

## **1. Overview**

HyperScan KYC is a digital identity verification flow designed to reduce KYC time from 6 minutes to under 2 minutes.

The solution includes real-time ID image quality analysis, auto-crop enhancement, OCR + face match verification, and a full user flow built in Figma.

This PRD outlines the user experience, system flow, success metrics, and key features of the KYC process.

## **2. Problem Statement**

New users frequently fail KYC due to glare, blur, poor lighting, and incorrect ID positioning.

This leads to multiple retries, longer verification time (6+ minutes), and high drop-offs.

Compliance analysts also face inconsistent image quality, leading to OCR failures and increased manual reviews.

HyperScan KYC aims to reduce verification time, increase approval rates, and improve compliance reliability by optimizing the ID + selfie capture experience.

### **3. Personas**

#### ***Persona 1: First-Time Digital Onboarding User (Primary User)***

- New to digital KYC flows
- Low familiarity with instructions and camera capture requirements
- Struggles with glare, blur, and positioning
- High likelihood of abandoning the flow after repeated failures
- Goal: Complete KYC quickly (under 2 minutes) with clear instructions

#### ***Persona 2: KYC Compliance Analyst (Internal User)***

- Reviews failed KYC attempts manually
- Faces inconsistent ID quality and OCR errors
- Needs clean images and reliable extractions
- Goal: Reduce manual review load and false rejects

## 4. Pain Points

### ***User Pain Points (Persona 1)***

#### **1. Unclear instructions**

Users often don't know how to position the ID → results in glare, blur, and cropped edges.

#### **2. Long KYC time (6+ minutes)**

Multiple retries during ID and selfie capture increase frustration and drop-offs.

#### **3. Multiple failed selfie attempts**

Poor lighting, shaky hands, or angle issues lead to repeated failures.

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### ***Compliance Analyst Pain Points (Persona 2)***

#### **1. Inconsistent image quality**

Glare, blur, and shadows cause OCR extraction failures.

#### **2. High false rejects**

Poor images lead to incorrect OCR outputs, increasing manual review and verification time.

## **5. Solution Summary**

HyperScan KYC delivers a faster, error-resistant identity verification flow through four core features:

### ***1. Real-Time Image Quality Scoring***

Analyzes the ID capture instantly for:

- Glare
- Blur
- Low lighting
- Shadow detection
- Edge detection (ID must be fully visible)

Provides on-screen feedback such as:

“Remove glare”, “Hold steady”, “Align your ID”.

This reduces retries and drop-offs significantly.

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### ***2. Auto-Crop & Auto-Enhance Processing***

Once a valid ID photo is captured:

- Automatically detects ID boundaries

- Crops extra background
- Adjusts brightness and contrast
- Reduces glare
- Enhances text clarity

This ensures the image is OCR-ready and improves extraction accuracy.

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### **3. *OCR + Face Match Pipeline***

The system extracts structured data from the ID (Name, DOB, Document Number) and compares the user's selfie with the ID photo.

Checks include:

- Face orientation
- Sharpness
- Liveness score
- Face-to-ID match percentage

This strengthens fraud prevention and compliance reliability.

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## **4. Funnel Analytics Dashboard**

Tracks key KYC metrics across the flow:

- Step-wise drop-offs
- Retry count (ID vs Selfie)
- OCR accuracy
- Liveness failure rate
- Total KYC completion time
- Pass vs fail trends

This helps product, risk, and ops teams identify bottlenecks and optimize performance.

## **6. User Flow (Detailed)**

The KYC journey follows a linear, guided flow optimized for speed, clarity, and minimal retries.

### **1. Start → Welcome Screen (S1)**

The user clicks **Start Verification** to begin KYC.

### **2. ID Instructions Screen (S2)**

User reads capture guidelines:

- Good lighting
- Avoid glare
- Show all corners of ID

Clicks **Continue**.

### ***3. ID Capture Screen (S3)***

User points camera at their ID.  
A boundary frame helps align the document.

### ***4. Real-Time Quality Feedback (S4)***

System detects errors such as:

- Glare
- Blur
- Shadows
- Poor alignment

User adjusts the ID based on prompts.

### ***5. Auto-Crop Preview Screen (S5)***

System processes the ID:

- Auto-crop
- Brightness enhancement
- Glare reduction

User reviews the processed image and selects:

- **Looks Good** → proceed
- **Retake** → return to S3

## ***6. Selfie Instructions Screen (S8)***

User is guided to:

- Center face
- Avoid backlight
- Remove glasses/mask
- Look directly at camera

Clicks **Continue**.

## ***7. Selfie Capture Screen (S9)***

User aligns face within circular frame and captures selfie.

## ***8. Verification (Backend)***

System runs:

- OCR extraction
- Face match
- Liveness score
- Risk checks

## **9. Success Screen (S11)**

If verified:

User sees: “**Verification Successful**” with completion time.

If verification fails (not shown in prototype):

User would be redirected to retry or upload alternative documents.

## **7. Success Metrics**

The success of HyperScan KYC is measured across speed, accuracy, and conversion.

### **1. Reduce Total KYC Time**

- **Goal:** Reduce KYC completion from **6 minutes** → **under 2 minutes**
- **Metric:** Median KYC time across users

- **Target:** 65% reduction

## ***2. Improve KYC Approval Rate***

- **Goal:** Increase successful verifications through better image quality
- **Metric:** ID + selfie pass rate
- **Target:** +40% improvement

## ***3. Reduce Drop-offs During Capture Steps***

- **Goal:** Lower abandonment during ID and selfie steps
- **Metric:** Drop-off % at S3–S4 and S8–S9
- **Target:**
  - -30% drop at ID capture
  - -25% drop at selfie capture

## ***4. Improve OCR Accuracy***

- **Goal:** Ensure clean extraction with auto-enhanced ID images
- **Metric:** OCR field accuracy rate

- **Target: +35% improvement**

## **5. Reduce Manual Reviews**

- **Goal:** Lower false rejects for compliance analysts
- **Metric:** Manual review cases per 100 KYC attempts
- **Target: -30% reduction**

## **6. Increase End-to-End Funnel Conversion**

- **Goal:** More users complete KYC on first attempt
- **Metric:** Funnel completion (S1 → S11)
- **Target:** Overall conversion increase of **20–25%**

## **8. Future Improvements**

### ***1. Auto-Detect Document Type***

Automatically identify Aadhaar, PAN, or Driving License without asking the user.

This reduces confusion and improves OCR accuracy.

### ***2. Offline Capture Mode***

Enable capturing images offline with on-device quality scoring, syncing once internet is available.

Useful for low-connectivity regions.

### ***3. Adaptive Capture Guidance (AI-based)***

Use ML to analyze user behavior (angle, stability, lighting) and give personalized on-screen tips:

- “Tilt slightly left”
- “Move closer to the camera”
- “Hold steady for 1 second”

### ***4. Anti-Tampering & Forgery Detection***

Detects screenshot uploads, edited IDs, or manipulated selfies using pixel-level analysis.

## **5. Multi-Language Support**

Support Hindi, Bengali, Tamil, Telugu, Malayalam, and 8+ local languages to improve accessibility.

## **6. Alternative Verification Methods**

Support manual upload, eKYC/OTP-based Aadhaar verification, or video KYC for users who repeatedly fail.

## **7. Dark Mode Capture UI**

Better usability in low-light environments.