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Software Development Project - AI5094 (SoSe25)

Registered Care System – Individual Contribution

Maira Shafi, fd0002120

Name: Maira Shafi MtrNr.: 1549627

Project Summary

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- 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

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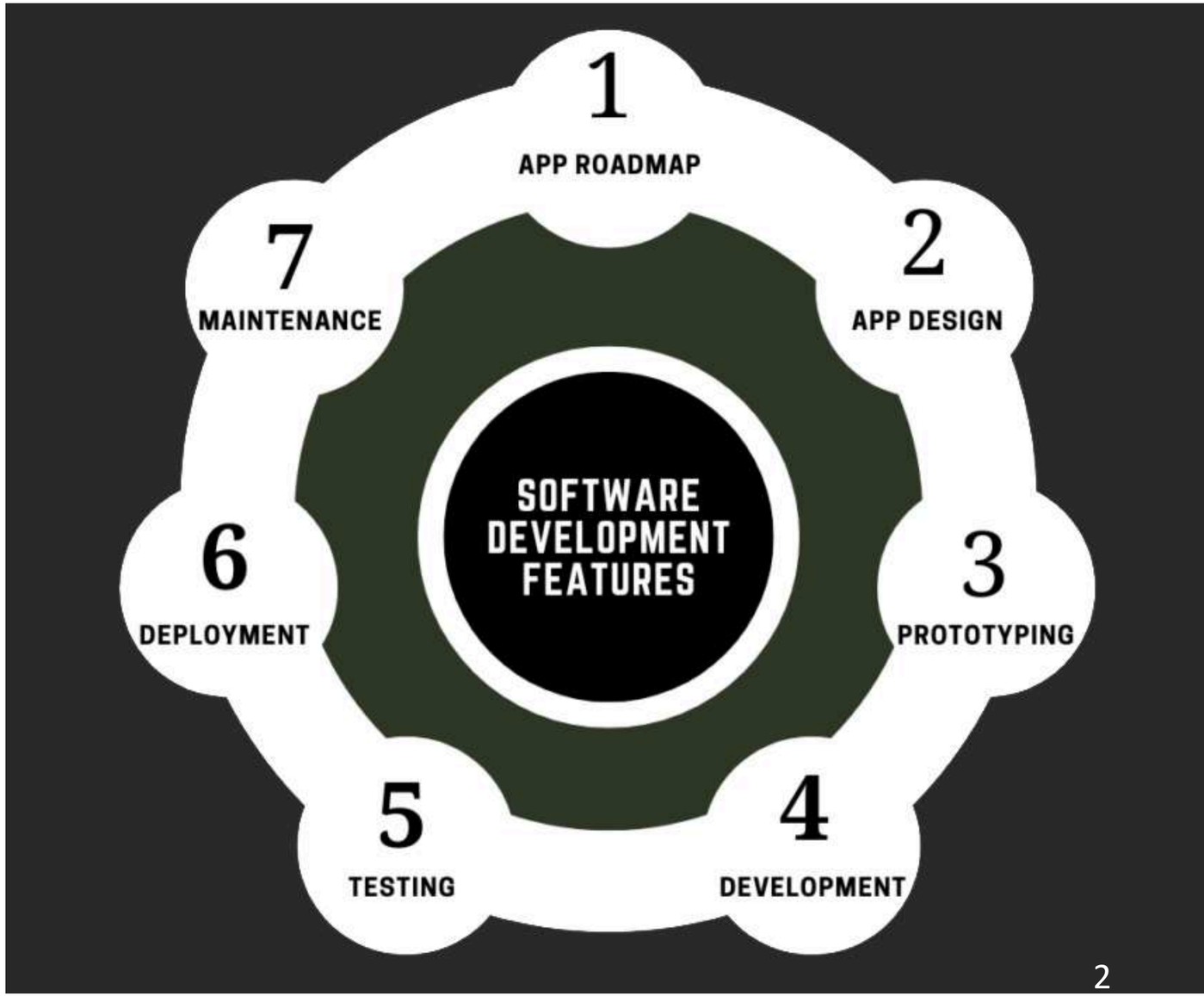
- Requirement Gathering
- Roadmap
- Prototyping - Wireframes
- Flow Discussions and Scrum Activities
- Frontend (ReactJS + API Integration)
- Test Cases for Manual Testing
- Technical Documentation



Requirement Gathering & Planning

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- 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

