



Impfdate

Mobile app

DESIGNING A RELIABLE AND CONVENIENT WAY TO MANAGE CHILDREN'S IMMUNIZATION RECORDS

My Role

UX Designer

Responsibilities
Conduct user research, visual design of low-fi and high-fi wireframes, prototyping, usability testing and iteration.

*Click [here](#) to check the prototype file

**This is a shorter version of the original case study. It does not include every step of the design thinking methodology and is for portfolio preview purposes only.

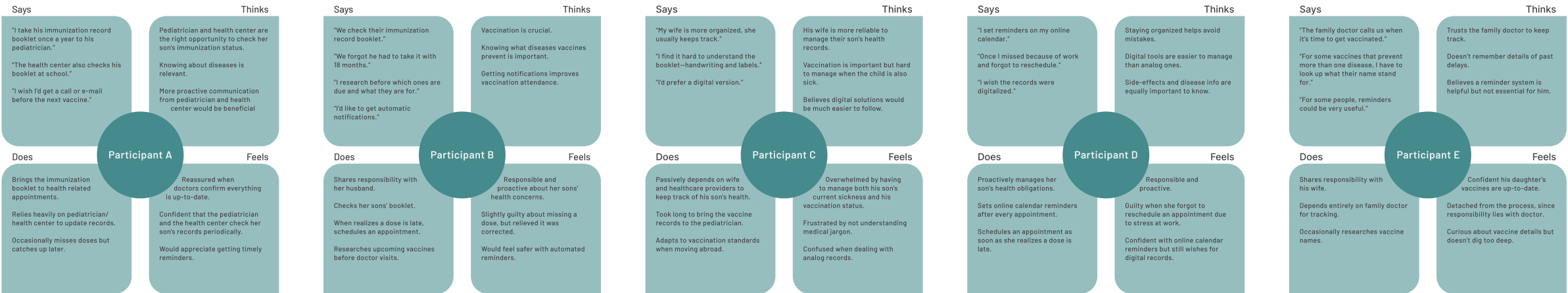


Relevance of having organized records

Immunization plays a crucial role in preventing the resurgence of diseases, avoiding outbreaks, reducing spending and demand on public health systems. Incomplete dose records, difficulties in tracking vaccination status and inconvenience, complicate the process for families, leaving both parents and healthcare providers struggling to ensure children remain fully protected.

Reaching out to the target users

Qualitative research was conducted through 5 interviews with parents of different demographics focusing on understanding the methods they use and challenges they face while managing their children's immunization records. The gathered data served as input to build the empathy maps and trace the user journeys.



*Those were the empathy maps generated from the participant's answers

Understanding the challenges and figuring out opportunities

With the data collected from the interviews, it was possible to identify pain points and opportunities to make the managing process more convenient, reliable, and accessible.

Paper documents are unreliable

Doses are often forgotten due to a lack of reminders

Clear information about vaccines and diseases they prevent is relevant

The possibility to share the data and the responsibilities is important

*Those were the key insights learned during the research process

Proactive parent

Goal: Utilize a digital tool to help him keep track of his children's heath and not miss any dose.

Action	Look for an existing app which offers digital track of vaccines' records	Transferring the records from paper booklet to the app	Checking the current status	Set reminders for doses which are due or for future ones
Task list	Open app store, select and download an app that suits his needs the most Create an account	Manually entering each child's data (name, birthdate, etc) Manually entering each vaccine taken by each child	Comparing the vaccines taken to those which are necessary according to the child's age	Open the private calendar app, manually set up a reminder
Feelings	Frustrated by having to click into multiple apps to find one which can do everything he wishes Stressed by having to fill up all the data by himself	Focused on not skipping any information Frustrated by having to interpret handwritten information and worn out stamps	Responsible and attentive for making sure nothing is missing	Organized, proactive and prepared
Pain points	Having to fill up all data himself	Handwritting, stamps, abbreviations are unclear	Manual effort to check	Having to manually set the reminders
Opportunities	Patience information can be accessed, filled and updated by trusted health professionals	Patience information can be accessed, filled and updated by trusted health professionals Digital vaccination records can be stored and shared	Automatic current state feedback on app's dashboard Automatic reminder if status is not up-to-date	Auto-Sync app reminders with default calendar app Mobile alerts before next dose is due

Dependent parent

Goal: Feel reassured my child vaccines as up-to-date without having to track everything myself.

