



Software Development Project - AI5094 (SoSe25)

Registered Care System – Individual Contribution

Maira Shafi, fd0002120



- Create a Change Data Capture (CDC) tool
- Use case: Medical registry for diabetic foot care
- Target: Small/Medium Enterprises (SMEs)
- Must follow EU standards and data protection laws

Doctor/Orthopedic Shoe-Maker:

- Dashboard: to view basic analytics of data present. Patient details: to visualize diagnostic data, questionnaire response and comparison to look at the progress.
- Analytics: To view detailed analysis using charts of diagnostic data of all patients
- Diagnostic sheet: To fill in a diagnosis for a new or old patient.

Patient:

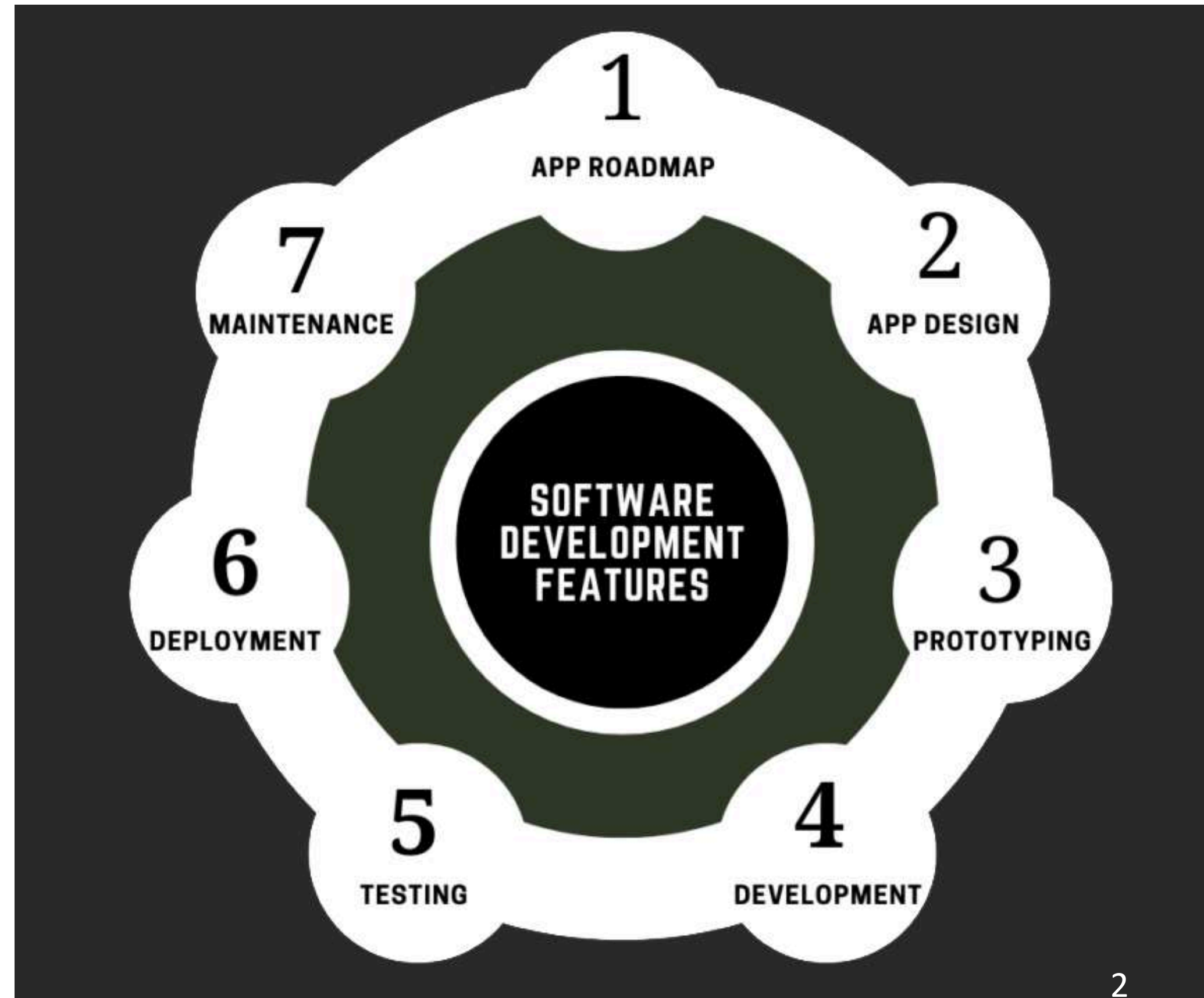
- Dashboard: To visualize the diagnosis.
- Questionnaires: To fill in questionnaire data prompted by doctor/orthopedic shoe-maker.



