	<button>Öffnen</button>
Frau Hannah Schmidt	Schwangerschaft 1	1	4 Offen	27.04.2026	05.05.2026 – 05.06.2026	<button>Öffnen</button>

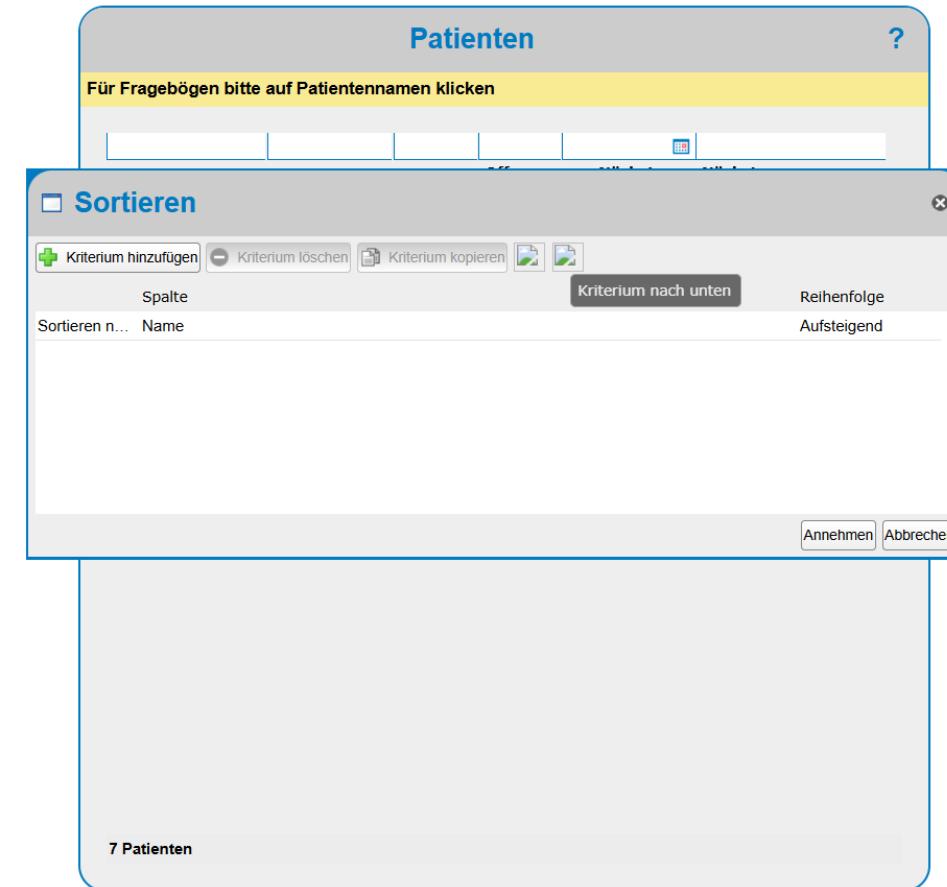
- Anstehende Termine:** A calendar for February 2026 showing appointments. The 4th of February is highlighted. The data is as follows:

Mo	Di	Mi	Do	Fr	Sa	So
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	1

- Heute:** A section showing the current day's schedule from 4:00 to 9:00.

Physician Perspective

- › **Hidden & Complicated Tools**
 - › Advanced filtering options are buried in submenus
 - › Filtering usage is very technical



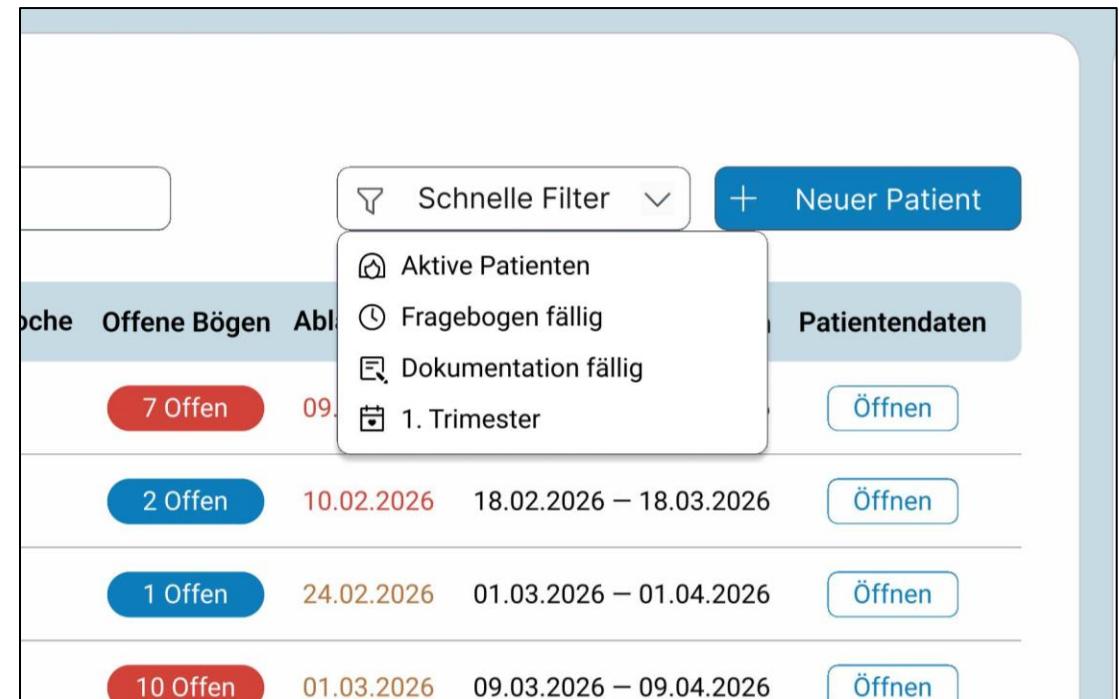
Physician Perspective

› Hidden & Complicated Tools

- › Advanced filtering options are buried in submenus
- › Filtering usage is very technical