Action	Waits for pediatrician's office to call or for the next check up date to arrive	Brings booklet to the appointment	Pediatrician checks the vaccines on the booklet	Schedule next visit for checkup or next dose
Task list	When the checkup date arrives, it is written on the family's calendar so she visits the doctor with her child	Search for the booklet with the immunization records Take it with her to the office	Comparing the vaccines taken to those which are necessary according to the child's age	Making an appointment and writing on her private calendar
Feelings	Passive trust Reassured nothing can go wrong	Anxious by having to search the booklet, which is not used very often.	Relieved the doctor is checking if anything is missing	Confident, reassured nothing is missing and that the next appointment is already set
Pain points	Risk of physician being out of office due to unknown circumstances, risk of missing doses if the doctor forgets	Risk of not finding or losing the booklet, which is the single source of record of the vaccines taken by her daughter	Manual effort to check Risk of human error	Having to manually set the reminders Risk of missing the appointment set too much in advance
Opportunities	Automatic notifications before next dose is due (e-mail, mobile alert) Current status feedback on app's dashboard	Synchronized, shared across physicians and parents cloud-based digital records in an App on her phone	Automatic current status feedback on app's dashboard Automatic reminder if status is not up-to-date	Automatic app reminders synchronized with her default calendar app Mobile alerts before next dose is due

Overwhelmed parent

Goal: Compare my child's past vaccinations with the requirements in my new country, so that I know if catch-up doses are needed

Action	Schedule an appointment with the new pediatrician	Brings booklet to the appointment	Pediatrician checks the vaccines on the booklet	Schedule catch up doses
Task list	Calls or set up an appointment over internet	Search for the booklet with the immunization records Try to translate the information Take it with him to the office	Comparing the vaccines taken on other country to those which are necessary in Germany Reading and understanding the data	Setting an appointment and writing on her private calendar
Feelings	Anxious if the pediatrician is good and will have good chemistry with his child Worried there will be missing doses or exams	Anxious by having to search the booklet, which is not used very often. Frustrated by not being able to understand handwriting and worn out stamps	Insecure, worried there will be missing doses Frustrated by data difficult or impossible to decipher Confused by not knowing much about diseases and effects	Guilty some doses were missed and others are too late Worried the child's future health will be affected
Pain points	Confusing different country standards/procedures	Risk of not finding or losing the booklet Unable to read relevant data	Manual effort to check Risk of taking the same dose twice by not being able to read Missed doses discovered too late	Lack of ongoing clarity about consequences to the child's health
Opportunities	Clear vaccination timeline Multilingual support	Clear, easy to understand, plain language, digital vaccination records Digital cloud-saved, parent-shared data over an app on the phone	Multilingual support Plain language, easy to understand vaccine records and disease information.	Plain language vaccine and disease information Mobile alerts for future doses timeframe

*The user journey maps helped identify pain points from each user group and opportunities

What was learned

The findings revealed common behavior patterns between parents, with some being proactive, while others relying or sharing the responsibility with their trusted healthcare professionals and there were also those feeling overwhelmed. The interviews gave valuable insights about how to help with the challenges they face.



PROACTIVE PARENT

- Actively monitor vaccination status with partner or by themselves
- Get informed before doctor's appointment
- Set reminders themselves



DEPENDENT PARENT

- Leave the responsibility for follow-up and reminders solely to the doctor or health professionals



OVERWHELMED PARENT

- Rely on their partner and pediatrician
- Can't keep track of things accurately themselves
- Have difficulty understanding the technical terms