My Role in Team and Contributions to the Project



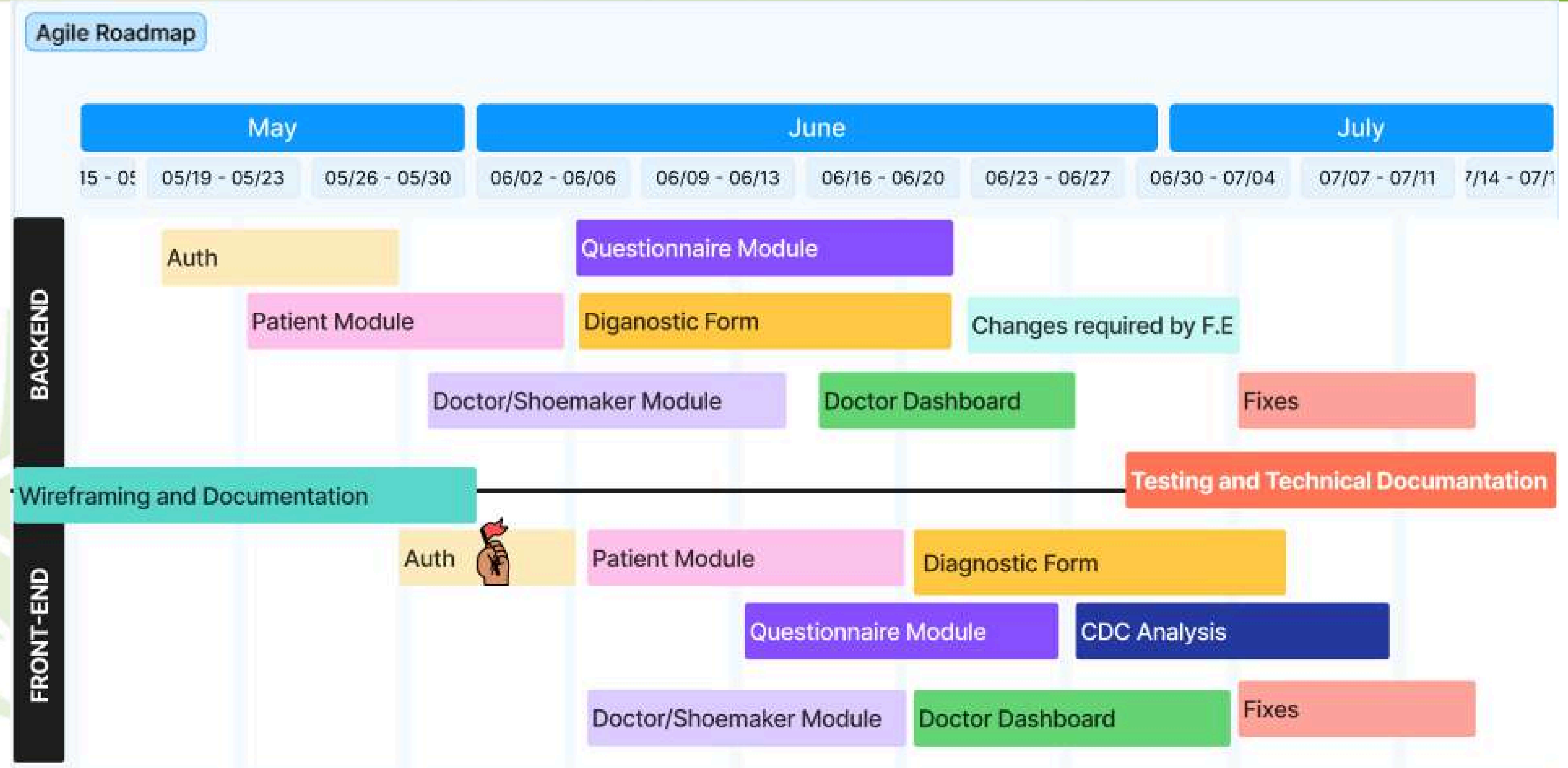
- Requirement Gathering
- Roadmap
- Prototyping - Wireframes
- Flow Discussions and Scrum Activities
- Frontend (ReactJS + API Integration)
- Test Cases for Manual Testing
- Technical Documentation



