Project Proposal: Sanjeevani Plus

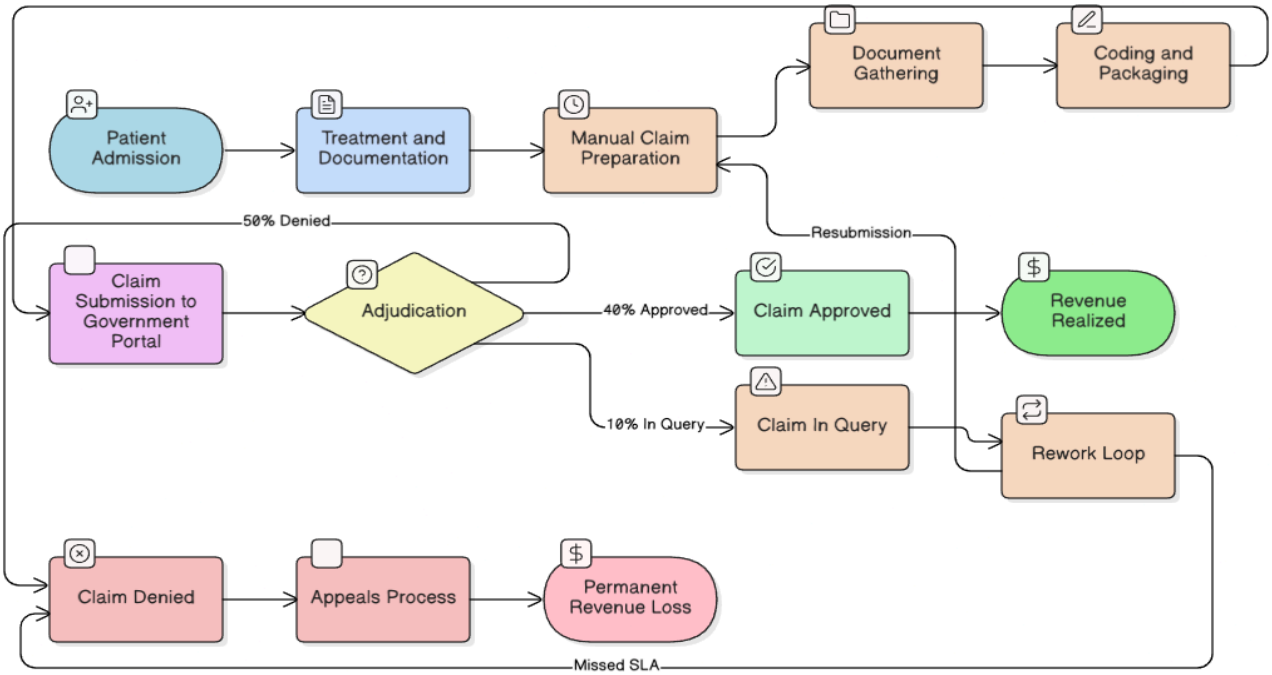
Project Name:	Sanjeevani Plus
Submitted By:	Team Leo

(a) Solution Approach

1. Problem Context:

Tier-2/3 hospitals face high claim denials (40-60%), long processing times (2-4 hours/claim), and complexity from unstructured, multilingual data.

- **High Claim Denial Rates (40-60%):** Due to minor errors in clinical coding, mismatched evidence, and non-compliant documentation.
- **Excessive Processing Time (2-4 Hours/Claim):** Manual claim preparation diverts skilled resources from patient care to administrative paperwork.
- **Data Complexity:** Unstructured and multilingual (Marathi, Hindi, English) medical records create significant documentation gaps and frequent queries.



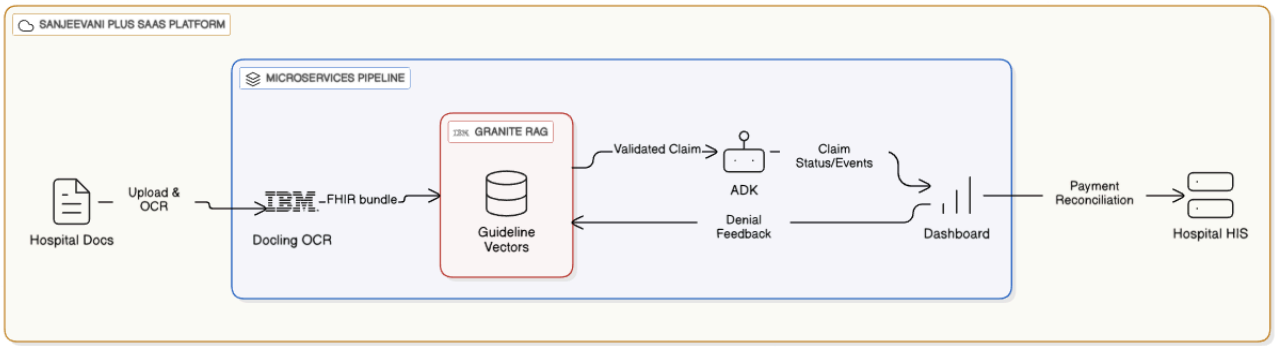
A visual representation of the high denial and query rates hospital revenue cycles.

2. The Sanjeevani Plus Solution:

An AI co-pilot that automates the claims workflow in four stages:

1. **Ingestion (IBM Docling):** Structures multilingual clinical data via OCR/NER.
2. **Reasoning (IBM Granite):** RAG analysis for package selection & risk scoring.

3. **Automation (IBM ADK):** Automates portal tasks (eligibility, submissions, queries).
4. **Output:** Generates auditor-ready claims & a real-time tracking dashboard.



Workflow diagram for the Sanjeevani Plus AI claim orchestrator

(b) Tools, Libraries, and Datasets

Component	Technology	Function
AI Reasoning	**IBM Granite Models**	Multilingual reasoning, package inference & risk scoring (RAG).
Data Extractio	**IBM Docling**	High-accuracy OCR/NLP for complex medical document
Automation	**IBM ADK**	End-to-end portal automation and workflow managemer
Knowledge Ba	**PM-JAY Datase**	Knowledge base for RAG (manuals, circulars, protocols).
Vector DB	**ChromaDB**	Vector storage for efficient RAG knowledge retrieval.
Libraries	Python, FastAPI	Core libraries for data science and API development.

(c) Expected Outcomes

Reduce claim prep time >80% (to <20 min), increase approvals by 15-25%, and improve revenue by 8-12%, targeting a 5:1 ROI and scalability to other states.

(d) Known Limitations & Mitigation

- Data Quality: Variable scan/handwriting quality challenges OCR/NER.
  Mitigation: Use specialized IBM Docling and a human-in-the-loop (HITL) verification system for feedback and accuracy.