*Common behavior patterns could be sorted into 3 different groups of users

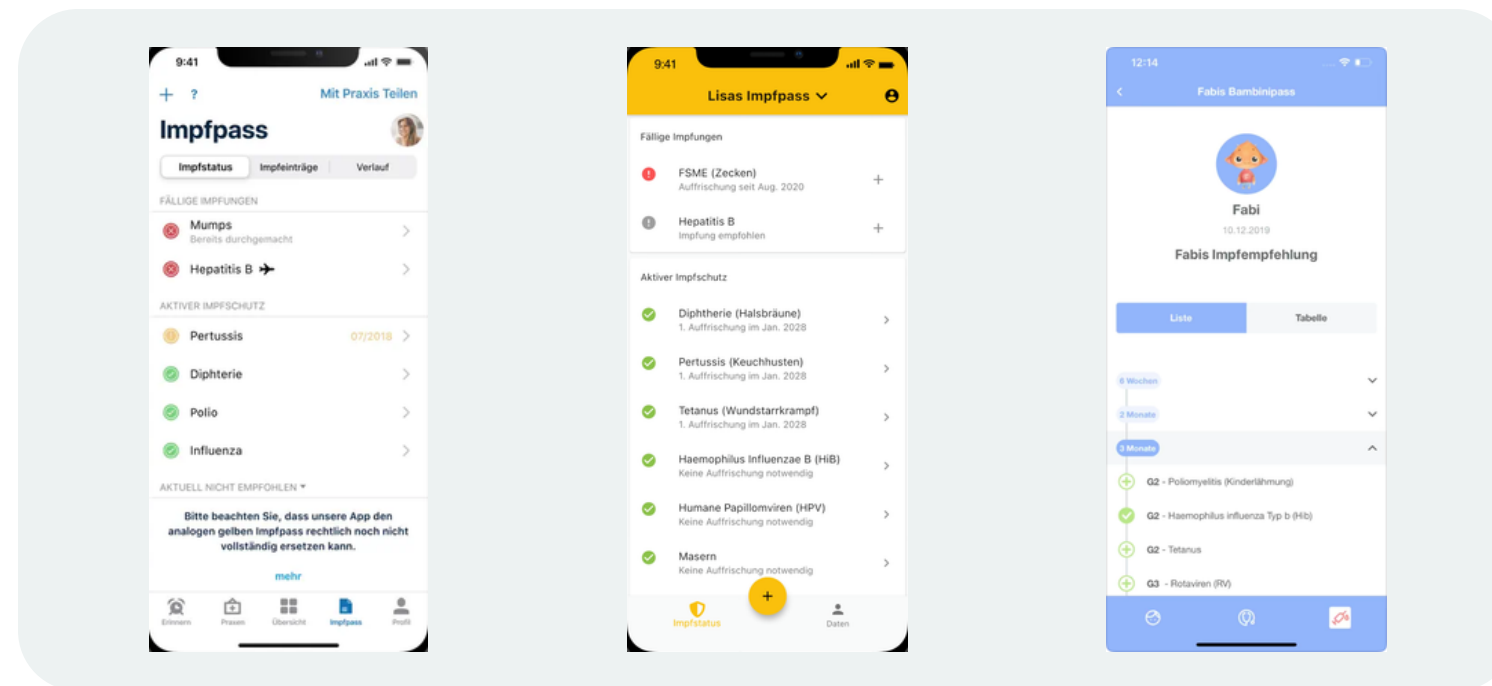


Setting the right direction

After reviewing the collected information about the users, setting goals and creating hypothesis for how a solution might help solving the user problem, it was time to analyze the competitors, their strengths, weaknesses and figure out opportunities.

Auditioning the competition

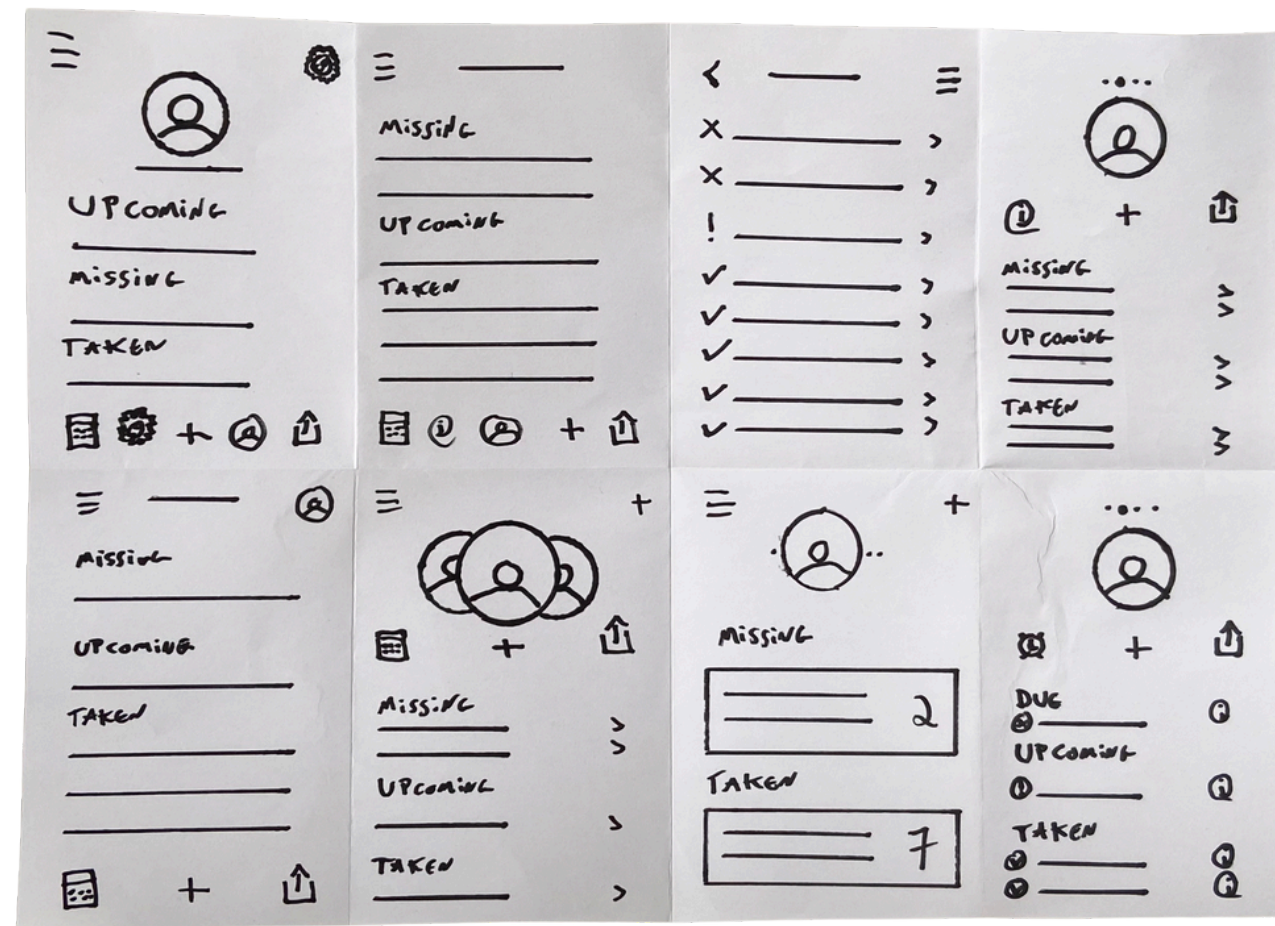
The audition compared 4 direct and 2 indirect competitors app's main features, how good or bad they work, how information is distributed across the app, how easy the navigation is and how the companies position themselves in the market. The results gave input to establish the value proposition and work in a solution.