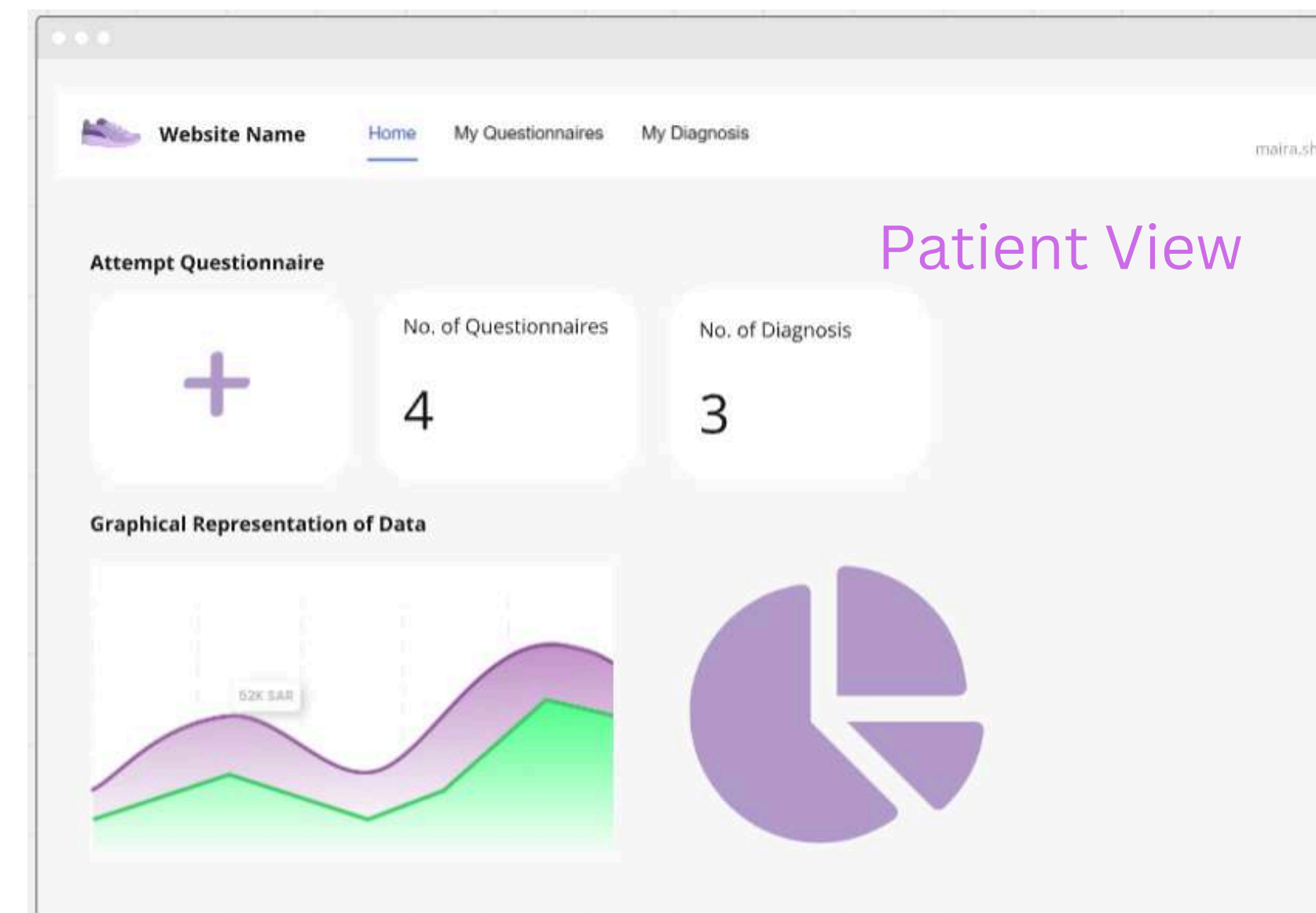
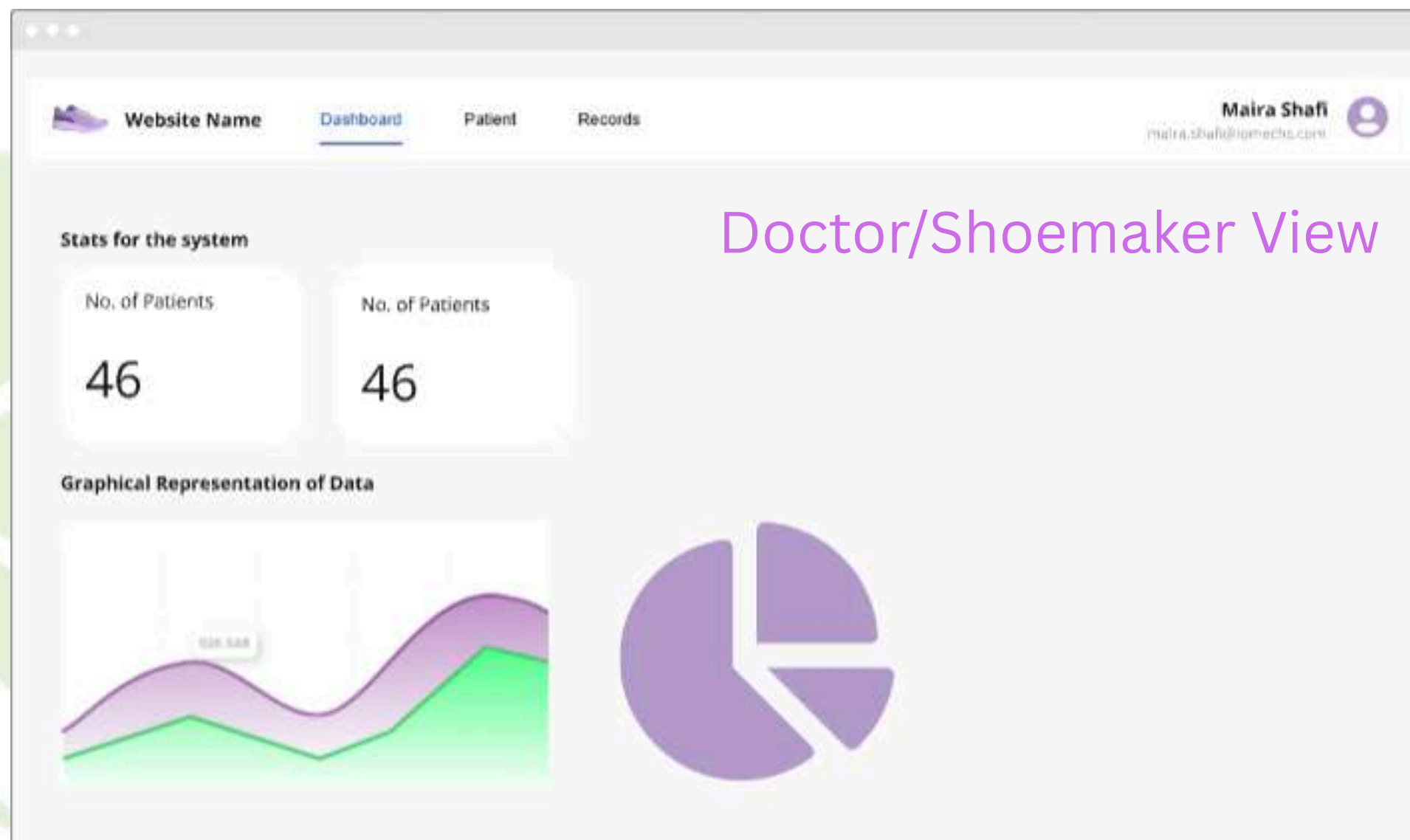


