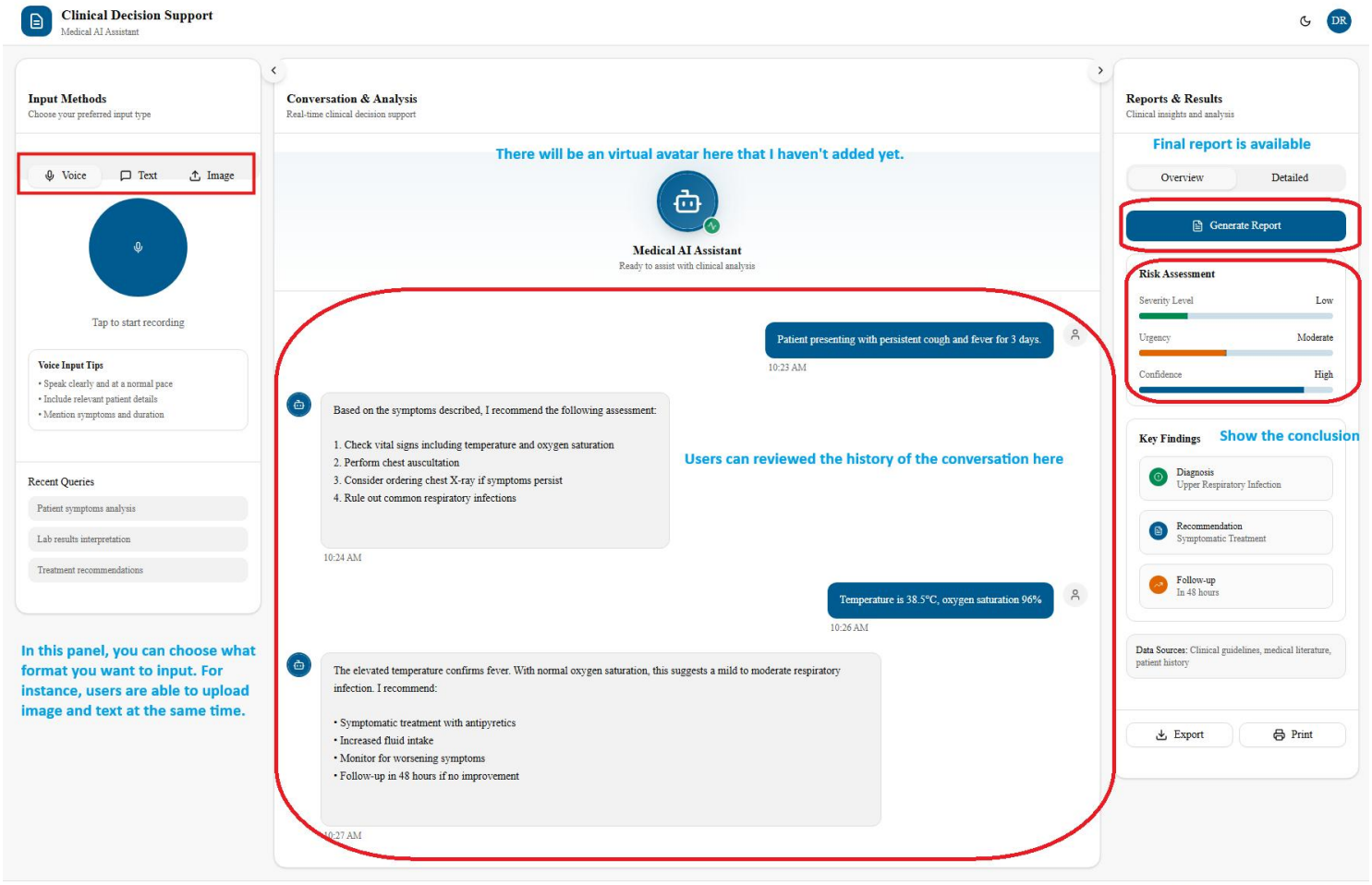
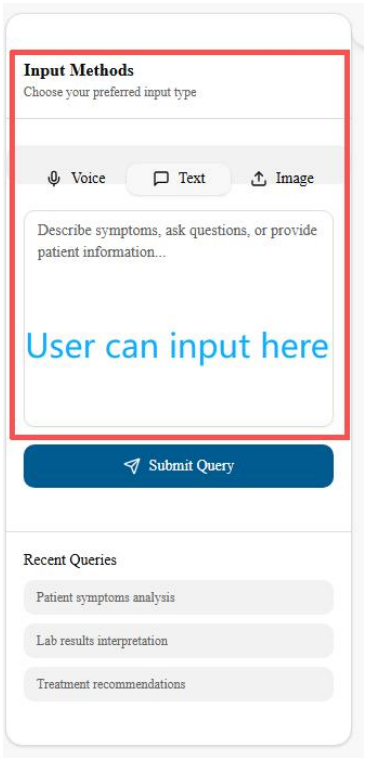
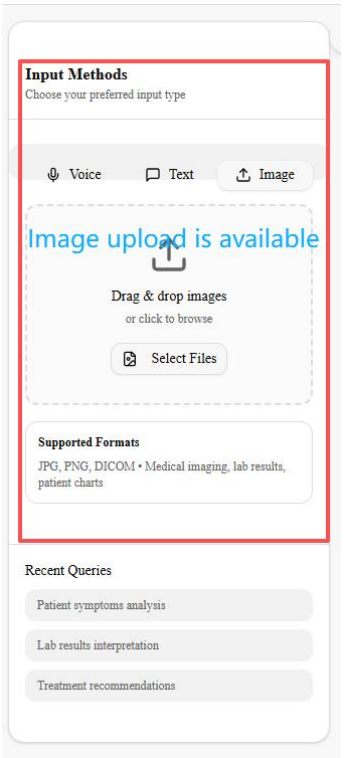
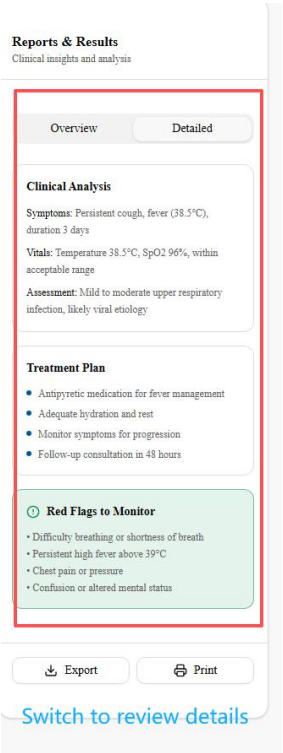
Project Deliverable:
Prototype an Application, Interface, or Interactive Tech

