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AI for Bharat Hackathon

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Team Name : CSDA Labs

Team Leader Name : SAI KIRAN

Problem Statement : AI for Healthcare & Life Sciences

Brief about the Idea: CSDA

Clinical Summary & Documentation Assistant (CSDA) is an AI-powered assistant that:

- Summarizes long clinical or research documents into structured, concise summaries
- Extracts key information (findings, medications, allergies, action items)
- Drafts documentation (e.g., assessment & plan, follow-up instructions) for human review
- Generates patient-friendly explanations from synthetic/public content only

All outputs are assistive only — no diagnosis or treatment decisions; human in the loop.

Title: Clinical Summary & Documentation Assistant (CSDA)

Problem

Healthcare teams spend a lot of time on documentation and sifting through long clinical/research text. Existing tools are often generic (not workflow-aware), depend on PHI-heavy pipelines, or lack clear guardrails and disclaimers.

Our Solution

CSDA is an AI assistant that (1) summarizes long clinical/research documents into structured summaries, (2) extracts key information (meds, findings, action items), (3) drafts documentation for human review, and (4) generates patient-friendly explanations—using synthetic and publicly available data only, with explicit limitations and human-in-the-loop.

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How It Solves + USP + Differentiation

Efficiency: Reduces time to produce summaries and drafts; clinicians review instead of typing from scratch.
Understanding: Structured summaries and extracted key facts reduce missed details in long notes.
Support: Consistent, readable drafts and patient education snippets without replacing professional judgment.

USP (Unique Selling Proposition):
Responsible-by-design: built for synthetic/public data only, with mandatory disclaimers, no PHI, and no diagnostic/treatment outputs. Combines summarization, extraction, and draft documentation in one workflow-aware assistant, with audit trail and configurable guardrails.

How We're Different
Many solutions need real PHI or are black-box; we commit to synthetic/public data and transparent limitations.
We focus on assistive documentation and understanding, not diagnosis—a clear boundary that supports compliance and trust.
Single assistant for summarize + extract + draft + explain, with versioned prompts and audit for accountability.

List of features offered by the solution

Summarization — Turn long notes or abstracts into brief, structured summaries

Key-information extraction — Medications, diagnoses, allergies, action items

Draft documentation — Templates for common sections; clinician reviews and approves

Patient education — Simple-language explanations (synthetic/public sources only)