- Identified system roles: Doctor, Patient, Shoemaker
- Finalized feature set based on user needs
- Conducted meetings with PM and professor for scope clarification
- Contributed to project roadmap creation and prioritization
- Helped estimate timelines and distribute tasks within sprints
- Facilitated sprint planning sessions
- Supported team in adapting agile principles throughout planning

Project Roadmap facilitating Sprint Planning Meetings

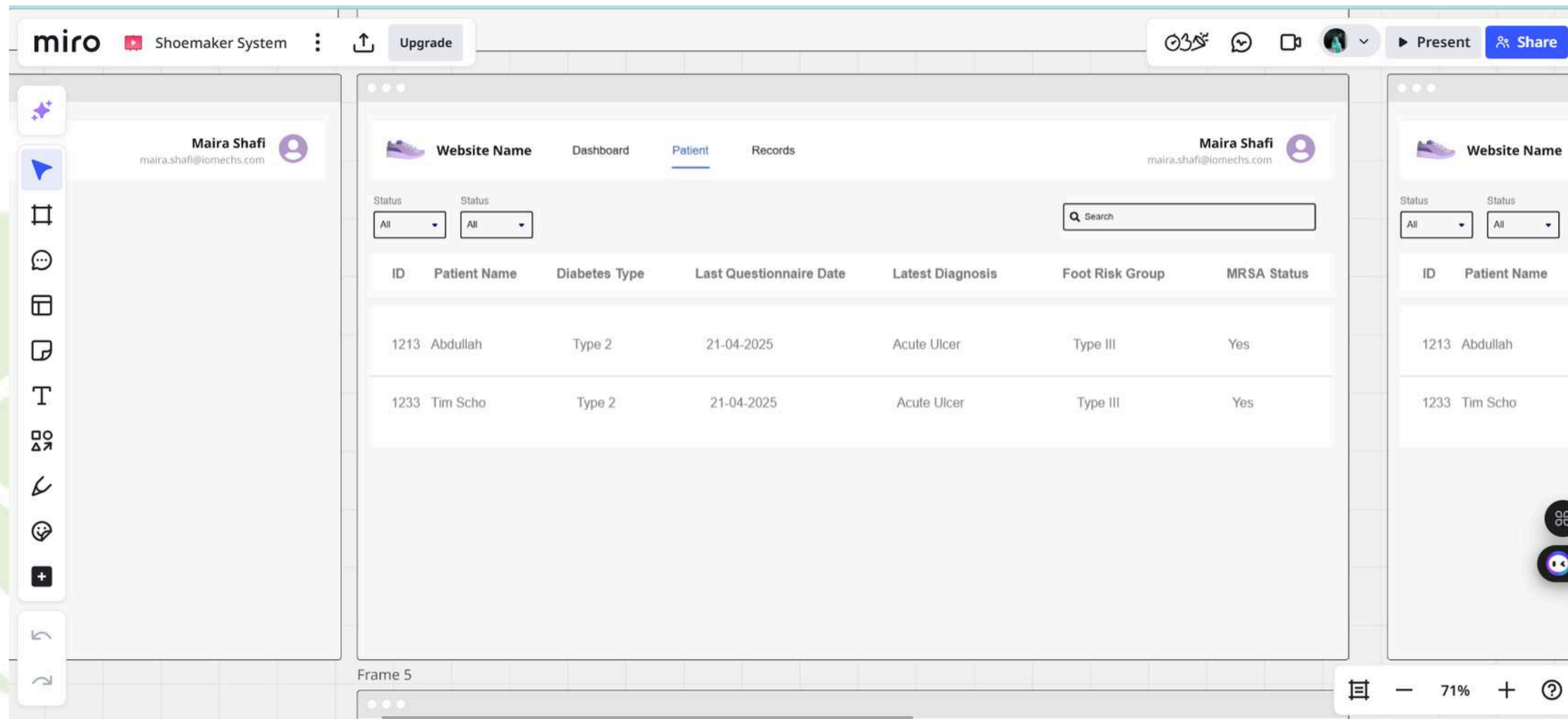


- Started with basic wireframe with just an idea of what pages we will have in our application
- This sparked conversations which later led to finalization of which components and flows to keep