› Solution

- › Quick filters allow for fast sorting of most important categories
- › Advanced filters are still available by rightclicking the patient table



Physician Perspective

› Information Clutter

- › No logical grouping of UI elements
- › Overwhelming options of interactable features
- › No visual clarity

The screenshot displays a physician's interface with two overlapping windows:

- Patientendaten Window:** This window shows patient details such as Name, Benutzername, E-Mail, Geburtstag (31.12.1990), Diagnose (Vaskultiden), Status (Schwangerschaft), Geburtstermin (30.06.2026), and Woche der Schwangerschaft (18). It also includes a checkbox for "Patient(in) füllt Fragebogen nicht selbst aus" and buttons for "Grafik", "Historie", "Module ändern", "Daten ändern", "Baselineaten Immunologie", "Einbestellliste", "Registrierungs-E-Mail erneut an Patientin verschicken", and "Loss to follow-up".
- Liste der Fragebögen Window:** This window lists forms categorized by start date. The visible rows are:

Modul (geordnet nach Modulstartdatum)	Geburtstermin	Start	Ablauf	Status
Schwangerschaft	30.12.2025			
Klinischer Bogen 1. Trim. Vaskultiden	30.06.2026	30.09.2025	09.02.2026	
Klinischer Bogen 2. Trim. Vaskultiden	30.06.2026	23.09.2025	06.04.2026	
Klinischer Bogen 3. Trim. Vaskultiden	30.06.2026	23.09.2025	27.07.2026	
Therapien im 2. Trimenon	30.06.2026	07.10.2025	06.04.2026	
Therapien und Komorbidität im 1. Trimenon	30.06.2026	30.09.2025	09.02.2026	
Ultraschalluntersuchung 1 (Mutterpass)	30.06.2026	30.09.2025	27.07.2026	
Vorgeschichte Schwangerschaften (Mutterpass)	30.06.2026	30.09.2025	27.07.2026	

Physician Perspective

› Information Clutter

- › No logical grouping of UI elements
- › Overwhelming options of interactable features
- › No visual clarity

› Solution

- › Less important actions grouped to reduce visual clutter
- › Improved color contrast

The screenshot displays a physician interface with a clean, modern design. At the top, there is a navigation bar with icons for 'Patientenliste' (Patient list), 'Infomaterial' (Information material), 'Studienstatus' (Study status), and 'Nachrichten' (Messages). On the right side of the header, there is a user profile for 'Dr. Max Mustermann'.

The main content area is divided into two main sections:

- Patientenprofil (Patient Profile):** This section contains two tabs: 'Stammdaten' (Basic data) and 'Klinische Daten' (Clinical data). Under 'Stammdaten', it shows the patient's birth date (14.03.2000), username ('Frau Erika Mustermann'), and email ('e.mustermann@mail.de'). Under 'Klinische Daten', it shows the diagnosis ('Vaskulitiden'), status ('Schwangerschaft'), and gestational week ('18'). A checkbox indicates if the patient fills out questionnaires themselves, which is checked. Below these tabs are buttons for 'Daten ändern' (Change data) and 'Module ändern' (Change modules), followed by a 'Weitere Aktionen' (More actions) dropdown menu containing links like 'Grafik erstellen' (Create chart), 'Historie einsehen' (View history), 'Baselinedaten Immunologie herunterladen' (Download immunology baseline data), 'Einbestellliste' (Prescription list), 'Registrierungs-E-Mail erneut verschicken' (Resend registration email), and 'Loss to follow-up'.
- Fragebögen (Modul: Schwangerschaft) (Surveys (Module: Pregnancy)):** This section lists five survey entries with columns for Name, Startdatum (Start date), Ablaufdatum (End date), Status, and Aktion (Action). The surveys are:
 - Klinischer Bogen 1. Trim. Vaskulitiden (Start: 30.09.2025, End: 02.02.2026, Status: Überfällig, Action: Öffnen)
 - Klinischer Bogen 2. Trim. Vaskulitiden (Start: 23.08.2025, End: 06.04.2026, Status: Offen, Action: Öffnen)
 - Klinischer Bogen 3. Trim. Vaskulitiden (Start: 23.09.2025, End: 27.07.2026, Status: Offen, Action: Öffnen)
 - Therapien im 2. Trimenon (Start: 07.10.2025, End: 06.04.2026, Status: Fertig, Action: Öffnen)
 - Therapien und Komorbidität im 1. Trimenon (Start: 30.09.2025, End: 09.02.2026, Status: Fertig, Action: Öffnen)

Security



- › A critical security vulnerability was found during analysis
- › Resolved quickly in cooperation with the software developers

Technological Implications

- › Future switch to **Tivian** and **REDCap**
 - › Free for non-profit use
 - › Focused on medical applications
 - › Improved accessibility features built-in (text-to-speech, font size)

Contact Information

Please complete the survey below.

Thank you!

1) First name
* must provide value

2) Last name
* must provide value

3) Email
* must provide value

4) Can we send you more information about our event?
* must provide value

Yes

No

reset

5) Signature
* must provide value

Add signature

Next Page >>

Save & Return Later

C Returning?

AAA

Speaker icon

Conclusion

- › Main weakness: lack of **predictability** and **feedback**
- › Path from „**functional but outdated**“ to **user-friendly and reliable**
- › Prioritize **mobile compatibility** to enable a **modern workflow**
- › **Cost-effective** changes with high return in user satisfaction