SEQUUS

Advancing Construction
with AI

Presented by HACK SAPIENS

Problem Statement

The construction industry grapples with inefficiencies in document management, leading to disorganization, time wastage, and collaboration challenges. Current manual processes result in disorganized files with inconsistent naming conventions, impeding efficient document retrieval. Project teams spend excessive time searching for specific documents, impacting productivity and deadlines. Inconsistent file organization limits effective communication, hindering collaborative efforts. Manual labeling and organizing processes are error-prone, introducing inaccuracies and inconsistencies.

Vision

Create a leading construction automation company of the 21st century by pioneering the transition of the construction industry into the domain of artificial intelligence and machine learning. We are committed to creating compelling solutions that streamline construction processes to enhance efficiency, safety, and sustainability.

OBJECTIVE

01 **Automated Classification and Organization**
Utilize AI/ML to process and classify construction files, identifying types and extracting relevant details. Extract drawing titles, numbers, and revisions for drawings. Extract document names and categories from cover pages.

02 **Manual Review Interface**
Develop a user-friendly interface for manual verification and edits of AI-classified file data. Enable users to correct file details and classifications directly, improving data accuracy. Allow manual information extraction by drawing on documents.

03 **Data Extraction and Labeling**
Extract key information from plans, including dynamic content (titles, numbers, revisions) and static information (project name, number, address, client, consultant) across all sheets. For documents, identify and label the document's name and category on the first page.