- More detailed Wireframes





- More detailed Wireframes
- Gave us the pathway and insights whether we are on the right path as per the expectations of the stakeholder

Website Name Dashboard Patient Records

Maira Shafi
maira.shafi@iomechs.com

Patient Details

Patient Details Questionnaires Diagnosis

ID Patient Name Diabetes Type Last Questionnaire Date

Gender Latest Diagnosis Foot Risk Group MRSA Status

NOTES

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since

CANCEL SAVE



Website Name Home My Questionnaires My Diagnosis

Maira Shafi
maira.shafi@iomechs.com

< MOS Questionnaire

Tiel 1 : Pre-Assessment Tiel 2 : Outcome Evaluation

A B C D E F G H

E. Conversation with the Orthopedic Technician

1. How well did the technician listen to you? (ICF: d710) 🔊

Very Poor Poor Well Very Well

2. Did the technician discuss what you can expect? 🔊

Yes Poor Don't Know

We decided how we will keep the flow of making the form accessible to people who might have trouble in reading/listening so gave option to see visuals, and hear the questions and options



- React with Tailwind for styling
- Axios for Api calls
- React Router for navigation
- Lucid Charts and Recharts for graphs and charts
- React Hooks for state-management

Front End (UI + API Integration)

pg06.regifor.de

HackerRank Test Lo...Maira's copy of Soft...Software-Houses -...All Bookmarks

Login

Sign in as registered user or doctor

Doctor

Patient

Email

Password

Login

pg06.regifor.de

HackerRank Test Lo...Maira's copy of Soft...Software-Houses -...All Bookmarks

Login

Sign in as registered user or doctor

Doctor


Patient

Patient ID

Password

Login

Front End (UI + API Integration)



DashboardPatientsDiagnostic SheetAnalytics

Dr. SmithPodiatrist

Zurück

Patient Details: 886203005

DetailsQuestionnairesDiagnostic

Allgemeine Informationen

Alter: 55 Jahre

Geschlecht: N/A

Größe: 150 cm

Gewicht: 86 kg

Diabetes Typ: Typ 2

Dauer der Diabetes: N/A Jahre

Diabetesschulung: ja

MRSA: nein

Letzte Untersuchung: 2025-07-16

Anlagen: N/A

Untersuchung vom 16.7.2025

Risikotyp Kategorisierung

Links: N/A

Rechts: N/A

Klinischer Befund

Linker Fuß

Vibrationsempfindung: N/A

Mikrofilament: nein

Hinweis PNP: ja

Hinweis PAVK: nein

Rechter Fuß

Vibrationsempfindung: N/A

Mikrofilament: nein

Hinweis PNP: ja

Hinweis PAVK: nein

Fußstatus

EXPLORER

SPD

frontend

node_modules

public

src

api

api.js

components

tests

BaseQuestio...

QuestionRen...

AgeDistributionCh...

BaseQuestionnaire.js

BMICategoryBar.js

ChartW...

tings

JS LoginPage.js

Release Notes: 1.102.0

JS QuestionRender...

frontend > src > api > JS api.js > logIn

31 export const signUp = async (payload) => {

37 throw error;

38 }

39 };

40 }

41 export const logIn = async (payload) => {

42 try {

43 const response = await api.post('/auth/login', payload);

44 return response.data;

45 } catch (error) {

46 console.error("Error Login In", error);

47 throw error;

48 }

49 };

EXPLORER

SPD

frontend

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BaseQuestio...

QuestionRen...

AgeDistributionCh...

BaseQuestionnaire.js

BMICategoryBar.js

ChartW...

tings

JS LoginPage.js

Release Notes: 1.102.0

JS QuestionRenderer.test.js

JS

frontend > src > api > JS api.js > logIn

6 const api = axios.create({

8 });

9 }

10 export const fetchQuestionnairesByPatientId = async (patientId) => {

11 try {

12 console.log(patientId);

13 const response = await api.get(`/questionnaire/\${patientId}`);

14 return response.data.data;

15 } catch (error) {

16 console.error("Error fetching questionnaires:", error);

17 return [];

18 }




19 };



- Developed the login interface using ReactJS with modern component-based architecture.
- Ensured dynamic UI updates based on selected user role (Doctor or Patient).
- Used React Icons to enhance usability and visual feedback.
- Focused on responsive design and accessibility using Tailwind CSS.
- Implemented clear input validation and form error handling for better user experience.
- Maintained clean and minimal UI with a gradient background and role-based toggling.

- Integrated login functionality using a custom API function (login) with Axios.
- Handled role-specific credentials: email for doctors and ID for patients.
- Managed successful login redirection to respective dashboards.
- Used Toast notifications to provide instant user feedback for success or error.
- Stored relevant data (like patient ID) in localStorage when needed.
- Implemented error handling and fallback UI behavior for failed API responses.

Good Practices - Code Reviews and Merge Requests



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📧 3

🔍 Search or go to...

Project

F

frontend

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Pinned

Issues0

Merge requests0

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Manage

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Plan

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Code

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Build

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Secure

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Deploy

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Operate

📊

Monitor

📈

Analyze

Project group 06 / frontend / Merge requests

Open 0Merged 10Closed 0All 10

Bulk edit

New merge request

⋮

🕒

Search or filter results...