*Examples of the main competitors' first impressions

Time to brainstorm ideas

Starting with paper sketches to generate the first ideas as quickly as possible. The focus was on the 3 main features (entering, setting reminders and sharing) and the overview of the user's immunization status. Puzzling the favorite pieces of each sketch to be able to start with the digital wireframes.



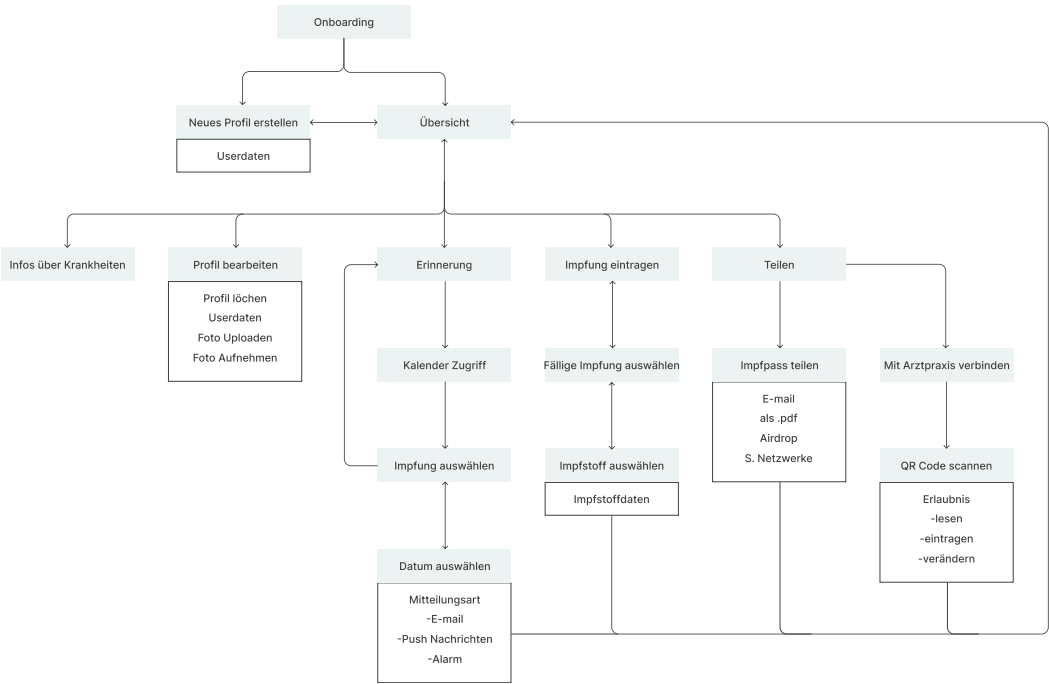
*Applying the crazy 8 technique to come up with ideas fast

Before moving from paper to the screen

The information distribution and screen flow are key when creating an intuitive app. The user journey maps served as a guide to trace the easiest path towards the users' goal.