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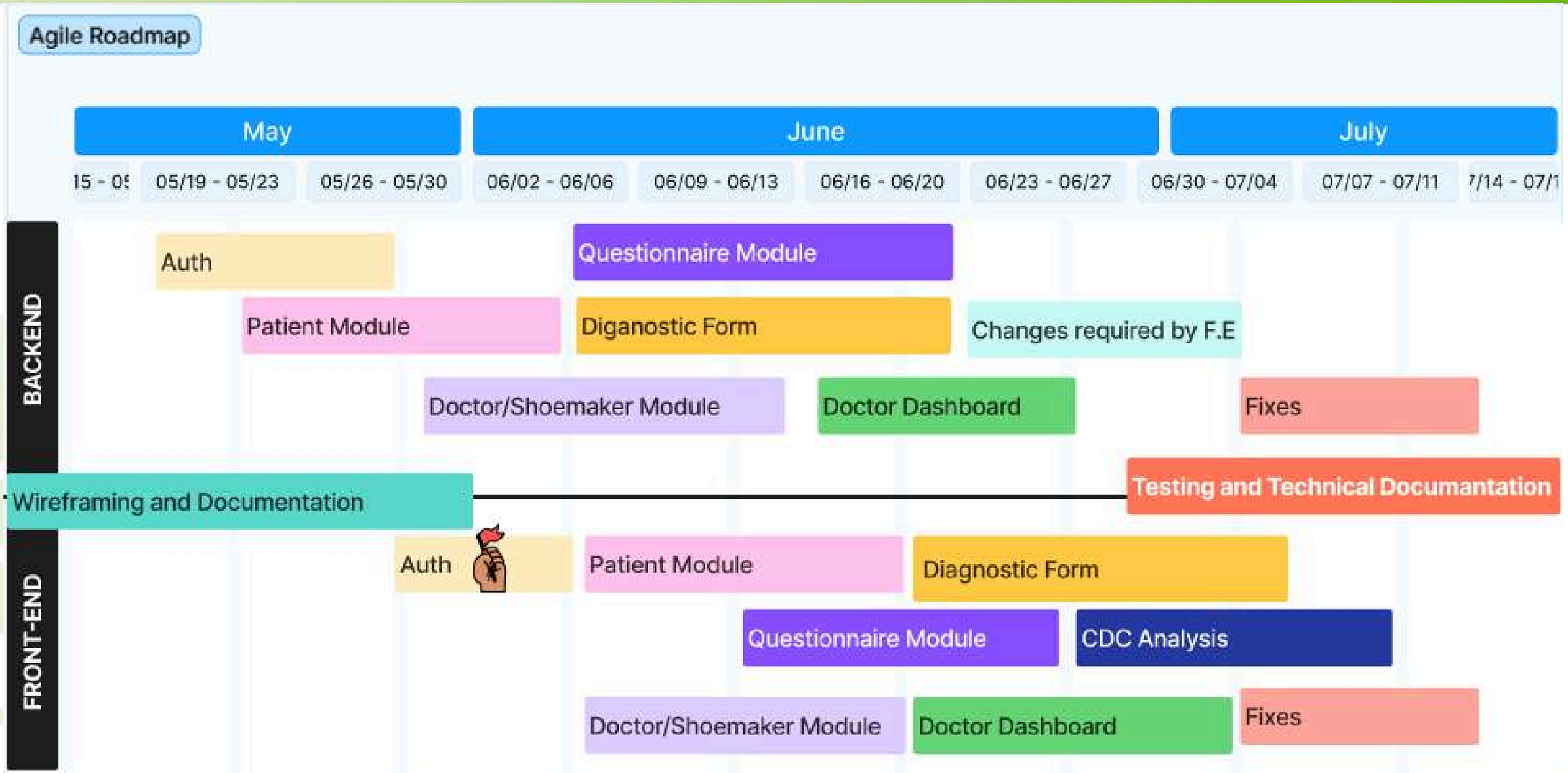
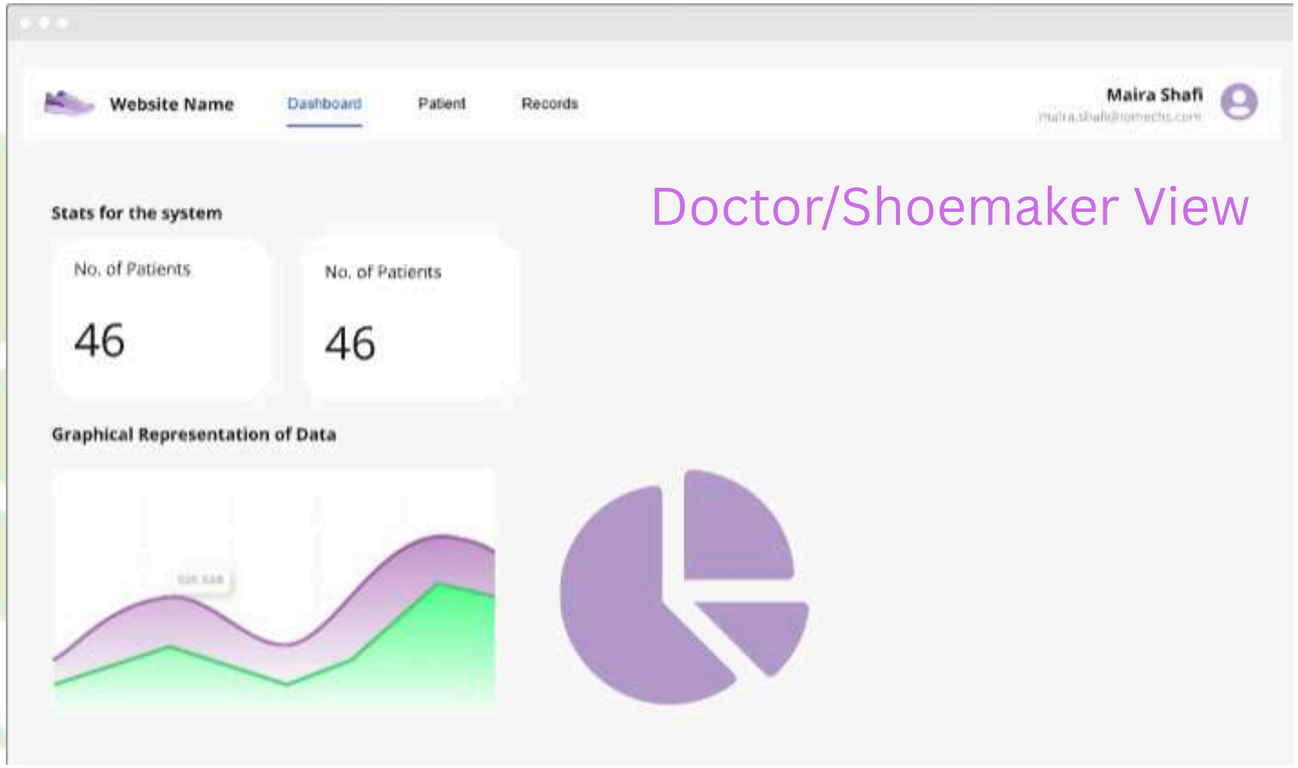
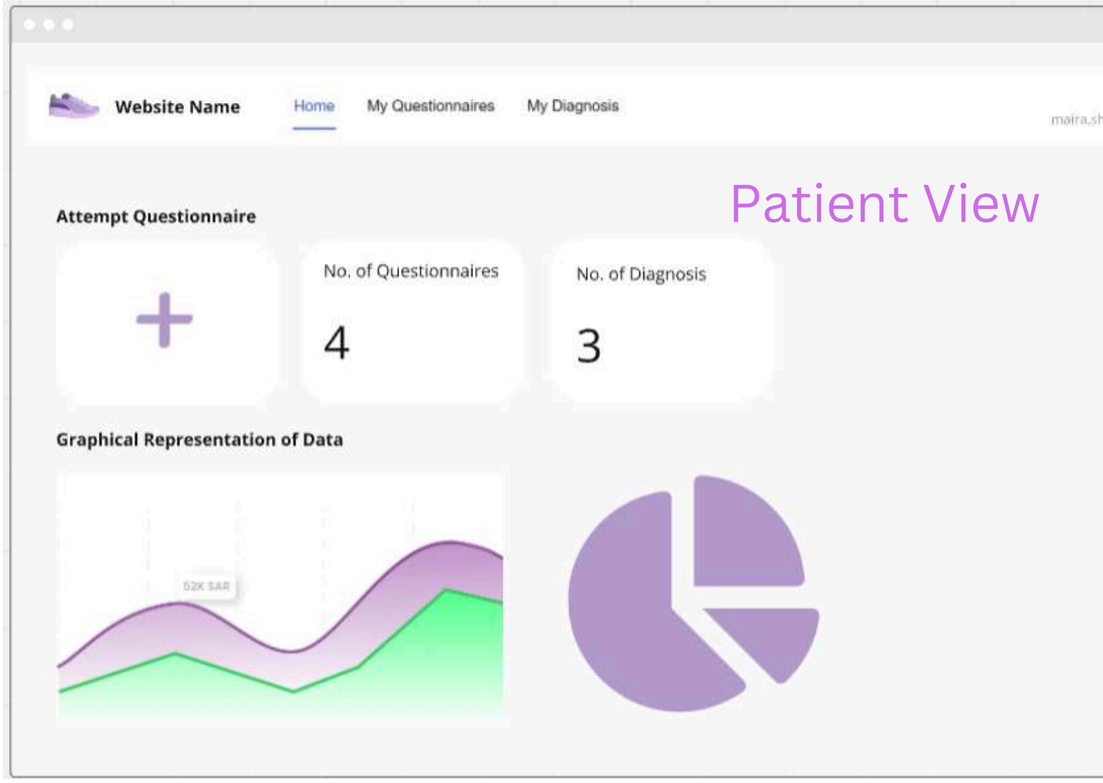


