

# Terralogic Assignment Documentation

## 1. Problem Statement Overview

This project addresses the Terralogic assignment:

To build an Intelligent Document OCR and Indexing Platform that can:

- Upload PDF documents
- Extract readable text using OCR
- Generate a summary using Gemini AI
- Display results in a structured tabular format

## 2. Tools & Libraries Used

- Google Colab - cloud-based Python environment
- Python (3.x)
- fitz (PyMuPDF) - for reading and extracting text from PDF files
- google-generativeai - for using Gemini AI summarization
- pandas - for displaying results in table
- datetime - for capturing upload timestamps

## 3. Code Structure + Explanation

Section 1: Setup and Installations

- Installs libraries: google-generativeai, PyMuPDF
- Imports: fitz, pandas, datetime

Section 2: Gemini Configuration

- Insert your Gemini API key:  
`genai.configure(api_key="YOUR_API_KEY")`

Section 3: Text Extraction from PDF

- Uses fitz to load and extract text
- Skips empty or image-only pages

Section 4: Gemini Summarization

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- Sends text to Gemini with a summarization prompt
- Receives summarized response

### Section 5: Display Results

- Combines everything into a pandas DataFrame
- Shows: Filename, Upload Time, Text Snippet, Gemini Summary

## 4. Flowchart

Start

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Upload PDF in Colab

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Extract Text using PyMuPDF (fitz)

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| Is Text Available in PDF? |

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| Yes

| No

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Send to Gemini API    Show Error: No Text Found

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Receive Summary from Gemini

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Display Results in Table

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End

## 5. How to Use (Step-by-step)

- 1. Open your project in Google Colab
- 2. Upload a PDF file
- 3. Insert your Gemini API key
- 4. Run all the cells in order
- 5. View the final table

## 6. Sample Output Format

File Name	Upload Time	Extracted Text	Gemini Summary
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sample.pdf	2025-07-23 10:15:00	"This document talks about..."	"This document describes..."

## 7. Notes and Warnings

- PDF should contain selectable text (not scanned images)
- Long/malformed text may fail
- Always use your Gemini API key
- Summary quality depends on extracted text clarity

## 8. Conclusion

This solution automates text extraction, leverages Gemini AI for summarization, and displays results in a table - fulfilling Terralogic OCR assignment goals.