
Deliverables:

1. Source Code:
    - Include appropriate comments to enhance readability and maintainability.
    - Follow Java coding standards and best practices.
2. README.md File:
    - Document setup instructions.
    - Explain how to run the application.
    - Provide examples of API usage.
3. Unit Tests:
    - Include unit tests to demonstrate the functionality and handle edge cases.
    - Tests should cover both the segmentation logic and REST API functionality.
4. API Documentation:
    - Use Swagger/OpenAPI to document the API endpoints, request and response formats, and error messages.

1. PDF Segmentation Logic:

- **Task:** Develop a method to read and analyze PDF content using Apache PDFBox or iText. The method should identify large vertical whitespace to determine where cuts should be made.
- **Implementation:**
    - Parse text positions to calculate Y-axis gaps between text blocks.
    - Sort the gaps and select the largest X gaps to determine cut positions.
    - Split the PDF into segments at the calculated positions and save each segment as a new PDF.

2. REST API Development:

Set up a Spring Boot application to provide the following REST API endpoints for PDF segmentation:

1. **POST /segment-pdf**
    - **Description:** Accepts a PDF file and the number of cuts to be made, processes the PDF, and returns the segmented sections.
    - **Request:**
        - PDF file (multipart/form-data)
        - Number of cuts (X)
    - **Response:** Returns a zip file containing the segmented PDFs.
2. **GET /pdf-metadata/{id}**