Prototyping - Wireframes

- 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





Prototyping - Wireframes

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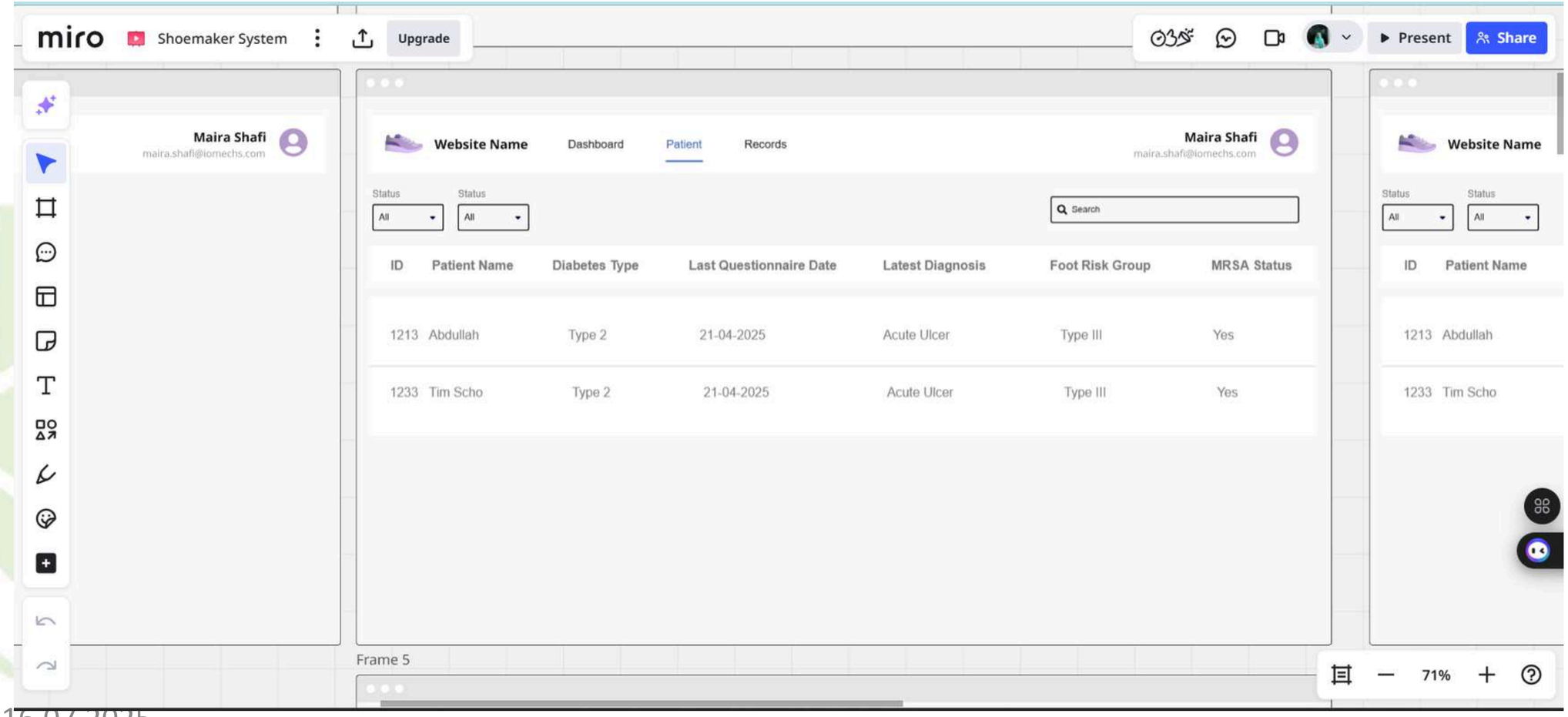
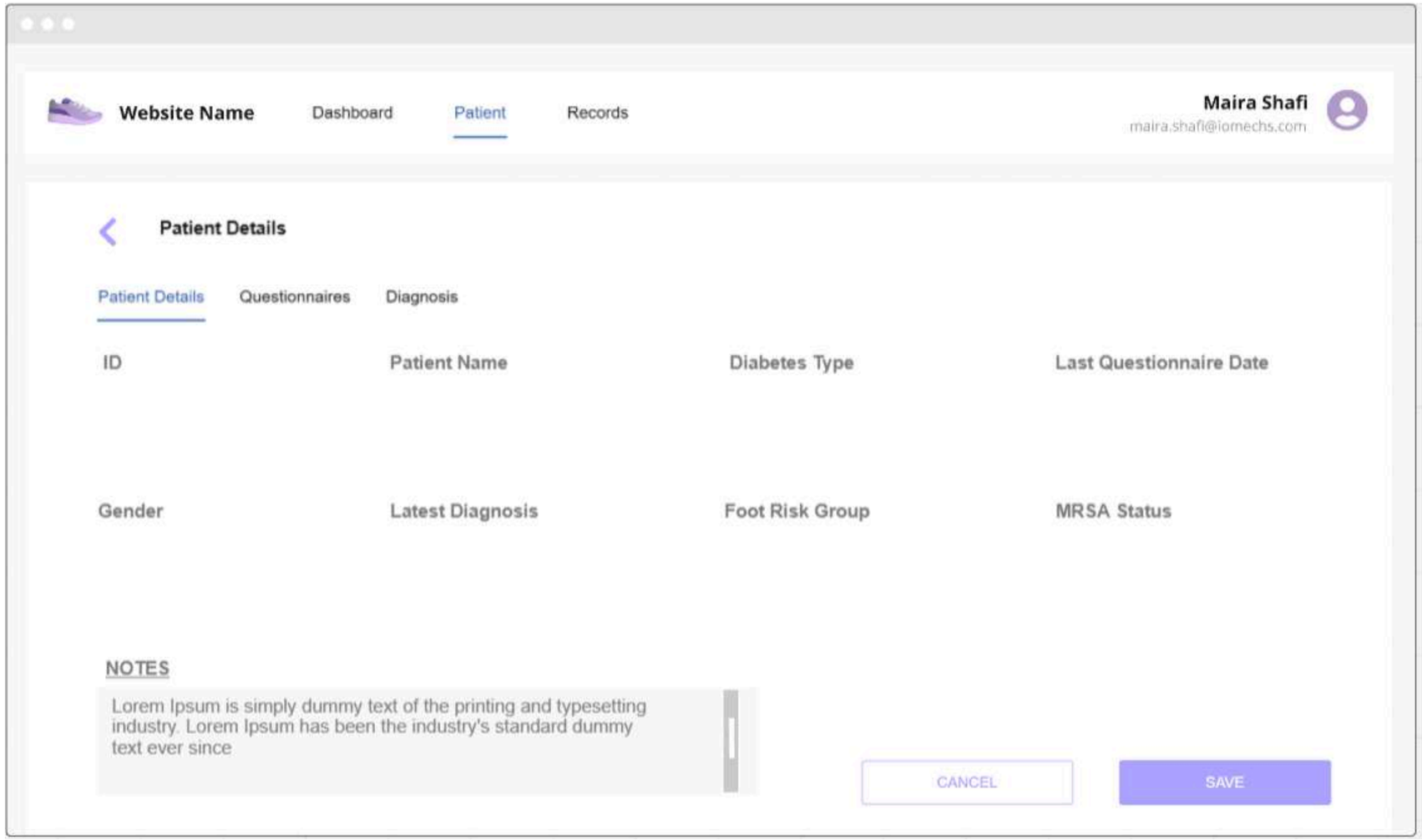
- More detailed Wireframes