Tracing the 'happy path'

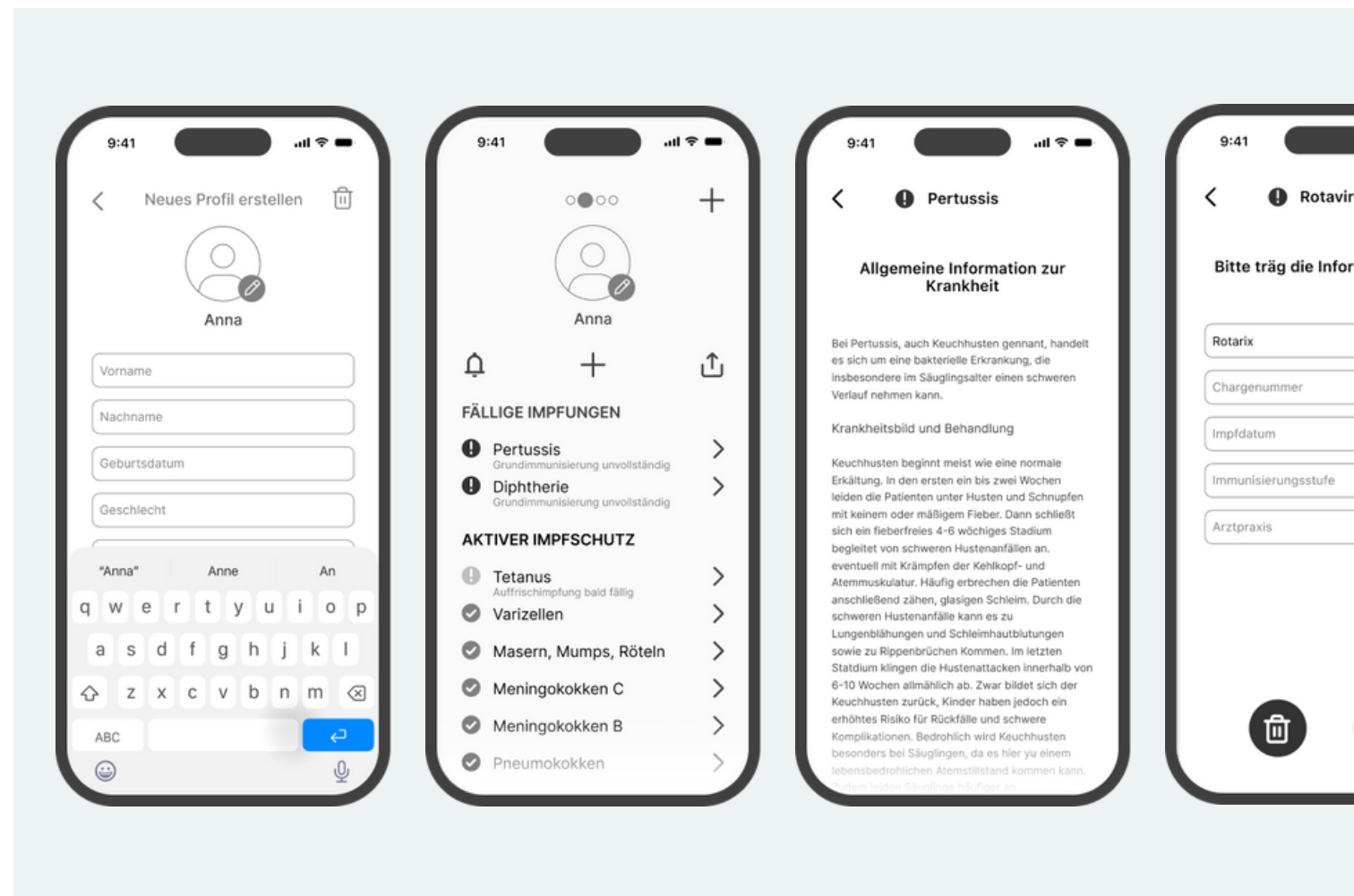
The clearest path was designed so that every main feature should be accessible from the main screen. From there, secondary actions were disposed in a thoughtful matter not to make the screen too busy. Only necessary information and features should be displayed. The information architecture was shaped considering these principles.