TECHNOLOGY STACK

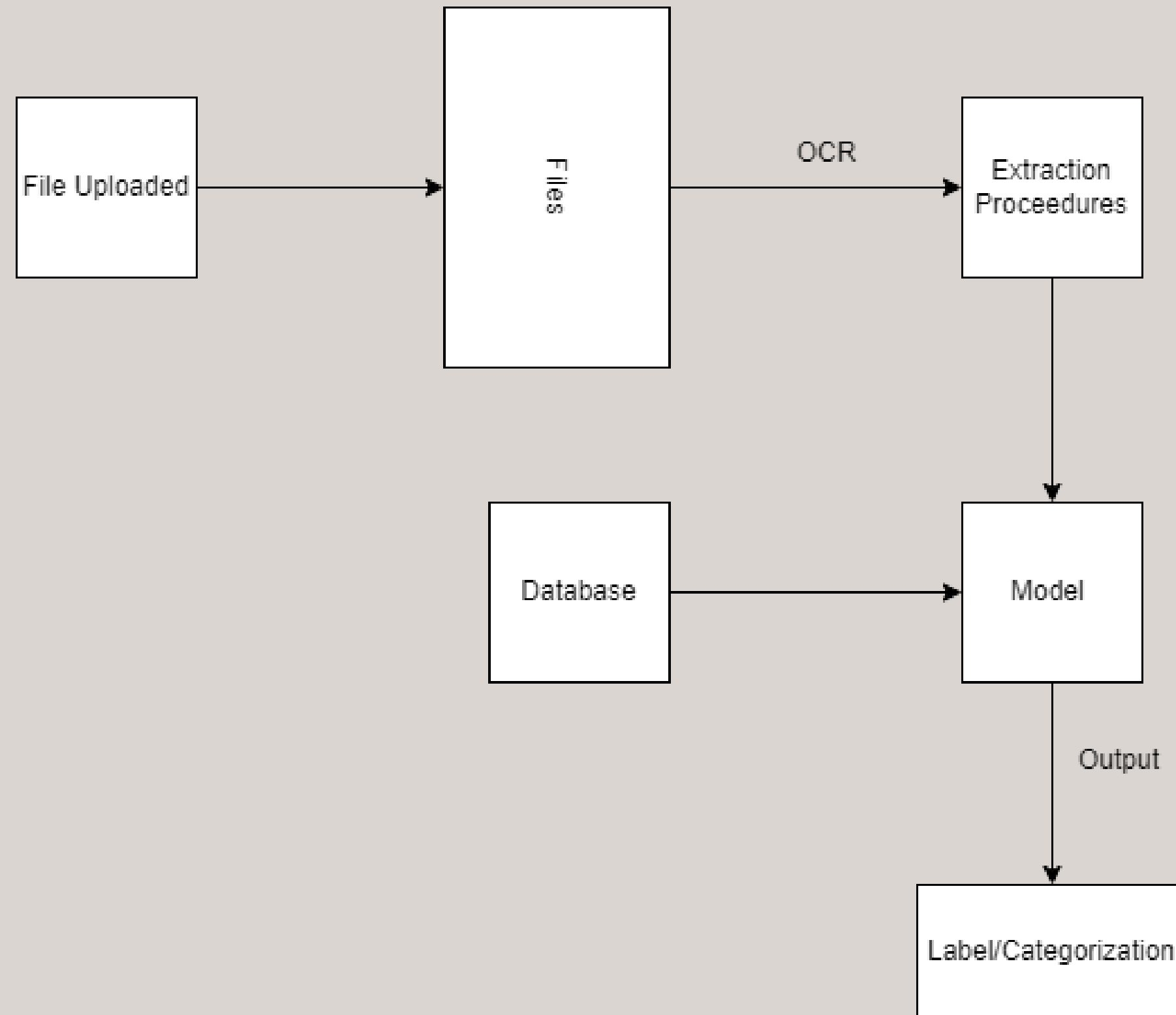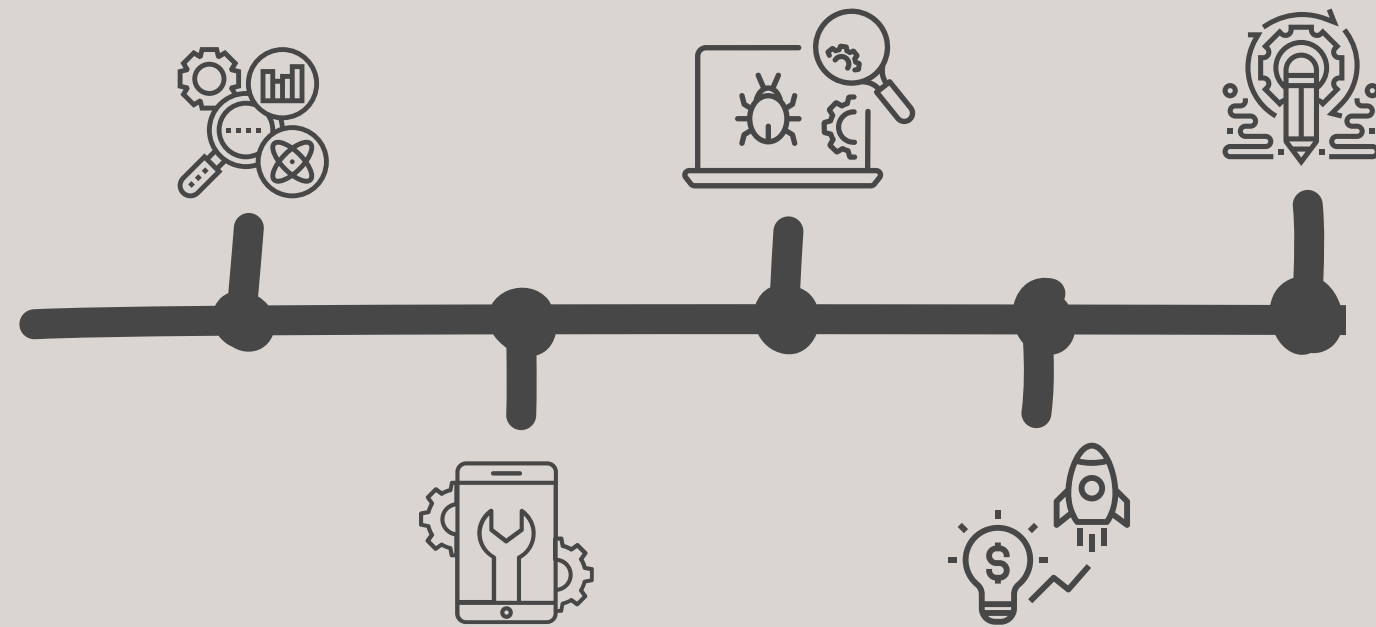## Front-End
- ReactJS
- Tailwind CSS

Machine Learning
- Utilized OCR & feature extraction to gather insights
- Used Random forest model

Back-End
- Flask

System Architecture


```
File Uploaded  →  Files  ──OCR──→  Extraction
                                   Proceedures
                                        │
                                        ↓
Database  ─────────────────────→     Model
                                        │
                                     Output
                                        │
                                        ↓
                              Label/Categorization
```

Timeline:

Dependencies

- Regulatory Dependencies
- Market Research Dependencies
- Government and Policy Dependencies
- Human Dependencies
- Customer Dependencies

Target Market

Construction Companies

Engineering Firms

Real Estate Developers

Revenue Streams

- Subscription Model- Charge users a recurring fee for access to your AI-powered document management platform.

- Per-Project Licensing- Charge users based on the number of construction projects they manage using your solution.

- Customization Fees- Charge additional fees for customizing the AI system to meet the specific requirements of individual clients.

Thank you!