

Assessment Instructions

1. Choose any two projects - one low complexity and one high complexity from the given list.

Technical Stack

Frontend:

- Next.js
- React
- Angular
- Vue.js

Backend:

- FastAPI
- Node.js/Express
- Spring Boot
- Django
- Nest.js
- Laravel

Databases:

- MongoDB
- PostgreSQL
- MySQL
- Neo4j
- SQLite

Tools/Libraries:

- PyPDF2 (PDF processing)
- Pillow (Image processing)
- OpenAI API (Text/audio AI)
- Other similiar libraries are accepted

Note: The mentioned tools/libraries are Python-specific. Equivalent libraries in other languages are acceptable.

Project List & Complexity

Project	Complexity
PDF Splitter/Merger	Low
Image to PDF Converter	Low
Document Q&A Bot	High
Voice Note Transcriber	High

Key Notes

1. **Database Flexibility:** Use any listed database (e.g., MongoDB for unstructured data, Neo4j for graph-based relationships).
2. **No Cloud Dependency:** Use local storage for file-based projects.
3. **Stack Freedom:** Mix frontend/backend/database options (e.g., Angular + FastAPI + Neo4j).
4. **AI Projects:** Require prior familiarity with OpenAI/AI APIs (not recommended for 2-day timelines).

Project 1: PDF Splitter/Merger (Complexity: Low)

Description:

A tool to split a PDF into individual pages or merge multiple PDFs into one.

Acceptance Criteria:

- Users can upload a PDF file.
- **Split:** Select pages to extract → download new PDF.
- **Merge:** Upload multiple PDFs → combine into one → download.
- Error handling for invalid files.

Project 2: Image to PDF Converter (Complexity: Low)

Description:

Convert uploaded images (JPG/PNG) into a single PDF file.

Acceptance Criteria:

- Upload multiple images.
- Adjust image order in the PDF.
- Preview the PDF before downloading.
- Support for common image formats (JPG, PNG).

Project 3: Document Q&A Bot (Complexity: High)

Description:

Chat interface to ask questions about an uploaded text/PDF document.

Acceptance Criteria:

- Upload a document (PDF/txt).
- Enter questions → get answers from document content.
- Highlight relevant text in responses (if possible).
- Limit document size to 10MB.

Project 4: Voice Note Transcriber (Complexity: High)

Description:

Upload audio files (MP3/WAV) and convert them to text with summaries.

Acceptance Criteria:

- Upload audio files (max 5 minutes).
- Display transcribed text.
- Generate a bullet-point summary.
- Export text to TXT/DOC.

Example Repo Structure

```
pdf-splitter/  
  frontend/    # React/Next.js code  
  backend/     # FastAPI/Node.js code  
  docs/        # Screenshots, design docs  
  README.md   # Project documentation  
  .gitignore
```

Submission

- Create public repositories on [GitHub](#).
- Ensure repositories are public.
- Main branch should have final, working code.