

Product Requirement Document: Health Box Application

Project Name: Health Box: Your Personal Health Vault

Document Version: 3.1

Executive Summary

Health Box is a mobile and web application designed to help individuals securely manage and share their medical records digitally. Instead of relying on fragmented hospital systems or paper files, users can upload and organize their health documents in one trusted place.

The application uses **Supabase** as its database, ensuring scalability, security, and easy integration. Users can upload records (images, PDFs, or email attachments), request hospitals/labs to upload on their behalf through secure links, and share their records with doctors or others under strict access controls.

AI-powered analysis provides preliminary insights with confidence scores and a mandatory disclaimer that emphasizes the need for professional medical advice. Future versions will include AI-generated longitudinal summaries across multiple records and export options for sharing/printing.

Product Goals & Vision

Vision: To become the simplest and most trusted digital vault for health records in Nigeria and beyond.

Core Goals:

- **Easy Record Uploads:** Enable users to digitize and centralize all their medical documents.
- **Secure Sharing:** Allow safe, permission-based record sharing with doctors, labs, and hospitals.
- **User Ownership:** Ensure that users remain fully in control of their records.
- **Actionable Insights:** Provide AI-assisted record analysis with clear disclaimers.
- **Scalability:** Build a system that can grow with users' needs and support advanced features over time.

Target Users

Primary Persona: “The Organized Patient” (Ada, 32)

- **Background:** A professional who has received treatments from different hospitals and wants a consolidated record system.
- **Needs:** A safe, digital-first way to upload, store, and share medical records without paper hassles.
- **Pain Points:** Lost/misplaced records, delays when doctors don't have her history, and repeating the medical background multiple times.

Functional Requirements

4.1 Authentication & Onboarding

- **Google Sign-In:** The user must sign in using their Google Account.
- **Account Age Policy:** If the Google account is less than one year old, signup is rejected, and the user is prompted to use a valid account older than one year.
- **Unique ID Generation:** Each user gets a unique ID for record tracking and hospital/lab integrations.
- **Onboarding Tutorial:** Explains upload, sharing, and analysis features.

4.2 Data Ingestion & Storage

- **User Upload:** Upload medical records as images or PDFs. Email forwarding option for attachments.
- **Hospital/Lab Upload via Link:** User generates a secure, time-limited link that allows a hospital or lab to upload records directly.
- **Database:** All records stored securely in Supabase with encryption at rest and in transit.

4.3 Data Management & Viewing

- **Dashboard:** Chronological, organized view of all uploaded medical records.
- **Search & Filter:** By date, type (lab, prescription, imaging), **hospital**, or source.
- **Record Deletion:** Users can permanently delete any record.

4.4 Sharing Options

- **View-Only Sharing:** Users can share records with doctors/others via secure links.
- **Time-Bound Access:** Shared links can be restricted (e.g., expire after 24h/7 days).
- **Audit Control:** Users can see when/if a shared link was accessed.

4.5 AI-Powered Insights

- **On-Demand Analysis:** Users request AI analysis of a specific record.

- **Output:** Summary with a **confidence score**.
- **Disclaimer:** Every AI-generated output includes a bold disclaimer: “*This is not a substitute for medical advice. Please consult a qualified doctor.*”
- **Coming Soon:** AI longitudinal summaries using the last 2–3+ records for richer insights.

4.6 Export Options (Coming Soon)

- **PDF Summaries:** User-friendly export for sharing/printing.
- **Advanced Export:** Reserved for future use cases (e.g., integration with external systems).

Non-Functional Requirements

- **Security:** End-to-end encryption for all uploads and sharing. Supabase RLS (Row-Level Security) enforced.
- **Performance:** Fast uploads with background processing for large PDFs/images.
- **Compliance:** Alignment with Nigeria Data Protection Act (NDPA).
- **Reliability:** Uploads queue if internet is down, and auto-resume when reconnected.

User Flow

1. **Sign Up:** User registers via Google Sign-In (account must be >1 year old).
2. **Onboarding:** Tutorial explains upload and sharing.
3. **Upload:** User uploads PDF/image or forwards via email.
4. **Hospital Upload:** User generates a link for hospital/lab to upload records.
5. **Dashboard:** Records appear in chronological order.
6. **Search & Filter:** User filters records by hospital, date, type, or source.
7. **Share:** User selects records → generates time-limited, view-only link.
8. **AI Analysis:** User requests insights → gets summary + confidence score + disclaimer.
9. **Export (Coming Soon):** User exports records as PDFs.

Success Metrics

- **Active Users:** Number of users uploading records monthly.
- **Record Volume:** Average number of records uploaded per user.
- **Sharing Engagement:** Percentage of users who share records via secure links.
- **AI Feature Use:** Percentage of users requesting AI analysis.
- **User Trust:** Satisfaction scores on security and ease of use.