

■ Book Reader — JavaScript Documentation

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A client-side PDF reading application that allows users to open, view, and interact with PDF files directly in the browser. It supports PDF rendering, page navigation, bookmarks, notes, last visited page persistence, responsive design, and smooth scrolling.

■ Core Components Overview

Component	Description
PDF.js Library (pdfjsLib)	Used to parse and render PDF files onto HTML canvas elements.
Canvas (file-render)	Main container for rendering PDF pages dynamically.
LocalStorage	Stores user data such as bookmarks, notes, and last visited page.
Intersection Observer	Tracks which page is visible to update the current page context dynamically.
UI Controls	Includes file input, navigation buttons, bookmarks, notes, and sidebar toggles.

■ Global Variables

Defines core state variables like pdfDoc, pageNumber, scale, fingerprint, threshold, and observer configurations. These handle rendering, page tracking, and user interactions.

■ Page Navigation Functions

Functions for navigating through pages include: - onPrevPage(): Navigates to previous page. - onNextPage(): Moves to next page. - renderSpecificPage(): Jumps to a specific page based on range slider input.

■ Local Storage Management

All bookmarks, notes, and last visited pages are stored under a unique PDF fingerprint. Functions include: - updateLastVisited(): Updates last page number viewed. - getLastVisitedPage(): Retrieves last visited page. - addBookmark(), checkIfBookmarked(), showBookmarks(): Handle bookmarks. - showBookmarkedPage(): Loads a bookmarked page.

■ Notes Management

Users can add, view, and delete notes per page. Notes are stored as objects with fields 'page' and 'note'. Functions: - createNote() - showNotes() - deleteNote()

■ PDF Rendering Logic

Uses PDF.js to render each page onto a canvas dynamically. Functions: - renderPage(): Renders individual pages. - renderPages(): Iterates through all pages and appends canvas elements.

■ Scrolling Functionality

scrolling(id): Smoothly scrolls to the desired page canvas using scrollIntoView().

■ File Upload & Initialization

Handles user PDF upload, initializes rendering, and sets up localStorage tracking. It loads the PDF file using pdfjsLib.getDocument(), determines its fingerprint, and renders all pages.

■ Responsive Behavior

Adjusts intersection threshold for small screens and toggles sidebar for better UX on mobile.

■ Key Features Summary

■ PDF Rendering (Multi-page) ■ Page Navigation (Buttons + Slider + Scroll Sync) ■ Last Visited Page Persistence ■ Bookmark Management ■ Per-page Notes ■ Responsive Sidebar ■ LocalStorage-based Persistence ■ Smooth Scroll Navigation

■ Future Enhancements

- Search functionality within PDFs. - Annotation tools (highlight/underline). - Cloud sync (Firebase/MongoDB). - Zoom & Dark mode. - Fullscreen reading experience.