🔍

Created date

⌵

questionnaire-enable-update

!10 · created 3 minutes ago by Huzaifa Khatri

Merged

🟢 Approved

updated 2 minutes ago

All milestones

!9 · created 3 hours ago by Aniq Ahmed

Merged

🟢 Approved

updated 3 hours ago

diagnoses form updates

!8 · created 3 hours ago by Huzaifa Khatri

🔗 dev

Merged

🟢 Approved

updated 3 hours ago

NavBar Updated

!7 · created 4 hours ago by Aniq Ahmed

🔗 dev

Merged

🟢 Approved

updated 4 hours ago

Questionnaire Comparision, Diagnostic APIs, Login Flow

!6 · created 18 hours ago by Aniq Ahmed

Merged

🔴

🔴

updated 18 hours ago

Questionnaire Comparision, Diagnostic APIs

!5 · created 18 hours ago by Aniq Ahmed

🔗 dev

Merged

🔴

🔴

🟢 Approved

updated 18 hours ago

Updated login flow

!4 · created 20 hours ago by Maira Shafi

🔗 dev

Merged

🔴

🔴

🟢 Approved

updated 20 hours ago

Main Features

!3 · created 1 day ago by Aniq Ahmed

Merged

🔴

🟢 Approved

updated 1 day ago

Test Cases and Manual QA

🏠

Login Test Cases

☆📁☁

FileEditViewInsertFormatDataToolsExtensionsHelp

🔍↶↷🖨📋100%£%0.00.00123Defaul...10+BI↺A🖌📊🔍≡↓🔗🔗📌🔍📊Σ

G4Pass

	A	B	C	D	E	F	G
1	Test Case ID	Test Case Name	Pre-conditions	Test Steps	Expected Result	Actual Result	Status (Pass/Fail)
2	PATIENT						
3	P-001	Valid Patient Login	System is online. Valid Patient ID and Password exist.	1. Navigate to the login page. 2. Click the "Patient" tab. 3. Enter a valid Patient ID in the "Patient ID" field. 4. Enter the corresponding valid Password in the "Password" field. 5. Click the "Login" button.	User is successfully logged in and redirected to the Patient dashboard/home page. No error messages are displayed.	User successfully logged in and redirected to the Patient dashboard. No error messages displayed.	Pass
4	P-002	Invalid Patient ID - Not Registered	System is online.	1. Navigate to the login page. 2. Click the "Patient" tab. 3. Enter an unregistered Patient ID (e.g., "P1234567890") in the "Patient ID" field. 4. Enter any password. 5. Click the "Login" button.	An error message "Invalid Patient ID or password" or "Patient ID not found" is displayed. User remains on the login page.	Error message "Invalid Patient ID or password" displayed. User remained on the login page.	Pass
5	P-003	Invalid Patient ID Format	System is online.	1. Navigate to the login page. 2. Click the "Patient" tab. 3. Enter an incorrectly formatted Patient ID (e.g., "ABC", "123", or special characters if not allowed). 4. Enter any password. 5. Click the "Login" button.	An error message "Please enter a valid Patient ID format" or similar should be displayed. User remains on the login page. (Assuming Patient ID has a specific format, e.g., alphanumeric, fixed length).	Error message "Please enter a valid Patient ID format (e.g., PX-NNNNN)" displayed. User remained on the login page.	Fail
6	P-004	Invalid Password - Correct Patient ID	System is online. Valid Patient ID exists.	1. Navigate to the login page. 2. Click the "Patient" tab. 3. Enter a valid Patient ID. 4. Enter an incorrect password in the "Password" field. 5. Click the "Login" button.	An error message "Invalid Patient ID or password" or "Incorrect password" is displayed. User remains on the login page.	Error message "Invalid Patient ID or password" displayed. User remained on the login page.	Pass

Test Cases and Manual QA

1	Test Case ID	Test Case Name	Pre-conditions	Test Steps	Expected Result	Actual Result	Status (Pass/Fail)
14	DOCTOR/SHOEMAKER						
15	D-001	Valid Doctor Login	System is online. Valid Doctor Email and Password exist.	1. Navigate to the login page. 2. Ensure "Doctor" tab is selected. 3. Enter a valid Doctor Email in the "Email" field. 4. Enter the corresponding valid Password in the "Password" field. 5. Click the "Login" button.	User is successfully logged in and redirected to the Doctor dashboard/home page. No error messages are displayed.	User successfully logged in and redirected to the Doctor dashboard. No error messages displayed.	Pass
16	D-002	Invalid Email - Registered User	System is online. Valid Doctor Password exists.	1. Navigate to the login page. 2. Ensure "Doctor" tab is selected. 3. Enter an invalid format email (e.g., "doctor@example" or "https://www.google.com/search?q=doctorexample.com") in the "Email" field. 4. Enter a valid Password. 5. Click the "Login" button.	An error message "Please enter a valid email address" or similar is displayed below the email field. User remains on the login page.	Error message "Please enter a valid email address" displayed. User remained on the login page.	Pass
17	D-003	Invalid Email - Not Registered	System is online.	1. Navigate to the login page. 2. Ensure "Doctor" tab is selected. 3. Enter a valid format but unregistered email (e.g., "nonexistent@example.com") in the "Email" field. 4. Enter any password. 5. Click the "Login" button.	An error message "Invalid email or password" or "Email not found" is displayed. User remains on the login page.	Error message "Invalid email or password" displayed. User remained on the login page.	Pass
18	D-004	Invalid Password - Correct Email	System is online. Valid Doctor Email exists.	1. Navigate to the login page. 2. Ensure "Doctor" tab is selected. 3. Enter a valid Doctor Email. 4. Enter an incorrect password in the "Password" field. 5. Click the "Login" button.	An error message "Invalid email or password" or "Incorrect password" is displayed. User remains on the login page.	Error message "Invalid email or password" displayed. User remained on the login page.	Pass