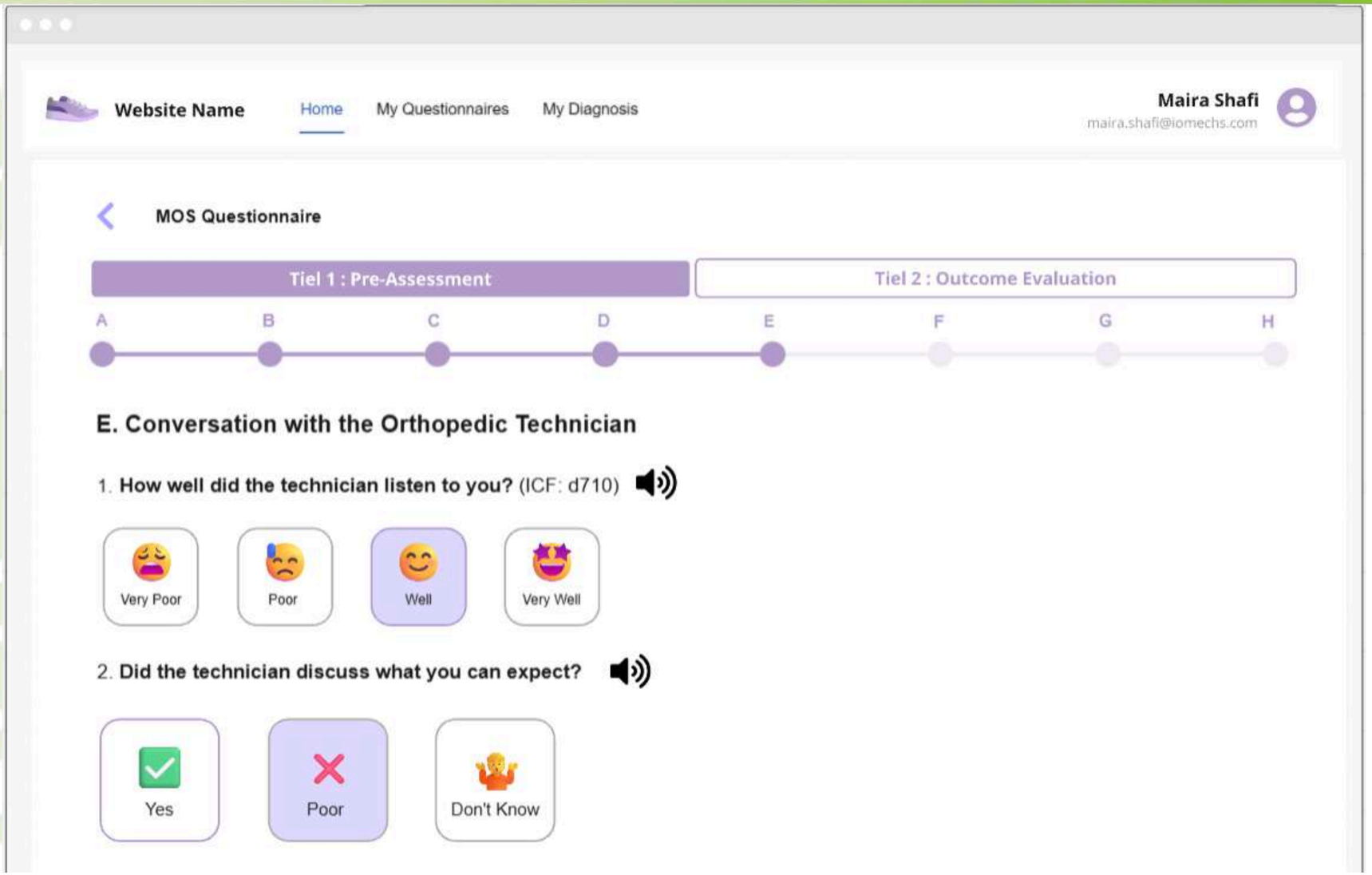
Prototyping - Wireframes

- More detailed Wireframes

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



Prototyping - Wireframes

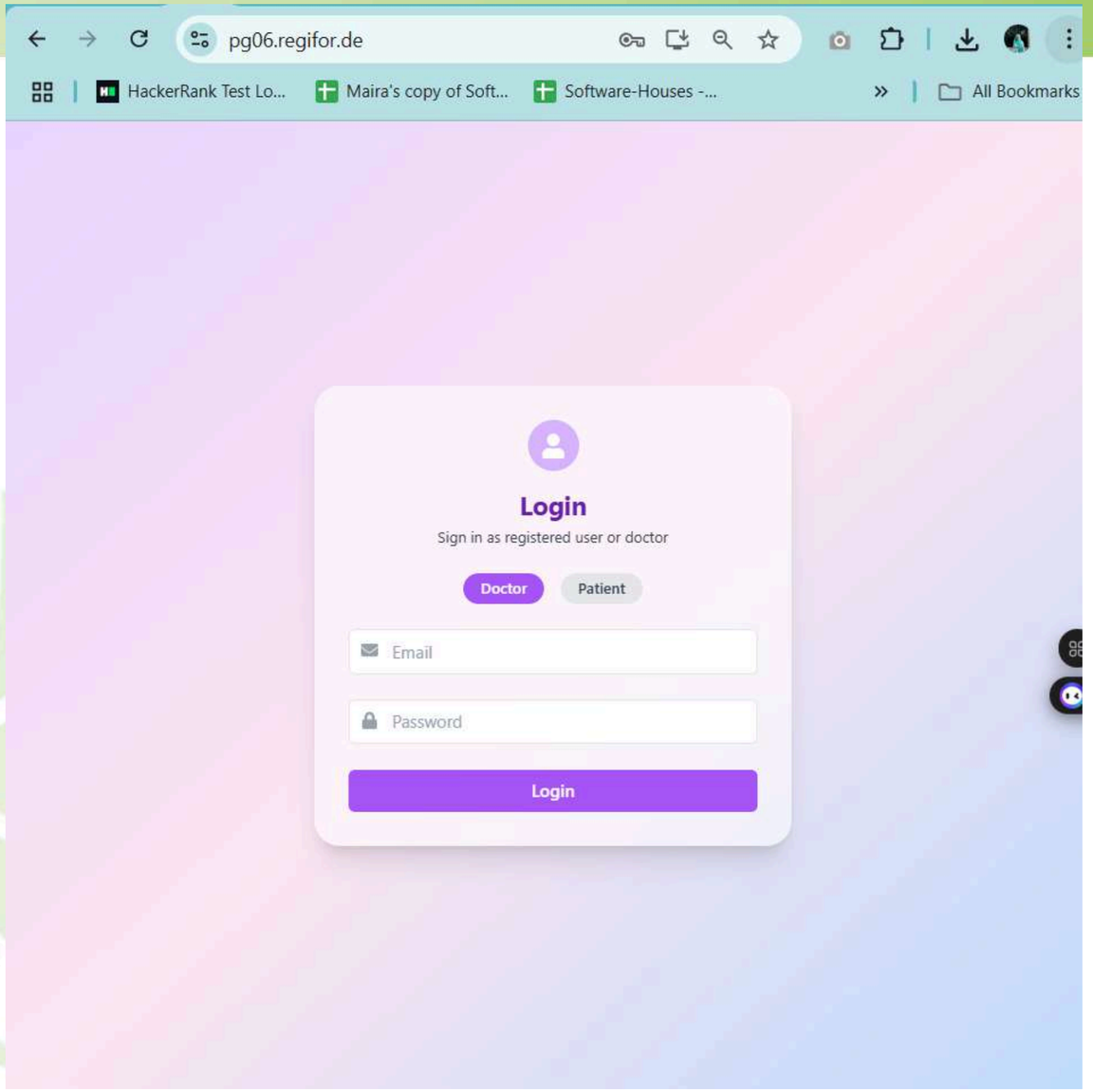


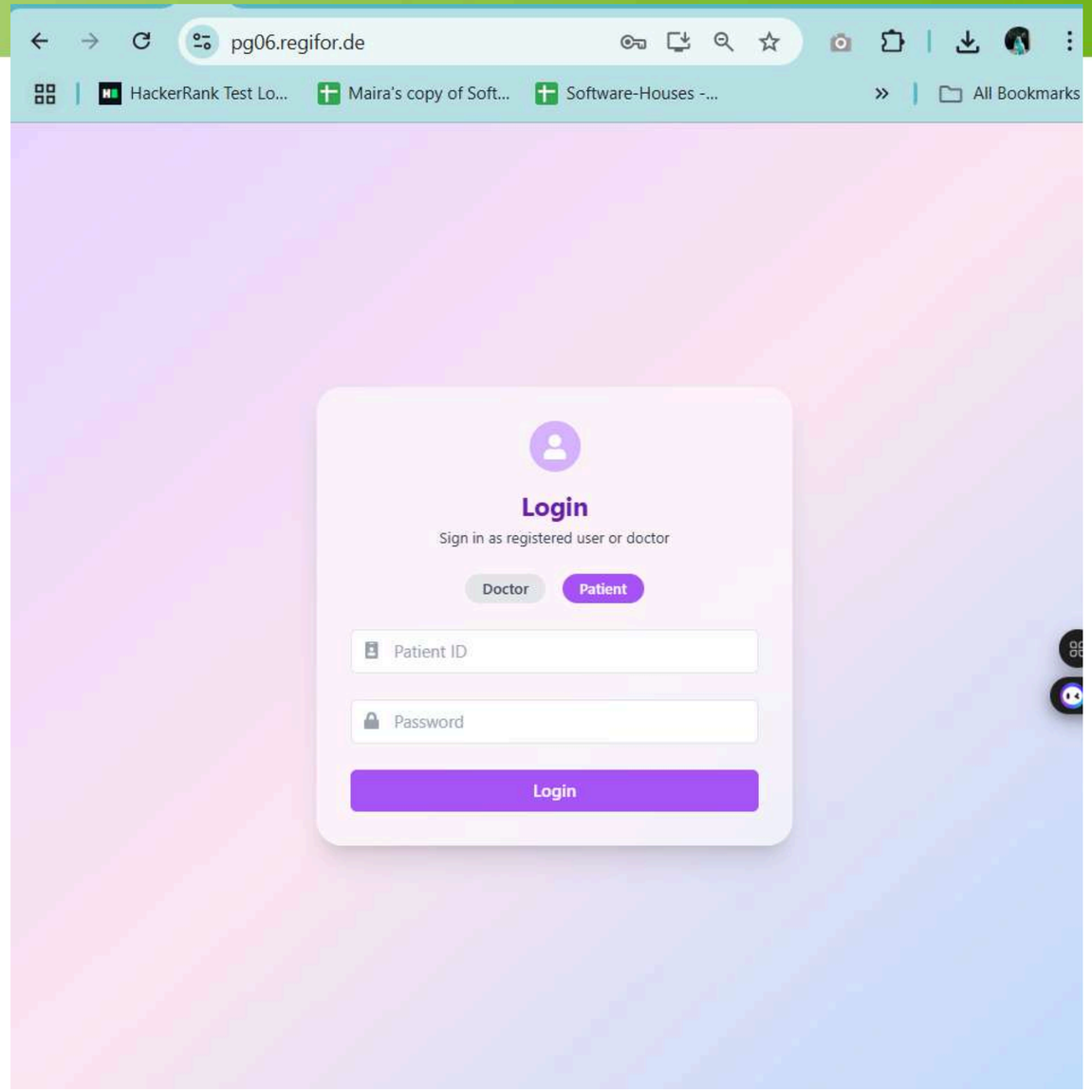
We decided how we will keep the flow of making the form accessible to prople who might have trouble in reading/listening so gave option to see visuals, and hear the questions and options

Front End - Tech Stack

- 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)





Front End (UI + API Integration)