1. Wireframe









I tried to make it simple to use in a first glance, which makes the interface more acceptable to users. The interface is divided into 3 main components, including Input Methods, Conversation & Analysis, Reports & Results. Each component consists of a couple of panels. I've given some descriptions in above image. I don't have sketches, since I find my sketches too ugly to showcase. Therefore, I went for this wireframe directly.

2. Data Book

2.1. demographic data

First Name	Last Name	Age	Occupation	Date	Duration	Test Type
Sarah	Thompson	32	General Practitioner	2025-10-22	13 min	Survey
Kevin	Li	27	Medical Intern	2025-10-22	16 min	Survey
Bin	Lv	51	Hospitalist	2025-10-23	12 min	Survey
Aisha	Ahmed	30	Internal Medicine Resident	2025-10-23	15 min	Survey
Lucas	Pereira	36	Hospitalist	2025-10-24	11 min	Survey
Anna	Müller	40	Medical Expert	2025-10-24	14 min	Survey
Mei	Zhao	35	Family Physician	2025-10-21	20 min	Survey
Jordan	Williams	29	Physician Assistant	2025-10-21	18 min	Survey
Sherry	Shan	68	Family Physician	2025-10-21	25 min	Survey & Interview

2.2. Interview Notes

Open lines: Hi, I am planning to create an application that helps clinicians and doctors diagnose or analyze breast cancer. This application can provide analysis of patient data before decisions made by doctors, since it integrated multiple ai agents for parsing text, image and voice. Users are able to interact with agents in real-time conversation using both of text and voice. This is the protoye of the interface. I am grateful if you can provide your insight or opinion on it.

Me: "Could tell me what you think this layout does."
Interviewee: "A app for one patient's case where I can ask an assistant, see imaging highlights, and export a note."

Me: "What's your first impulse?"
Interviewee: "upload Mammogram and see what would happen or pop up."

Me: "If you could dictate how it works?"
Interviewee: "Show brief feedback to every question, give me one-click structured text with sources, and never push content to the chart without me approving it."

Me: "Where should explanations live?"
Interviewee: "A compact side panel. I want quick rationales and the exact slices or report lines."

Me: "What builds trust?"
Interviewee: "Precise analysis without hallucination. Low latency."

Me: "What breaks trust?"
Interviewee: "Slow, opaque, or overly confident answers; sloppy output I have to rewrite."

