

SMART INDIA HACKATHON 2025



TITLE PAGE

Problem Statement ID – SIH25080

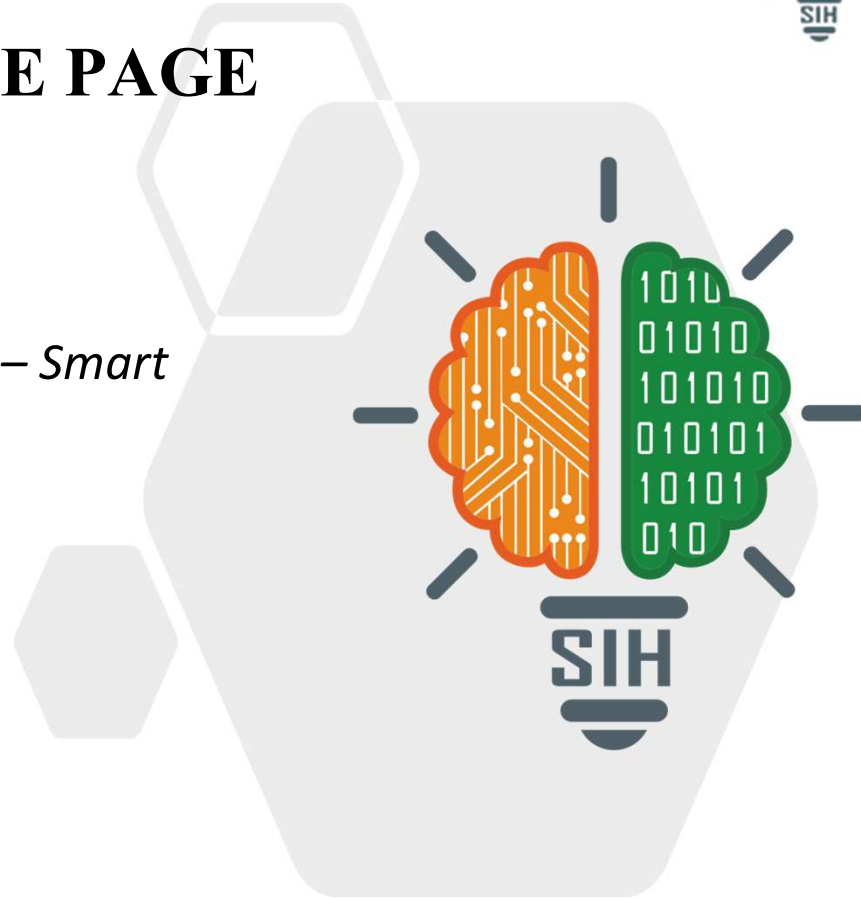
Problem Statement Title – *MetroDoc AI – Smart Document Management System*

Theme – Smart Automation

PS Category – Software

Team ID – 51138

Team Name – SkyBreaker



IDEA / SOLUTION

MetroDoc AI – AI-powered document hub for Kochi Metro.

Centralized access: All docs (emails, PDFs, scans, SharePoint) in one portal.

Smart reading: OCR + NLP extracts text from English & Malayalam, including tables and signatures.

Instant insights: Auto-summarizes, classifies, and delivers shift-relevant info.

AI Assistant: Chatbot answers queries with source references.

Secure & role-based: Staff see only what they need; raw docs auto-deleted.

Makes decision-making faster, safer, and smarter for metro operations.

PROBLEM RESOLUTION

Instant insights: Cuts hours of manual report reading for managers.

Cross-department alignment: Engineering, HR, Procurement stay in sync.

Knowledge retention: Old documents remain searchable, even after staff changes.

Workflow efficiency: Eliminates duplicate summaries across teams.

Makes Kochi Metro operations faster, safer, and more coordinated.



