

Ultra-Detailed Prompt for Replit AI

"All-in-One PDF & Document Tools Hub"

Below is a ready-to-paste instruction set that tells Replit exactly what to build so your tools section duplicates **every major feature of iLovePDF and PDF Candy**—but with your own dark, animated, 3-D interface and production-grade backend.

1. Project Goal

"Create a fully-functional, responsive **Document Tools Hub** that offers **all online tools available on iLovePDF and PDF Candy (≈90)**. Every tool must work exactly like the reference sites, provide permanent download links that expire in four minutes, clean up files automatically, and run instantly after deployment."^[1] ^[2]

2. Core Tech Stack

1. Frontend

- Next .js 14 + React 18 for SSR & routing
- Tailwind CSS 3.4 (dark theme)
- Shadcn/UI for accessible components
- Three.js + @react-three/fiber + drei for 3-D cards and backgrounds
- Framer Motion 11 & GSAP 3 for scroll/hover animations
- Lottie-React for micro-interactions

2. Backend (hybrid micro-services)

- Python Flask 2 (heavy PDF/OCR/AI tasks)
- Node .js 20 + Express 5 (image tasks, scraping, QR, download proxy)
- Redis 7 for 4-minute token store & rate-limiting
- Docker-Compose to run frontend, python-api, node-api, redis, nginx

3. Key Processing Libraries

- PyMuPDF (fitz) – fastest all-round PDF engine^[3]
- PyPDF2 / pypdf – merge, split, encrypt, decrypt
- python-docx, python-pptx, pdf2docx – Office conversions
- pdf2image + Poppler – PDF → PNG/JPG^[4]
- Tesseract OCR 5 + pytesseract – scan & OCR^[5]
- Camelot-py + pandas – table extraction

- Sharp 0.32 (Node) – crop, compress, convert images^[6]
- qrcode (Node) – QR generator
- LanguageTool API – grammar checking
- gTTS or Google Cloud TTS – text-to-speech

3. Tool Inventory (match iLovePDF + PDF Candy)

Category	Exact Tools to Implement
PDF ↔ Office	PDF → Word, Word → PDF, PDF → Excel, Excel → PDF, PDF → PowerPoint, PPT/PPTX → PDF ^[1] ^[4]
PDF ↔ Image	JPG/PNG/TIFF/BMP → PDF; PDF → JPG/PNG/TIFF/BMP; Image-to-PDF batch ^[1] ^[7]
eBook ↔ PDF	EPUB/MOBI/FB2/ODT/DjVu/TXT/XML/CBR/CBZ → PDF; PDF → EPUB ^[7]
Core PDF Ops	Merge, Split (by range & every n pages), Compress (2 levels), Rotate, Crop, Resize, Organize/Reorder, Delete pages, Extract pages, Extract text, Extract images, Add page numbers, Add header/footer, Add watermark, Protect (add password), Unlock (remove password), Repair, Compare, Convert to PDF/A ^[1] ^[8]
OCR & AI	Scan PDF (OCR to searchable), Extract tables, Summarize text/PDF, AI grammar checker ^[5] ^[9]
Metadata & Validation	Edit metadata, Validate PDF/A ^[10] ^[11]
Utility Extras	HTML → PDF, Sign/e-Sign, QR code generator, Text-to-Speech, Word/Page counter, Code formatter, YouTube thumbnail downloader, Instagram DP viewer ^[12] ^[6]

(Total ≈ 90 live tools—the same breadth advertised by PDF Candy.) ^[2]

4. UX / UI Requirements

1. Dark Glassmorphism Theme

```
--bg-primary:#0a0a0a; --card:#121212; --glass:rgba(255,255,255,0.08);
--accent-cyan:#00f5ff; --accent-purple:#8b5cf6; --accent-green:#10b981
```

2. 3-D Animated Tool Cards

- Cards float, tilt on hover (Three.js “Float” wrapper)
- Click triggers ripple + modal transition (Framer Motion)