3. Haben Sie Wunden oder Geschwüre an Füßen oder Knöcheln? *

ICF: b810 Schutzfunktion der Haut

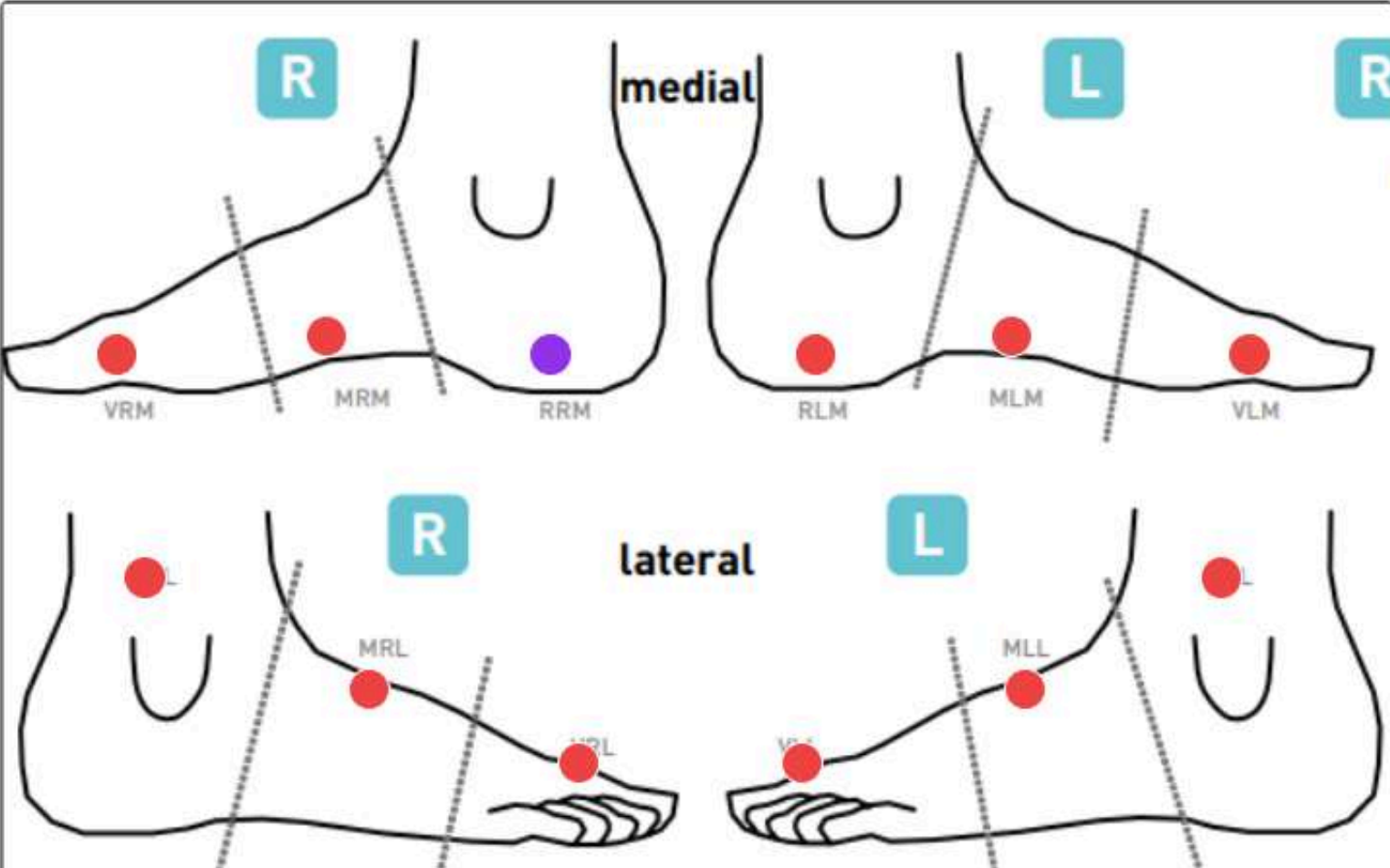
☒

Ja

☐

Nein

4. Bitte markieren Sie die Stelle der Wunden/Geschwüre auf der Abbildung. *



16.07.2025

18. Erwarten Sie, mit den Schuhen folgende Aktivitäten mehr oder weniger ausüben zu können? *

ICF: d450, d455, d460, d640, d920

Aktivitäten bewerten

Zurück

Weiter

6. Wie gut hat Ihnen der Arzt zugehört? *

ICF: d710 Interaktionen mit medizinischem Personal

Sehr schlecht

Schlecht

Neutral

Gut

Sehr gut

7. Hat der Arzt mit Ihnen besprochen, was Sie von den Schuhen erwarten können? *

☒

Ja

☐

Nein

Weiß nicht

17

Test Cases and Manual QA

	Test Case ID	Test Case Name	Pre-conditions	Test Steps	Expected Result	Actual Result	Status (Pass/Fail)
26	QUESTIONNAIRE FORM						
27	MQ-001	Section A: Personal Information - Visuals Match Text & Question Readability (Walking Distance)	User is on Section A.	1. Observe Question "1.	- Question text is clear and correctly displayed. - Options are legible and match the text provided. - Only one option can be selected at a time. - Selected option shows purple	- Question 1 text and options were clearly displayed and matched. - Only one option could be selected at a time. - Both selections showed correct	Pass
28	MQ-002	Section A: Medical Conditions - Multiple Selection (Checkbox) Functionality	User is on Section A. Walking distance question is answered.	1. Read question "2. Wel	- Subtitle "(Mehrfachantwort möglich)" is displayed. - Multiple options can be selected simultaneously. - Selected options show visual highlighting/checkmarks. - Options can	- Subtitle was displayed. - Diabetes, Fußfehlstellung, and Muskelerkrankung were all selected simultaneously. - Clicking "Diabetes" again	Pass
29	MQ-003	Section B: Wound Assessment - Conditional Question Logic (Ja/Nein)	User has completed Section A. User is on Section B.	1. Read question "3. Hab	- Question 4 only appears when "Ja" is selected for question 3. - When "Nein" is selected, Question 4 remains hidden/does not appear. - Wound marking interface loads with foot	- Selecting "Nein" for Q3 correctly kept Q4 hidden. - Selecting "Ja" for Q3 immediately displayed Q4 with the wound marking interface. -	Pass
30	MQ-004	Section B: Wound Assessment - Interactive Wound Location Marking	User answered "Ja" to Question 3. Wound marking interface is displayed for Question 4.	1. Observe foot diagram	- Foot diagram displays clearly with anatomical accuracy. - Clickable areas are responsive and provide visual feedback for marking. - Multiple wound locations can be marked	- Foot diagram was clear and responsive. - Clicking areas successfully marked/unmarked locations. - Multiple marks could be placed. - All markings	Pass