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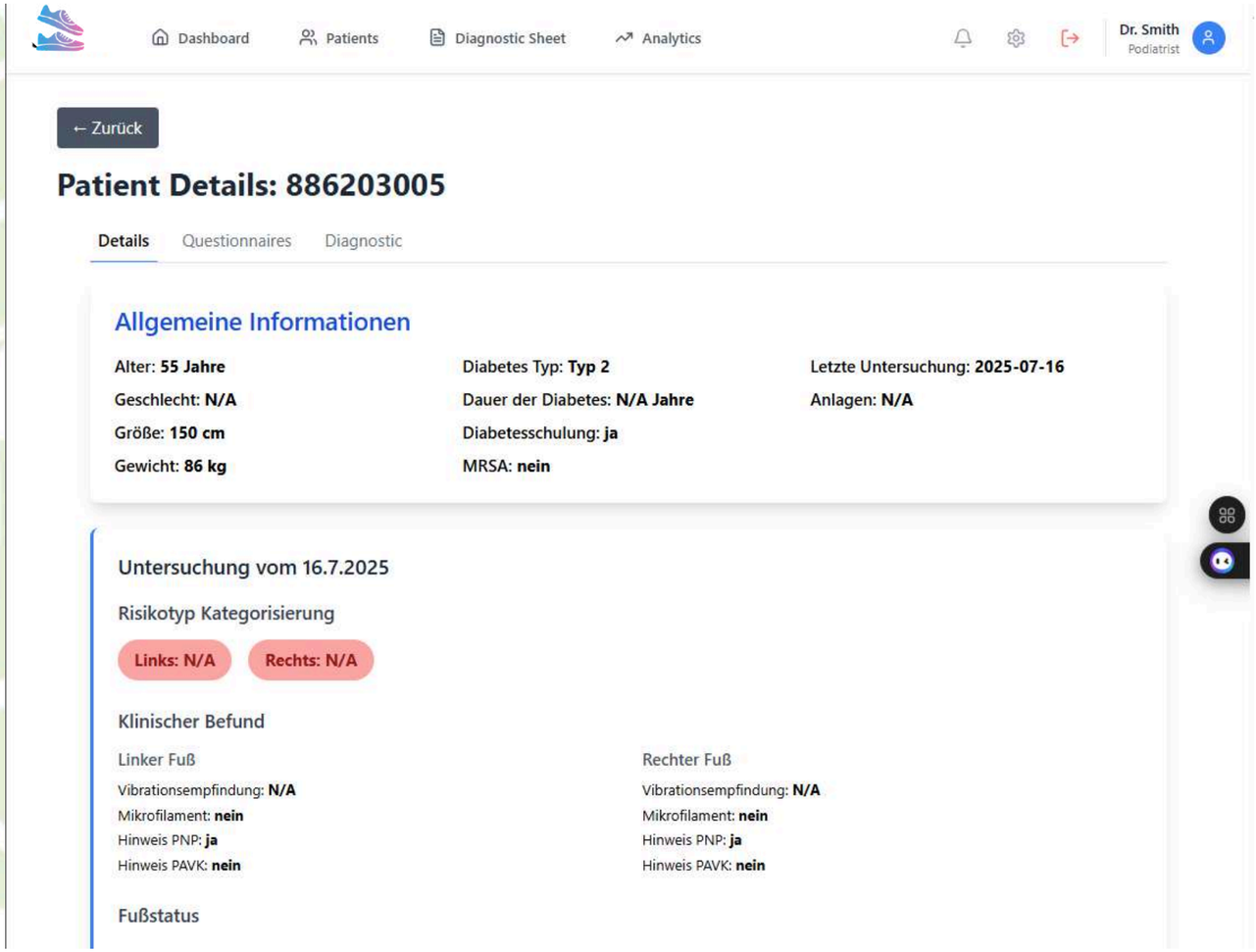

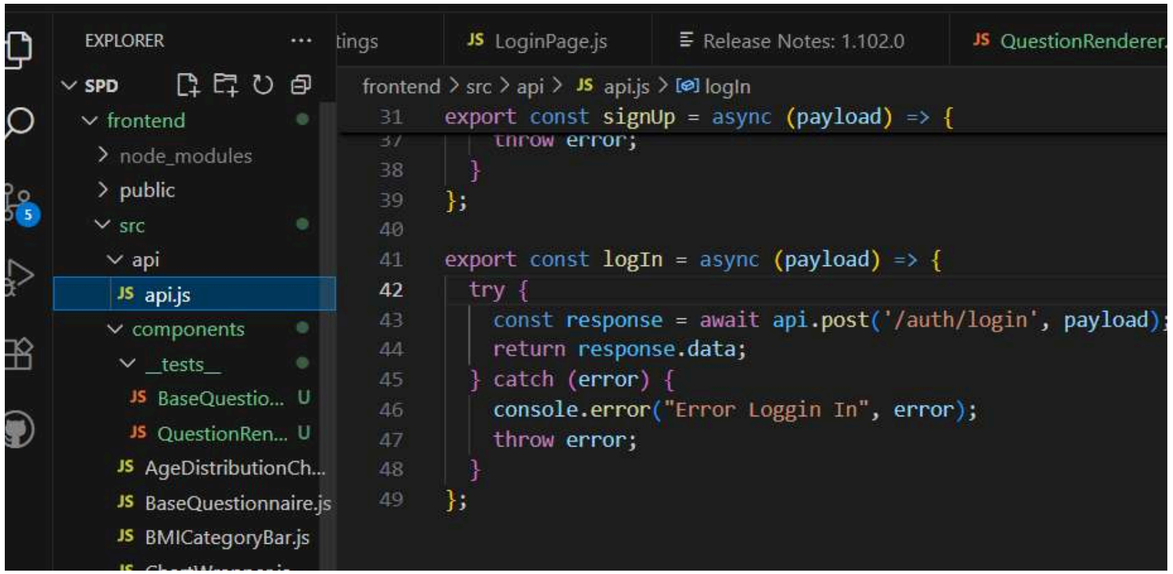

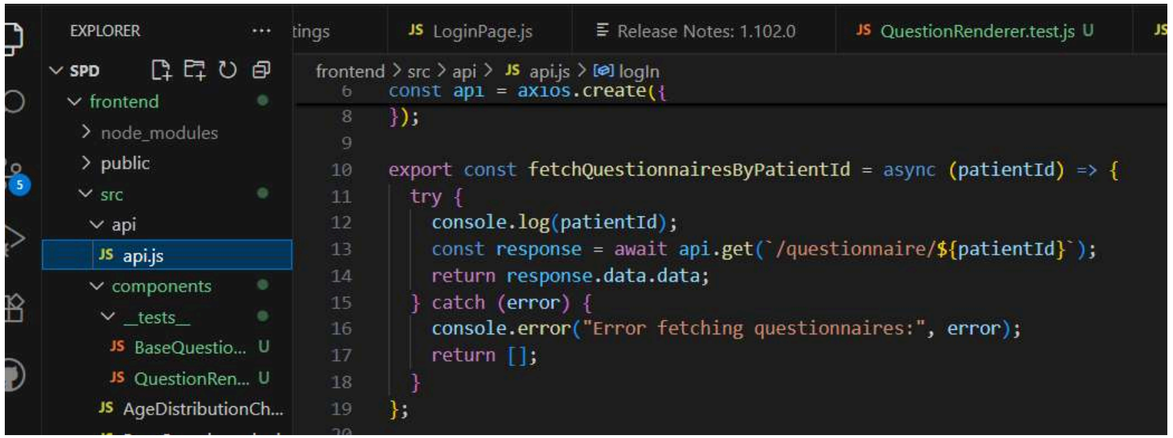

💻 Frontend Implementation (ReactJS)

- 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.