Me: "Any other idea or advice?"

Interviewee: “Looks good. I would love a real-time conversation if possible. Pls let me know if this app is able to run.”

Me: Thank you!

2.3. Survey

2.3.1. Instrument

I designed a questionnaire that is not so long in order to acquire feedback, since people always hate long questions.

1. Ease of Use
How easy was it to use the application interface (for text, image, and voice inputs)?
☐ Very easy ☐ Somewhat easy ☐ Neutral ☐ Somewhat hard ☐ Very hard

2. Usefulness for Clinical Work
How helpful do you think the system could be in supporting diagnosis or analysis of breast or lung cancer cases?
☐ Very helpful ☐ Somewhat helpful ☐ Neutral ☐ Not very helpful ☐ Not helpful at all

3. Trust and Accuracy
How confident are you in the AI agents’ analysis before a doctor makes a final decision?
☐ Very confident ☐ Somewhat confident ☐ Neutral ☐ Somewhat unsure ☐ Not confident

4. Integration with Practice
If this system were available, how likely are you to use it in your clinical routine?
☐ Very likely ☐ Somewhat likely ☐ Neutral ☐ Somewhat unlikely ☐ Very unlikely

5. Areas for Improvement
Which area would you most like to see improved in the system?
☐ Accuracy of AI analysis
☐ Speed of response
☐ User interface and ease of interaction
☐ Integration with existing hospital systems
☐ Explanation or reasoning transparency
☐ Other (please specify)

2.3.2. Survey Responses

I collected survey mainly via phone call, zoom, I summarized the feedback as follows:

/	Ease of Use	Usefulness for Clinical Work	Trust & Accuracy	Integration with Practice	Area for Improvement
1	Very easy	Very helpful	Very confident	Very likely	Accuracy of AI analysis
2	Somewhat easy	Somewhat helpful	Somewhat confident	Somewhat likely	Integration with existing hospital systems
3	Neutral	Neutral	Neutral	Neutral	User interface and ease of interaction
4	Very hard	Not helpful at all	Not confident	Very unlikely	Speed of response
5	Somewhat hard	Not very helpful	Somewhat unsure	Somewhat unlikely	Explanation or reasoning transparency
6	Very easy	Very helpful	Very confident	Very likely	Integration with existing hospital systems
7	Somewhat easy	Very helpful	Somewhat confident	Somewhat likely	Accuracy of AI analysis
8	Neutral	Somewhat helpful	Somewhat unsure	Neutral	User interface and ease of interaction
9	Somewhat hard	Neutral	Not confident	Somewhat unlikely	Speed of response
10	Very easy	Very helpful	Very confident	Very likely	Explanation or reasoning transparency

Stats:
1.Ease of Use: 4 rated very easy, suggesting good design accessibility.
2.Usefulness: Majority found it somewhat to very helpful — strong perceived clinical potential.
3.Trust: Mixed confidence.
4.Integration: Half are likely to use it — room for better workflow fit.
5.Improvement Focus: Top requests are accuracy and integration with hospital systems.

The majority of the participants (4 out of 10) rated the interface as very easy to use. Only one found the interface to be very difficult, again a positive suggestion that the design of the interface is user friendly and functional. With respect to usefulness, the majority of the participants (6 participants) rated the software on a similar basis of ruefulness as "somewhat to very helpful", in respect to diagnosis or analysis of cancer. The confidence level in AI analysis was moderate, a lot of the participants were very confident, while others were somewhat confident or not sure, suggesting that the human trust factor in AI based decision support systems is conditional to transparency and validation. Regarding integration into the clinical realm, about half of the participants indicated there is a likelihood or very likelihood of use of the system in their practice, which suggests a good acceptance factor when the technical and ethical issues have been addressed.

3. Description for the application

This wireframe is designed for medical professionals who work in fast-paced circumstances, such as general practitioners, hospitalists, phycisians. These persons often handle multiple patients with limited time and unforeseen situations. Hence, it is pivotal to collect info from patient quickly and make a correct decision for the next course. This app provides 3 input ways: voice, text and images and facilitate the process of user input when entering patient symptoms and other data.

Clinicians can leverage AI-driven analysis in this app to interpret patient info quickly and accurately. The output includes risk indicators, diagnostic considerations, and recommended follow-up steps on the right hand side with clear and stuctured interface. Moreover, it is able to generate clinical report incorporating diagnosis result. This app is aiming to enhance patient safety, reduce missed diagnosis or misdianosis, and improve the accuracy of cancer detection, especially when some symtons or factors are not so obvious.