31	MQ-005	Section C: Expectations - Conditional Section Display (Wounds)	User has completed Section B.	1. Assume User A answe	- Section C and Question 5 only appear for users who answered "Ja" to having wounds in Section B. - Question 5 displays ICF code "ICF: b810, d450". - All three options ("Ja", "Nein", "Nicht	- For User A, Section C and Q5 were displayed. All options were selectable. ICF code visible. - For User B, Section C was skipped and not	Pass
32		Section D: Doctor			- Scale displays 5 distinct options with corresponding emojis and labels. -	- Scale displayed 5 options with emojis. - Only one option could	

Technical Documentation – Medical Care Register

Project Group 06 | IETEC Akademie

1. Project Overview

This is a full-stack web application designed to facilitate the management of **patients**, **diagnoses**, and structured questionnaires such as the **MOS** and **BEFUNDBOGEN**. The portal streamlines interactions between **doctors/show podiatrists** and **patients** by supporting long-term health record keeping and form submissions.

- **Frontend:** React.js
- **Backend:** Node.js (Express) using MariaDB and Objection.js (Knex.js ORM)
- **Authentication:** JWT-based
- **APIs:** RESTful endpoints with prefix `/api/v1`

2. Project Structure



- Created structured technical documentation for the full-stack web portal.
- Covered project overview, setup, API structure, and user roles.
- Detailed backend folder structure, security middleware, and key modules.
- Provided a Postman collection for testing all API endpoints.
- Aimed to support future development, onboarding, and maintenance.



Wireframes – Miro

https://miro.com/welcomeonboard/L1luRTBJa09yU09OdHIWUnZhQXRZTXIJWFc0NUNxaHFhMzNtMG1pTnpTd1dWUFRHbU1qZmNJQWNWSnI5YXdyV1ZnelEvT1QvNnZSV2xnbFU3RjBiaGZ4N25RYXg5NUlqMm4zMdRyQ3ljWG9YVnJacEROeFVhempCNWp0NFVEY2FQdGo1ZEV3bUdPQWRZUHQzSGI6V2NBPT0hdjE=?share_link_id=336848666689

Project Roadmap – Figma

<https://www.figma.com/board/EgU3MwCWWhQTi8KASuVpvTg/Product-Development-Canvas--Copy-?node-id=0-1&p=f&t=wgtLfzfvWM7p8M6H-0>

Test Cases – Google Sheets

https://docs.google.com/spreadsheets/d/15qPr-M-uFLvSEpL71DTA8rPRVKEdb85xndDnJ_r5sSE/edit?gid=1342705399#gid=1342705399

Technical Documentation – Google Docs

<https://docs.google.com/document/d/1VI5s-gNUUEvuHHYGSssq2eoSn-F4eRTdaa9vXzUYZTU/edit?tab=t.0#heading=h.qmltv5go33st>