🔌 API Integration

- 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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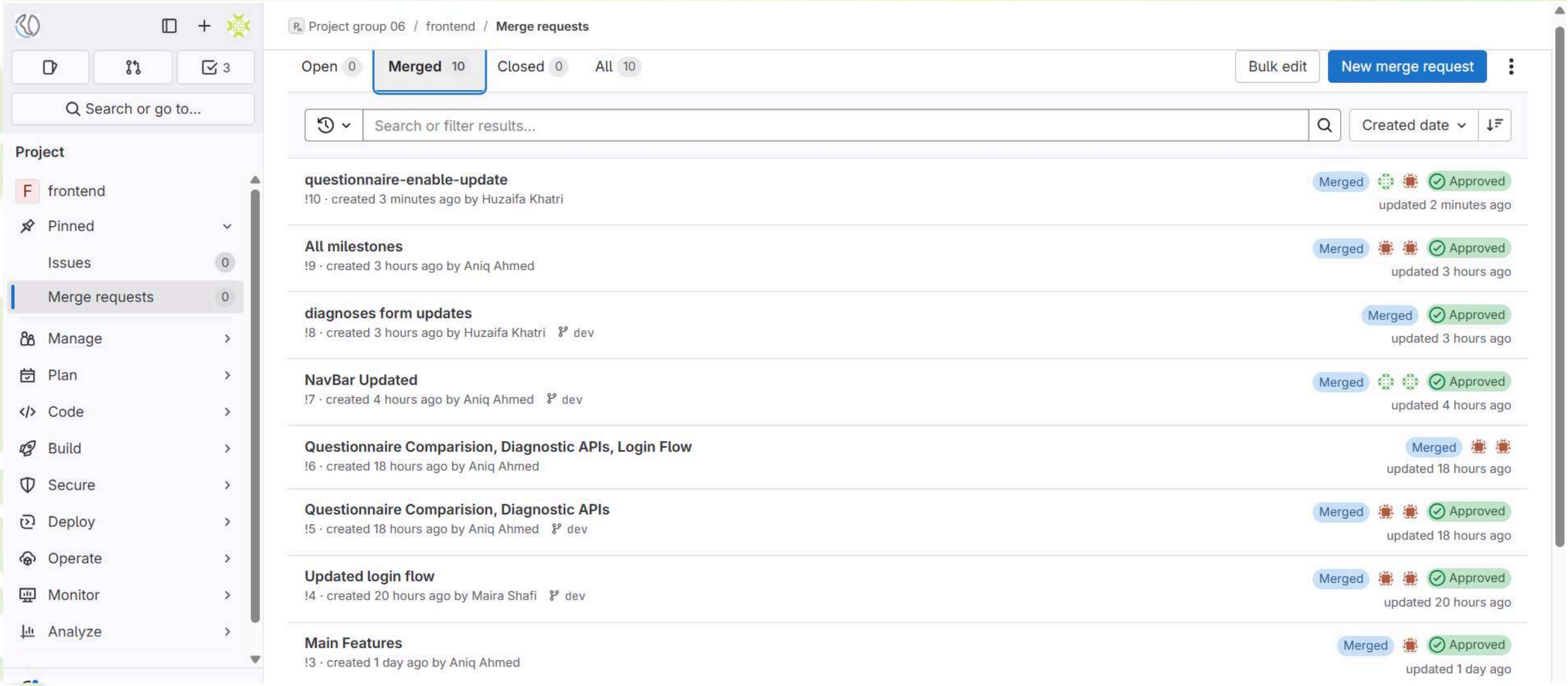

Test Cases and Manual QA

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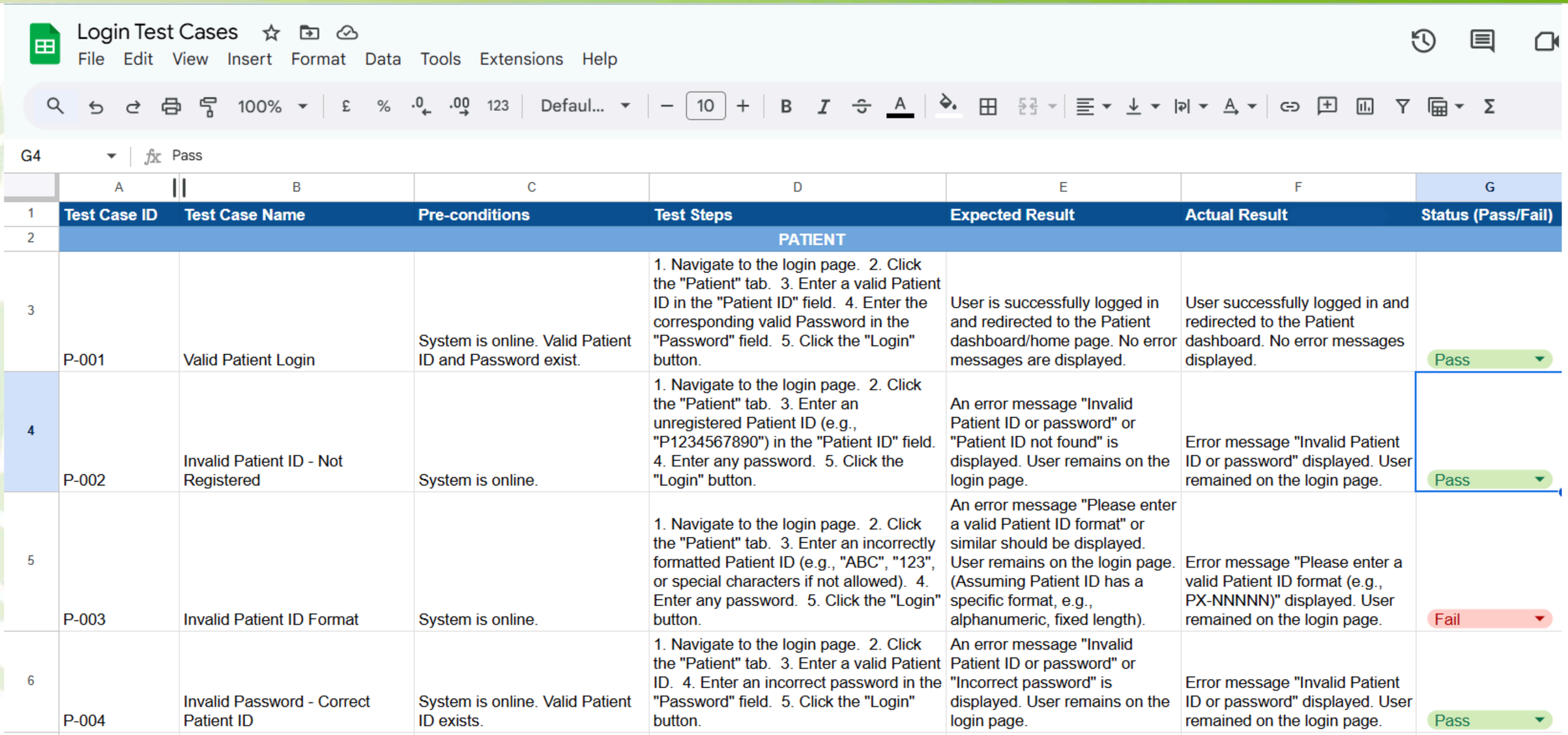

Login Test Cases

File Edit View Insert Format Data Tools Extensions Help

G4 | fx Pass

	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

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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

