



## **HACKERRUPT'26 – “A 24-hour National Level Hackathon”**

**Title** : Unified Smart Document Management System for Multi-Modal Agencies

**Problem ID** : HK2620

**Team Name** : Login

**Team Leader** : Sharukh Akthar A

**Institution Name** : Rajalakshmi Engineering College

**Domains Used** : AI & Automation

# OBJECTIVE — Unified Smart Document Management System for Multi-Modal Agencies



Modern transit agencies have evolved into multidisciplinary organizations overseeing diverse functions — from operations, engineering, and safety to HR and finance management, requiring seamless coordination and data-driven efficiency.

**With this growth comes :**

- an overwhelming amount of documents
- Arrives through different sources, email, WhatsApp, SharePoint, Maximo, and hard-copy scans
- Docs of different languages

**CHALLENGE:**

Create a smart, integrated digital platform that enables all transit agencies — metro, bus, ferry, and more — to streamline operations, improve coordination, and enhance commuter experience

01

**INFORMATION LATENCY**

Slow decisions – Managers lose time searching through long files.



02

**KNOWLEDGE ATTRITION**

Knowledge loss- Institutional insights disappear when staff transfer or retire.



03

**COMPLIANCE RISK**

Missed updates – Important regulatory deadlines can be missed. Departments work in silos, unaware of new changes.



04

**INTERDEPARTMENT COORDINATION**

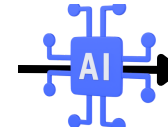
Collaboration Enablement: Reduce duplicated efforts by enabling shared, version-controlled summaries.



An AI-powered , centralized intelligent document hub with **N8N automation** for :

- Automated **Ingestion** of data from different sources
- **Smart summarization** with role-specific “actionable snapshots” and dept tags.
- **Auto-routing** of relevant info to right team with urgency and store it securely for their access only.
- **Centralized database** with source file traceability and condensed report for knowledge preservation with executive level access
- **Intuitive dashboard** with Role based access , smart tagged docs , RAG based help desk chatbot and inter-department co-ordination mechanism .
- Easier integration of **UNS/IOT** outputs from sensors through MQTT explorer node with N8N

DocHub turns everyday documents into actionable intelligence — fostering coordination, compliance, and efficiency across all functional systems.

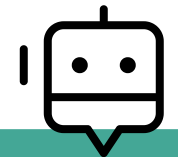


Unstructured documents

- Condenses long docs into key actions, risks, and deadlines
- Maps each actionable item to the relevant department only
- Generates relevant actionable snapshots for resp. stakeholders
- Label urgency and give decision notes.



UNIQUE VALUE PROPOSITIONS



## RAG MODEL

An RAG-powered Support model that understands your documents, policies, and past records, giving instant, context-aware answers without hunting through files.



## MOBILE APP

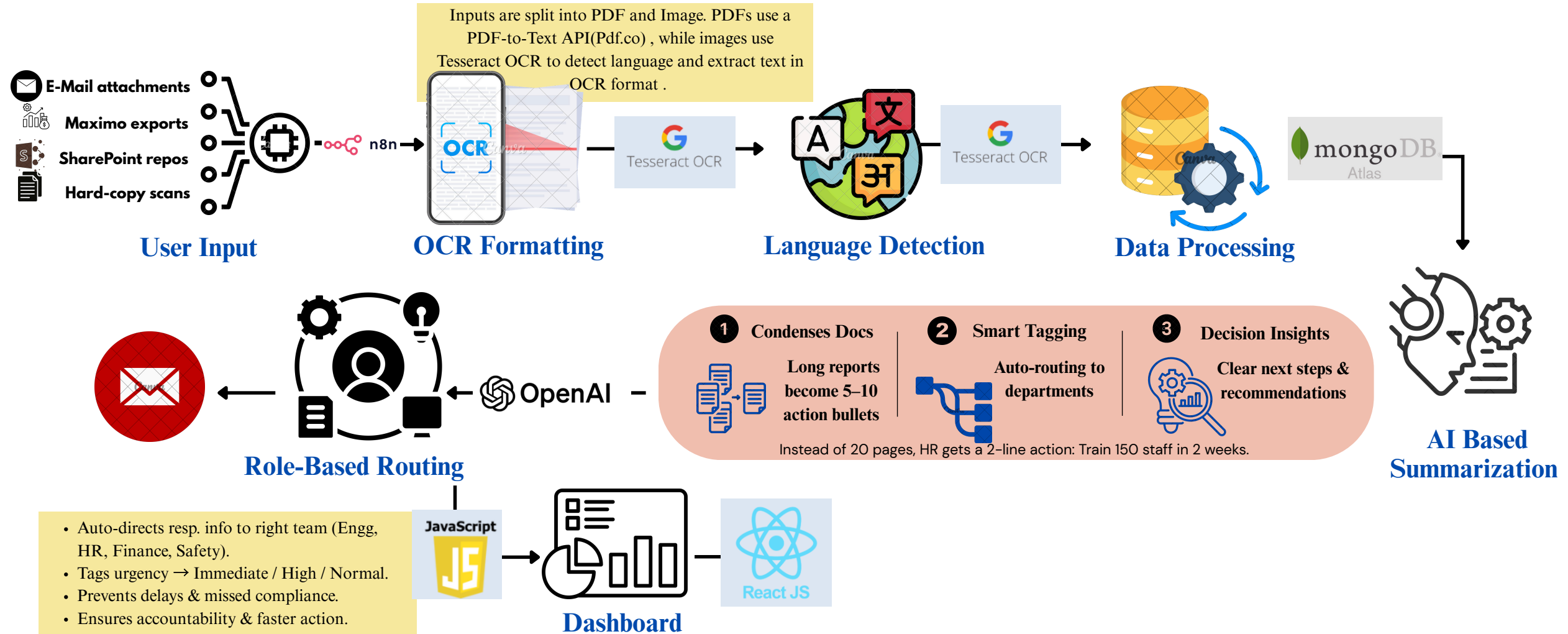
Brings frontline staff (maintenance, safety, field teams) directly into the loop, allowing them to receive updates, flag issues, and act on time – even on the go.