*The information architecture prioritized ease of navigation by using familiar design conventions.

From paper to the screen

The first wireframes for a basic navigation and feature testing were drawn using Figma and enabled the first usability test. A moderated test conducted with volunteers tested the 3 main features: entering vaccines, setting reminders and sharing. *Time on task and drop-off rates* served as metrics to determine the success of the prototype



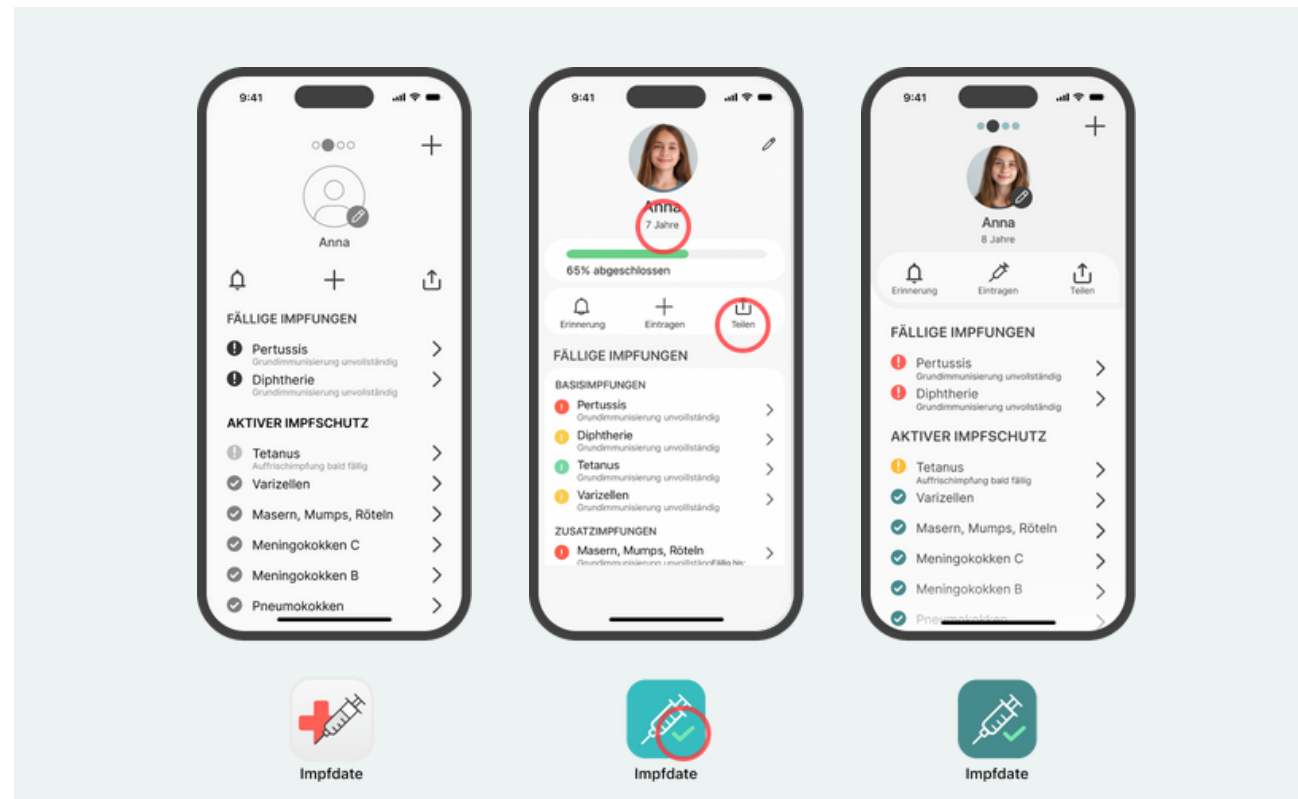
*Comparing the competitors' first impressions

Learning from the results

Not all functions were clear due to the lack of labeling and buttons with different actions having similar shapes. The child's age is a relevant information to physicians, so this was added to the user's profile overview.

A.I. as a tool

In order to optimize the workflow, A.I. was used, at different stages of the project, **not to create** content, but as a tool to sort data and enhance solutions based on user testing feedback.



*UI design iterations with A.I. as a tool.

Working on a design system

The app design incorporates a softer green palette to transmit trust and protection. Additional colors serve as visual cues for alerts or to improve legibility by giving WCAG compliant contrast to text and icons. The font choice of sans serif gives a friendly and approachable feel, distancing itself from typical serif font for long and technical text. Component creating for elements such as icons and buttons allowed consistency throughout the screens.