Test Cases and Manual QA - Questionnaire

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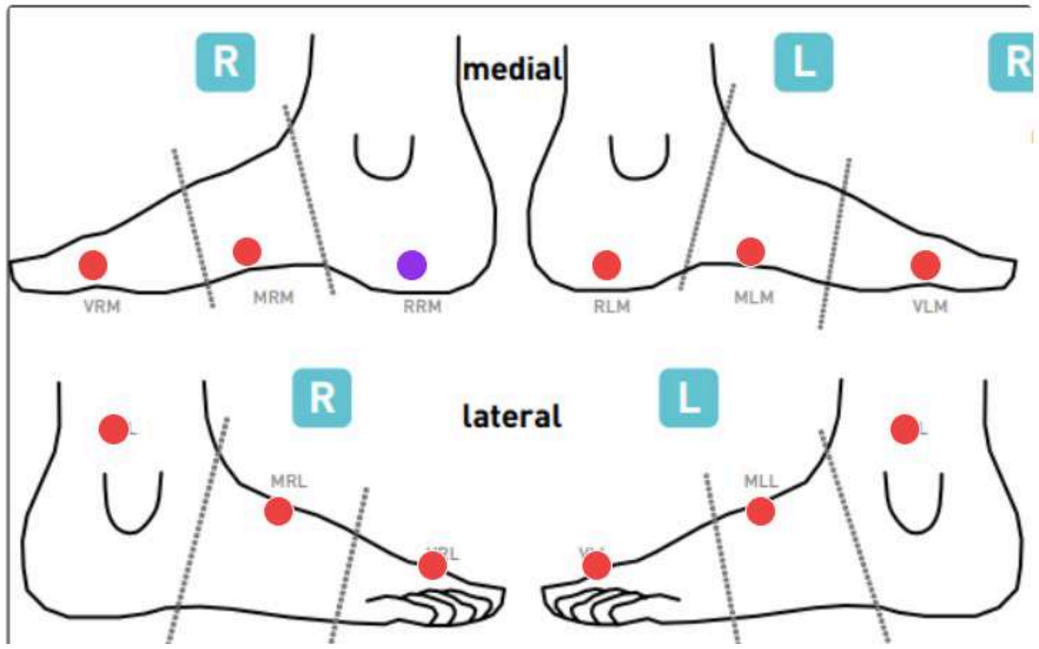
3. Haben Sie Wunden oder Geschwüre an Füßen oder Knöcheln? *

ICF: b810 Schutzfunktion der Haut

- [x] Ja
- [ ] Nein

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



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
- [x] Nein
- [ ] Weiß nicht

Test Cases and Manual QA

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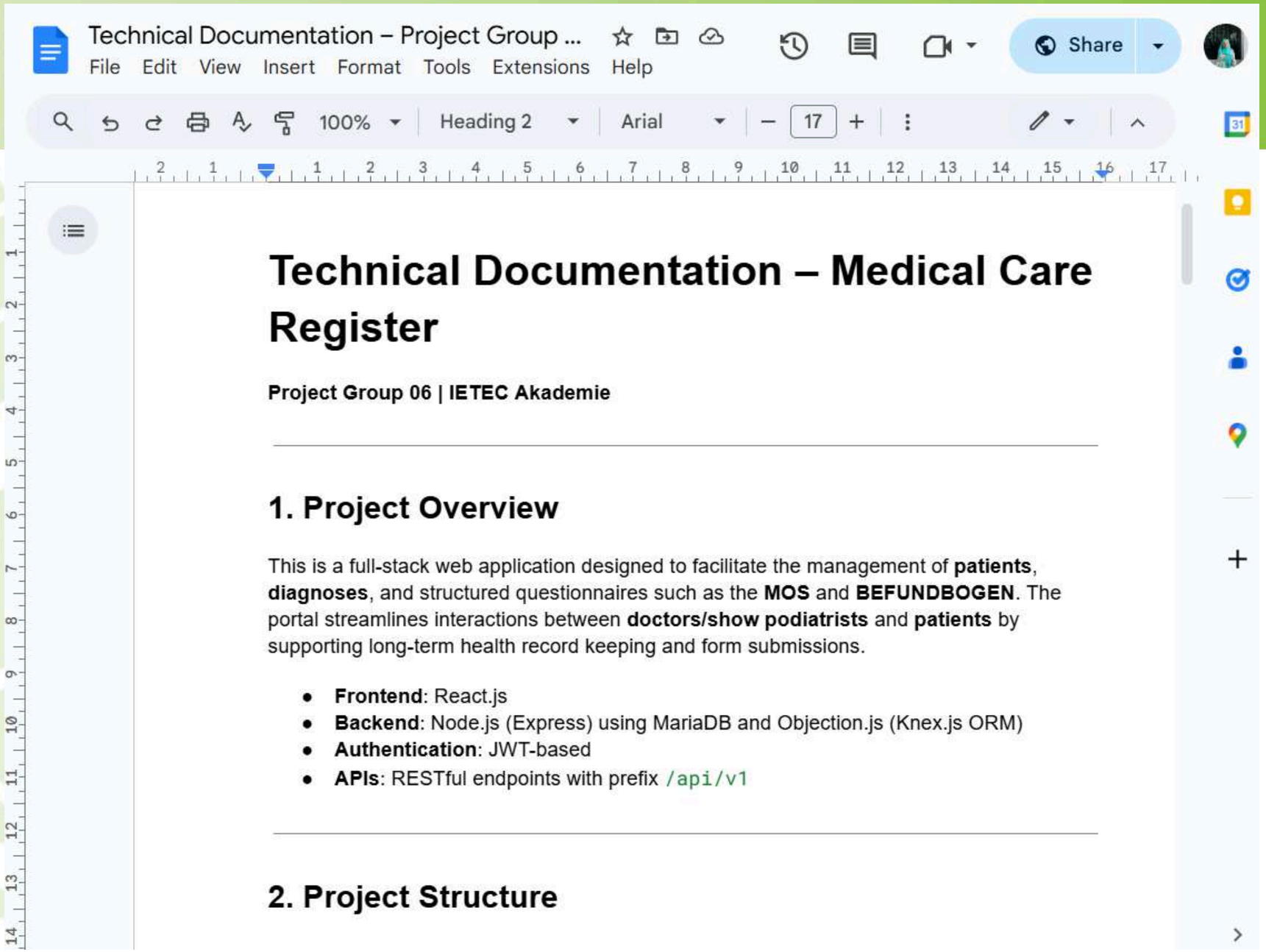
1	Test Case ID	Test Case Name	Pre-conditions	Test Steps	Expected Result	Actual Result	Status (Pass/Fail)
26	QUESTIONNAIRE FORM						
27	MQ-001	Section A: Personal Information - Visuals Match Text & Question Readability (Walking Distance)	User is on Section A.	1. Observe Question "1. '	- Question text 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
		Section D: Doctor			- Scale displays 5 distinct options with corresponding emojis and labels. -	- Scale displayed 5 options with emojis. - Only one option could	



- 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.

Links

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🖼️ Wireframes – Miro
https://miro.com/welcomeonboard/L1luRTBJa09yU09OdHlWUnZhQXRZTXlJWFc0NUNxaHFhMzNtMG1pTnpTd1dWUFRHbU1qZmNJQWNWSnI5YXdyV1ZnelEvT1QvNnZSV2xnbFU3RjBiaGZ4N25RYXg5NUlqMm4zMDRyQ3ljWG9YVnJacEROeFVhempCNWp0NFVEY2FQdGo1ZEV3bUdPQWRZUHQzSGl6V2NBPT0hdjE=?share_link_id=336848666689

🗺️ Project Roadmap – Figma
https://www.figma.com/board/EgU3MwCWhQTi8KASuVpvTg/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