## COMMENTS

Comment threads for teams to discuss, clarify, and resolve points right inside the system, ensuring decisions don't get lost in emails, fostering cross departmental coordination

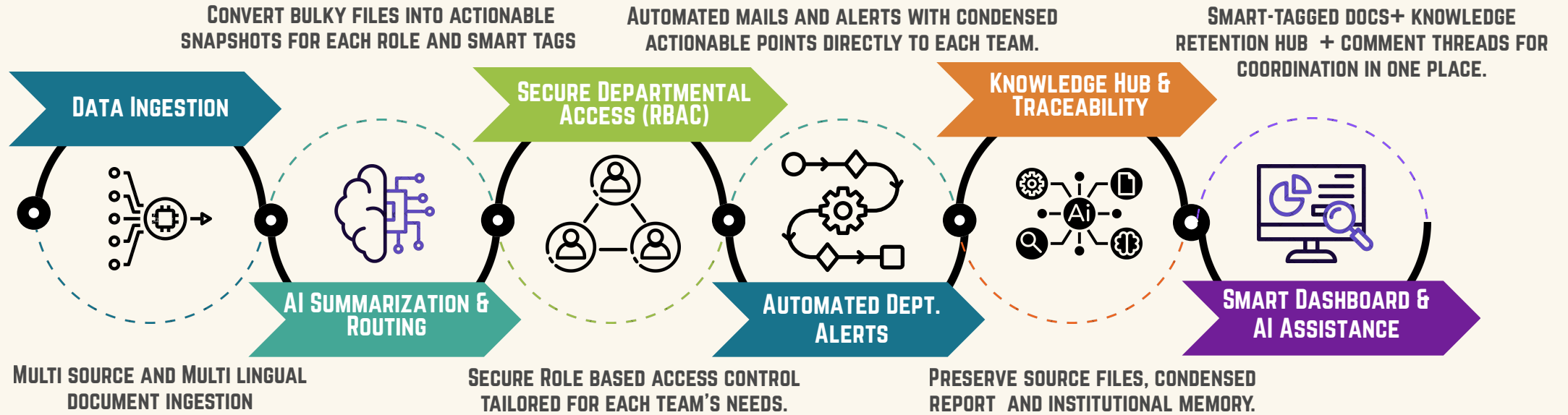
# ARCHITECTURE DIAGRAM



# TECH STACK AND DEV. PIPELINE



## DEV. PIPELINE



## TECH STACK

### Frontend



### Backend



### Database



### Deployment



# METRICS, FEASIBILITY, NOVELTY



## KEY DIFFERENTIATORS

### All-in-One Platform

Combines OCR, summarization, routing, and collaboration into one workflow.

### Multi-Source Ingestion

Processes files from various sources, cutting data handling time significantly.

### Three-Tier Design

Includes a mobile app and dual web portals for business continuity.

### Knowledge Retention

A chatbot retrieves insights from past reports, improving decision speed.

## FEASIBILITY

- **Usage of proven components** like OCR (google vision pro) , AI Summarization (OpenAI, HuggingFace) , and Workflow Automation (N8n)
- Provision of **3 access portals**: mobile app (frontline staff), workflow automation (n8n), and native portal ensuring continuity even if one fails
- Inter-department coordination improves drastically as documents are auto-classified and routed
- **Staff adoption is easier** since tools are familiar resulting in reduction of training
- Compared to their current system , our system automates classification, reporting, and routing resulting in **less manual effort and faster compliance.**
- **Scalable architecture** : can handle large document inflows

## BUSINESS MODEL

- **SaaS subscription** model for metros/organizations
- **Revenue streams** :
  - Tiered subscription (small , medium , large organizations)
  - Customization fees for department-specific workflows
  - Integration/API usage for enterprises
- Scalable beyond metro systems since **knowledge acquisition and inter-department coordination** are common pain points for many organisations

## Performance Comparison

Manual Data Entry vs IDP Automation

METRIC	MANUAL ENTRY		IDP AUTOMATION	
Cost per Document	\$10-\$15	HIGH	\$2-\$5	LOW
Processing Speed	5-6 docs/hr	SLOW	30+ docs/hr	FAST
Error Rate	1-4%	HIGHER	<0.5-1%	LOWER
Cycle Time	14-15 days	SLOWER	3-5 days	FASTER
Cost Reduction	Baseline	0%	60-80%	
IDP delivers <u>6x faster processing</u> , <u>60-80% cost savings</u> , and <u>superior accuracy</u> .				

# TEAM MEMBER DETAILS



**Team Leader Name : Sharukh Akthar A**

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**Team Member 1 Name: Mythili K**

Branch (B.Tech /B.E): B.Tech

Stream (ECE, CSE etc):CSBS

Year (I,II,III,IV): III

**Team Member 2 Name: Nithin S**

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Year (I,II,III,IV): III

**Team Member 3 Name: Thaniya Pratyaini S**

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**Team Member 4 Name: (Fill this is you 4 members) Sharukh Akthar A**

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