Farben

#1A5759
Tasten,
Symbole, Text

#458A8C
Secondär Text

#EDF2F2
Feld
Hintergrund

#EDF2F2
Hintergrund

#4CAF50
Status

#FF5F57
Status

#FEB22F
Status

#FAFAFA
Hintergrund
Paragraph-
Text

Typografie

h1	Headline 01	Inter, 24-28pt, bold
h2	Headline 02	Inter, 20pt, semi-bold
p1	Lorem ipsum dolor sit amet	Inter, 16pt, medium
p2	Lorem ipsum dolor sit amet	Inter, 16pt, regular
Caption/Helper	Lorem ipsum dolor sit amet	Inter, 14pt, regular

Tasten

Secondär Aktiv

Primär Aktiv

Inaktiv

Symbole

Navigation

< >

Satus

App

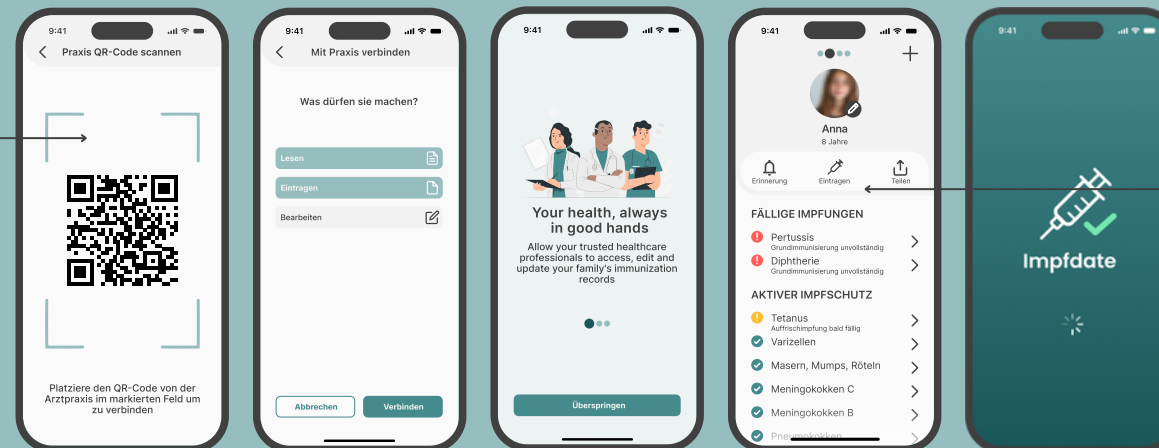
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*The color pallets, types and icons create the visual identity of the app.

Testing the prototype

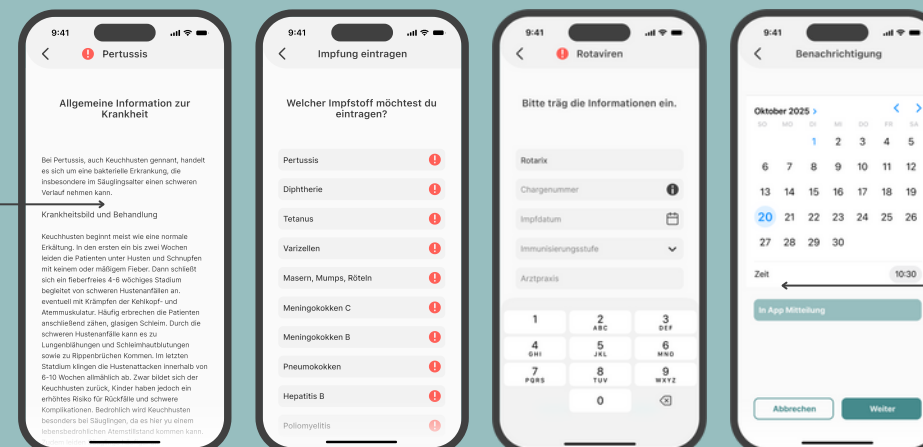
After finishing the mockups, a new prototype was created and tested. Focusing on three functions of the app (reminders setting, sharing with others and disease information), the moderated usability study asked participants to evaluate the experience and perform 3 tasks, evaluated the results and iterated the design based on the same time on task and drop-off rates vs. conversion rates KPIs.