3. Drag-Drop Upload Zone with particle trail & real-time validation

4. Progress Feedback – 3-D ring loader + % label

5. Responsive Grid – Masonry flex that collapses elegantly to mobile

6. Accessibility – full keyboard flow, aria-live for progress, prefers-reduced-motion fallback

5. Secure File-Flow Spec

```
graph TD
  A[User Upload] -->|POST /upload| B[(Redis token)]
  B --> C[Python or Node Service]
  C -->|process| D[/secure /tmp UUID dir/]
  D --> E[Signed S3-like link or local /download/:token]
  E -->|GET| F[4-min auto-expire via Redis TTL]
  F -->|240s| G[Cleanup Cron deletes dir]
```

No file persists beyond four minutes; manual “Delete Now” button empties Redis & disk instantly. ^[9]

6. API Blueprint

Common Headers

Content-Type: multipart/form-data for uploads, application/json for tasks w/out files.

Example Endpoint (Merge PDF)

Method	Route	Description
POST	/api/pdf/merge	Accepts array of PDFs; returns {downloadUrl, expiresIn}

(Define similar routes for every tool using REST naming conventions.)

7. Rate-Limiting & Security

- Limit **10 requests / IP / min** (express-rate-limit & Flask-Limiter).
- Verify **MIME signature + extension** before saving.
- Scan uploads with **ClamAV** in a sidecar container.
- Store files with **600** perms; serve via Nginx X-Accel-Redirect to hide paths.

8. Performance Checklist

- Chunked streaming for >50 MB files
- Next.js dynamic imports to split each tool page
- Service-worker caching of JS/CSS; next/image for thumbnails
- Redis cache for repeated conversions (hash file SHA-256)
- Use GPU-accelerated Tesseract (CUDA) where available for OCR speed-up

9. Deployment Guide

1. `git clone` template generated by Replit AI.
2. Add env vars: `REDIS_URL`, `JWT_SECRET`, `MAX_UPLOAD_MB` (50).
3. Run `docker-compose up --build` locally; ensure health-checks pass.
4. Push to **Replit**, **Vercel** (frontend), and **Railway** or **Render** (APIs).
5. Point Nginx reverse proxy to `/python-api` and `/node-api`; enable HTTPS (Let's Encrypt).

10. Deliverable Verification

- Upload big 25 MB PDF → compress → download within 4-minute window → file auto-deleted.
- Merge, split, protect, unlock workflows tested with passworded sample.
- Mobile iOS Safari drag-drop verified.
- Lighthouse: Performance ≥ 90, Accessibility ≥ 95, Best-Practices ≥ 90.

11. Hand-over to Replit AI

Paste everything from Sections 1–10 as a single instruction. End with:

"Generate complete production-ready code, no placeholders. Use the tech stack, security, UI, and tool list exactly as described. All features must pass the verification tests."

This prompt guarantees Replit AI builds a **feature-parity clone** of iLovePDF and PDF Candy, wrapped in your own eye-catching 3-D, dark-themed interface—ready to deploy in one click. ^[1]
_{[2] [6]}

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1. <https://beebom.com/pdf-candy-review/>
2. <https://pdfcandy.com/compress-pdf.html>
3. <https://www.ilovepdf.com/blog/5-tools-for-students>
4. <https://www.ilovepdf.com/blog/must-have-pdf-tools>
5. <https://www.ilovepdf.com/business>
6. <https://apps.microsoft.com/detail/9nlvzbz2wz28?hl=en-us>
7. <https://www.ilovepdf.com/blog/best-free-graphic-design-software>
8. <https://www.ilovepdf.com/sign-pdf>
9. <https://pdf.wps.com/blog/a-comprehensive-guide-to-use-ilovepdf-web-desktop-and-mobile-post1874889/>
10. <https://www.ilovepdf.com/pricing>
11. <https://www.spotsaas.com/blog/pdf-candy-pdf-editor/>
12. <https://www.ilovepdf.com/desktop>

