

# E-Sign Product – Functional Overview

## 1. User Authentication

- Supports Email/Password login.
- Supports OTP login (stored in Profile model, cleared after login).
- Signup creates inactive user, generates OTP, sends via email.

## 2. Document Upload

- Converts naive datetime to UTC using IST timezone.
- Saves document with owner reference.
- Admin can set document expiry.

## 3. Signature Placement & PDF Generation

- Signature boxes/pages saved in SignatureBox and SignaturePage.
- PDFs merged using ReportLab / PyPDF2 / PdfWriter.
- Signatures applied using PyMuPDF (fitz), supports base64 or uploaded images.

## 4. Sending Signing Links

- Documents can be sent via:
  - CSV upload (bulk users)
  - Manual email input add-on
  - Serial flow (A → B → C)
- Unique token generated for each recipient.
- Emails include merged PDF with signature boxes.

## 5. Sign Document Page

- Validates token expiration and security token.
- Checks signing order (serial flow enforcement).
- Viewer-only pages displayed for non-signers.

## 6. Applying Signatures

- Applies signature from base64 or uploaded image.
- Calculates coordinates based on page size × percentage.
- Saves merged PDF and updates DocumentSignFlow & Document.status.
- Document locked during signing to prevent race conditions.

## 7. Sending Document Flows

- Admin sets expiry before sending.
- 3 ways to send documents:
  - CSV upload
  - Manual email input add-on
  - Serial flow (A → B → C)
- Serial flow ensures signatures happen in order.
- Same PDF collects all signatures or separate PDFs per user if using add-on with flow.

## 8. Admin Dashboard

- Metrics displayed:
  - Action Required
  - Total Documents Sent
  - Documents Signed / Pending / Expired
  - Signatures Collected
  - Expiring Soon
  - Templates
  - Completion Rate
  - Declined Documents

## 9. Signature Status

- 4 types of signature status:
  - Draft
  - Action Required
  - Waiting for Others
  - Finalized

## 10. Document Listing & Download

- Download options:
  - Original PDF
  - Signed PDF
  - Individual signer PDFs

## 11. Other Observations

- Email sending uses EmailMessage with PDF attachment.
- delete\_document & delete\_signature endpoints work correctly.
- document\_list supports filtering and pagination.
- Base64 encoding of recipient emails consistent for URLs.