Scanning a QR Code is a simple method to connect to the doctor's office, saving time and avoiding typing errors



The three main functions of the app are visible from the main screen

Disease information in plain language for easy understanding

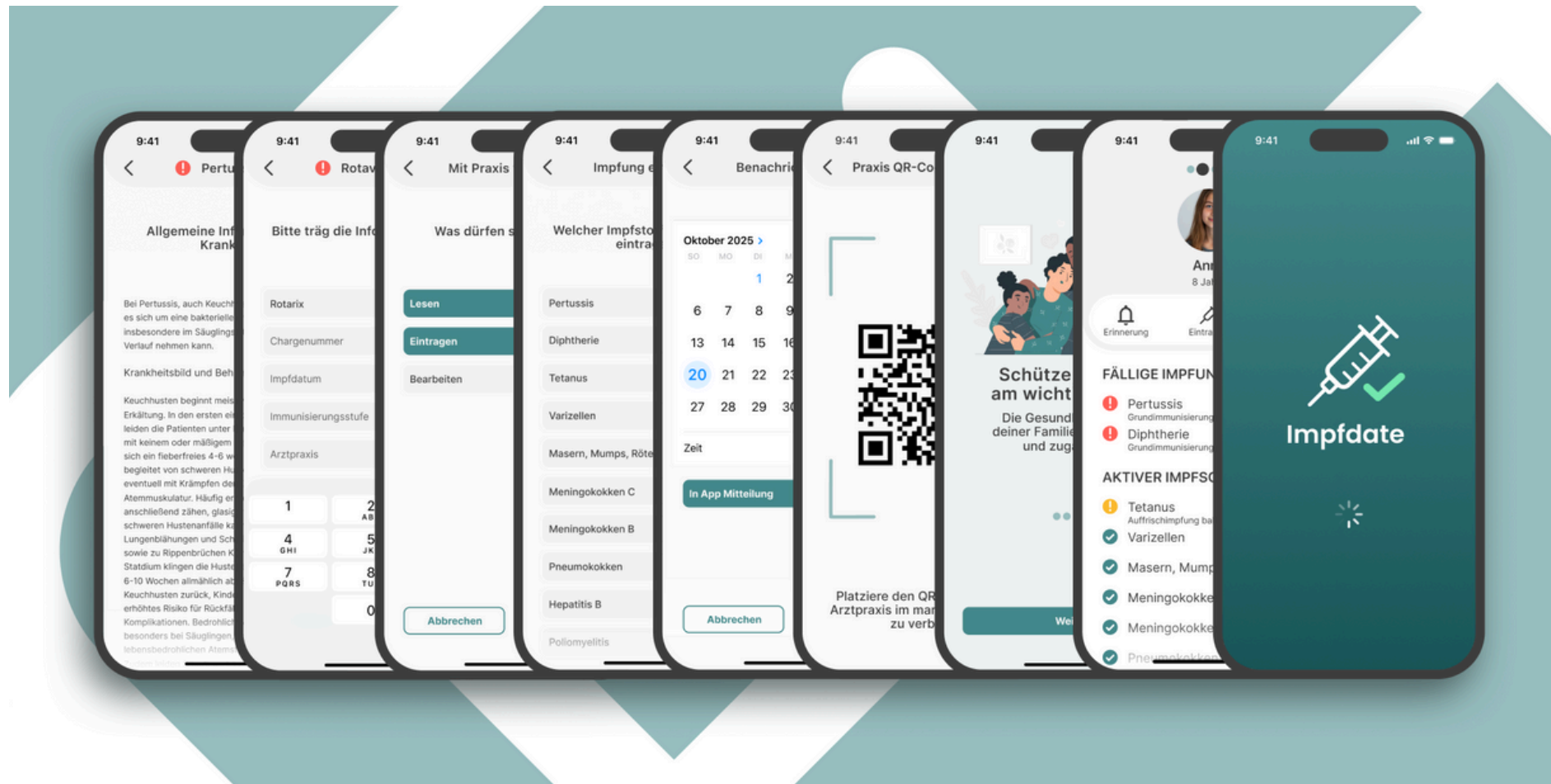


Missing or upcoming dose reminder in app or integrated with user's default calendar app

*Click [here](#) to test the prototype

Presenting the solution

The prototype has the basic structure of an App with onboarding screens, overview and functions integrated with built-in and third-party apps from the phone, such as calendar, printer and social media. The prototype doesn't require user registration or has any commercial purpose due to it simply being a private portfolio project focused exclusively on the user's pain points.



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Next steps going forward

There are still many opportunities to explore within the app, such as adding images to the disease description to illustrate symptoms, multiple language support, UI hierarchy improvement, adding micro-interactions and animations.

There's also the practitioner's version of the app, with expanded capabilities to manage multiple patients' profiles, remote synchronization and appointment suggestions.