Audit trail — Log model and prompt version for each response

Limitations always visible — Every response includes a clear disclaimer

Process flow diagram or Use-case diagram

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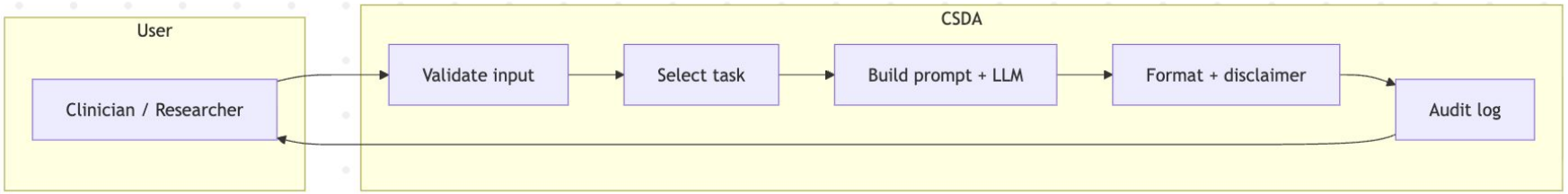
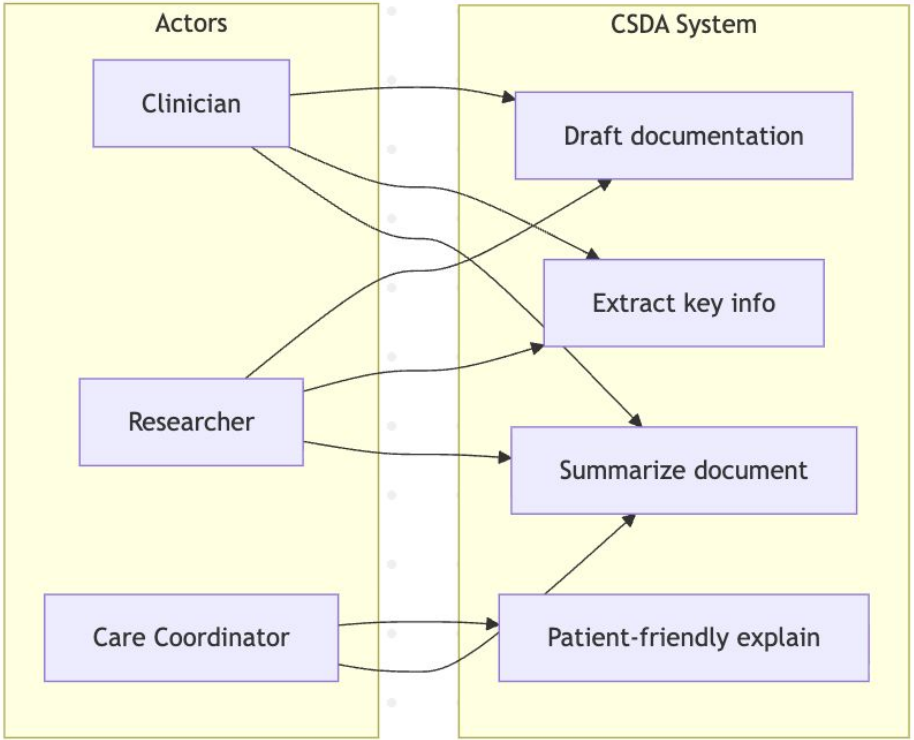
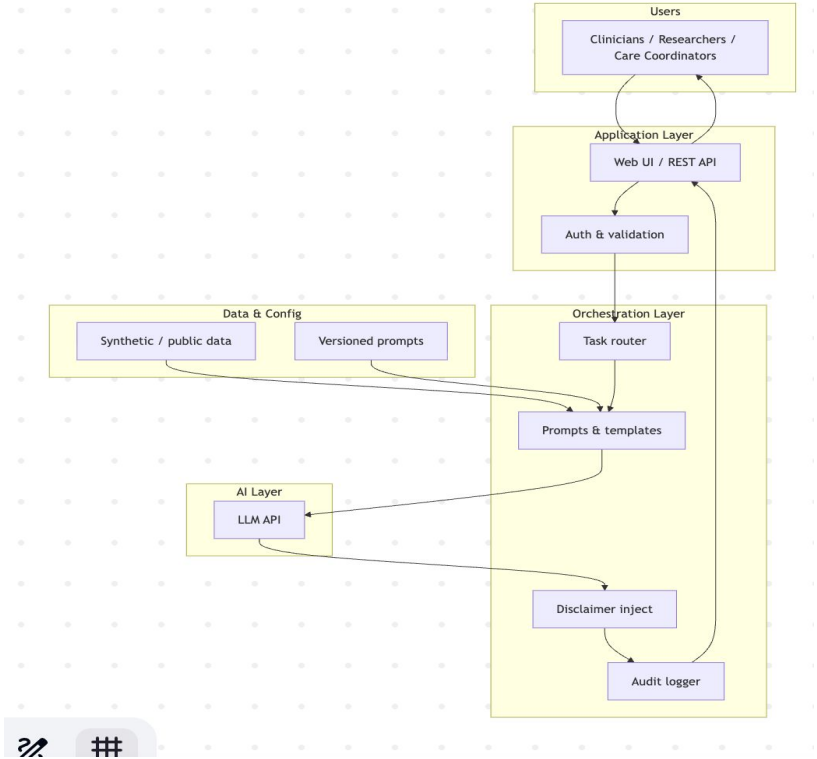


Wireframes/Mock diagrams of the proposed solution (optional)



Architecture diagram of the proposed solution:



Technologies to be used in the solution:

Layer / Purpose	Technologies
Backend	Python 3.10+, FastAPI
AI / LLM	Azure OpenAI API or OpenAI API; alternatively open models (Llama, Mistral) via same API pattern
Frontend	React or Angular or server-rendered HTML for minimal UI
Storage	PostgreSQL (prod) for audit metadata only; no document content storage
Auth & API	API keys or OAuth 2.0; optional role-based access (e.g. FastAPI with OAuth2)
Deployment	Docker optional Kubernetes for production
Prompt & config	Versioned YAML/JSON for prompts and templates; environment variables for secrets
Evaluation (optional)	Synthetic datasets; Python (pandas, pytest) for benchmarks (e.g. ROUGE, consistency checks)

Estimated implementation cost (optional):

Add as per the requirements for the hackathon:

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Thank You