TECHNICAL APPROACH



Smart Metro Document Managements



Tech Stack

Frontend

- HTML, CSS
- Javascript
- React.js

Tech Stack

Backend

- Pytnon, FastAPI

AI/NLP

- HugginFace
- OCR, LLaMA
- PyPDF2

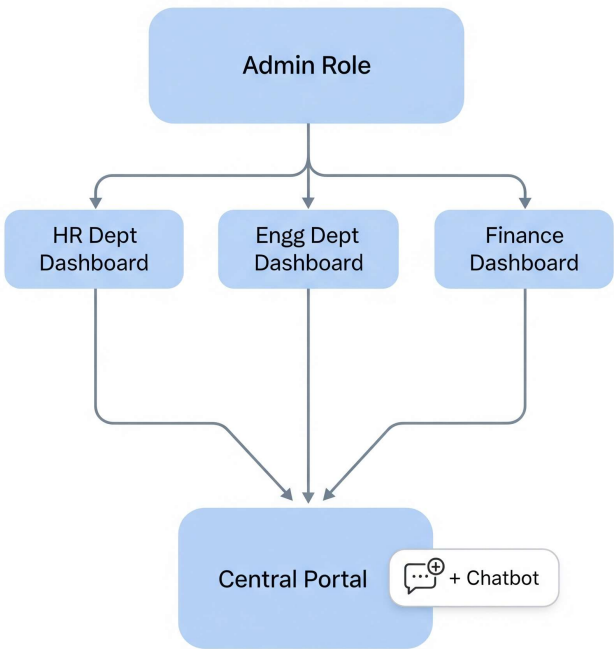
Database

- MongoDB
- Netlify / Render/Heroku

Deployment

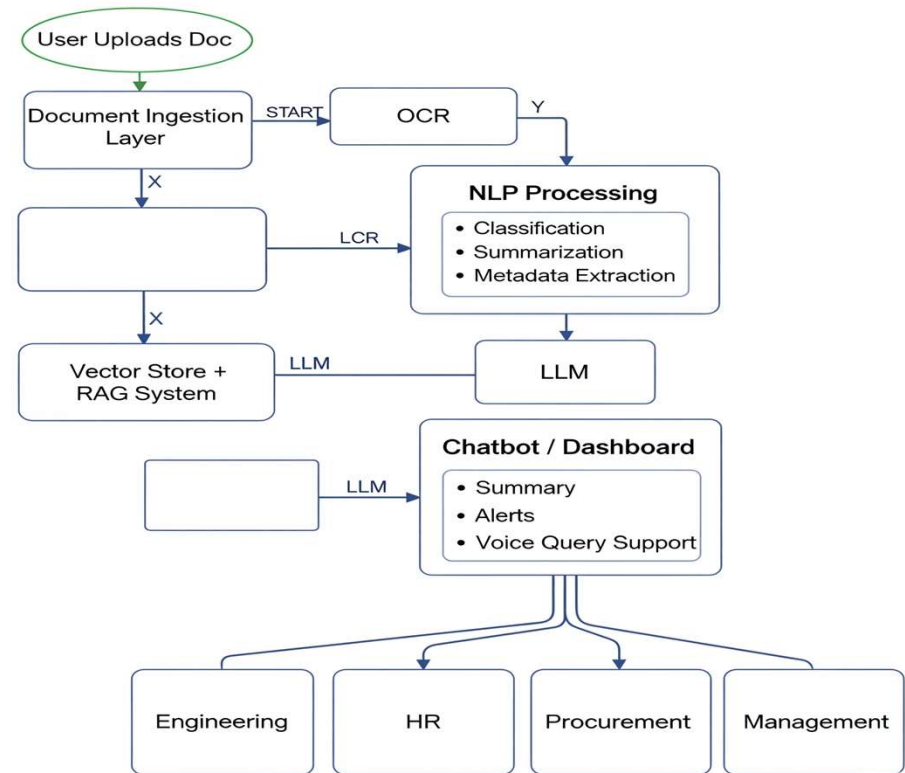
- Netlify / Render/Heroku

Portal Architecture



FEASIBILITY AND VIABILITY





Work Flow



Feasibility

-  Low-cost (open-source AI, cloud ready)
-  Works with existing formats (PDF, scans, WhatsApp docs)
-  Hackathon-ready prototype, scalable later

Challenges

-  Handling bilingual docs (Malayalam + English)
-  Security & access control
-  Scaling from pilot to full metro
-  Scaling pilot ~ full metro


Solutions


-  AI translation + summarization for both languages
-  Role-based access + audit logs
-  Modular design for easy expansion


IMPACT AND BENEFITS



 **Faster decisions** at KMRL: Managers act in minutes, not hours.

 **Better coordination:** HR, Engineering, Finance all access the same trusted info.


 **Institutional memory:** Knowledge stays within KMRL, even if staff retire/transfer.


 **Secure & private:** No document storage → data safety for metro operations.

RESEARCH AND REFERENCES

 Studied KMRL tools (SharePoint, Maximo) & metro workflows.

 Benchmarked Hugging Face & LLaMA for multilingual NLP.

 Compared OCR tools (Tesseract, Google Vision) for scans & signatures.

 Learned from SIH winners + global metros (TfL, Singapore MRT).

 Future-ready → UNS, IoT, RAG knowledge systems.

Project Screenshot



SmartDoc AI
Share
Settings

Sources

+ Add

Discover

Select all sources

hackthon proposal SIH.pdf

Chat

Internal Hackathon Proposal: Gateway to SIH 2025

1 source

This document is a formal request from Computer Engineering students at Gramin Technical and Management Campus in Nanded to their Principal. They are seeking permission to host an internal hackathon, which is a crucial preliminary step for students to qualify for the nationwide Smart India Hackathon (SIH) 2025. The proposal outlines key details, including the event's name, dates (September 12th & 13th, 2025), venue, and participant criteria (teams of 6, including at least one female member). The students also request institutional support for facilities and logistics, ensuring smooth execution under faculty guidance, with the ultimate goal of selecting top-performing teams for SIH 2025.

Save to note

Add note

Audio Overview

Mind Map

Start typing...

1 source

What is the primary purpose and scope of this proposed internal hackathon?

What logistical and resource

Studio

Create an Audio Overview in: हिन्दी, বাংলা, ગુજરાતી, ಕನ್ನಡ, ಮಲಯಾಳಂ, తెలుగు, పంజాబీ, தமிழ், வங்காளம்

Audio Overview

Video Overview

Mind Map

Reports

Studio output will be saved here.

After adding sources, click to add Audio Overview, Study Guide, Mind Map, and more!

Add note

NotebookLM can be inaccurate; please double check its responses.

@SIH Idea submission- Template

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