CardioDetect User Manual

Comprehensive Guide for Patients, Doctors, and Administrators

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1. Introduction

Welcome to **CardioDetect**, an advanced AI-powered platform designed to assess cardiovascular disease risk early and accurately. This manual will guide you through the features specific to your role.

Key Features: * **AI Risk Prediction:** Instant analysis using advanced machine learning. * **Medical Report OCR:** Upload PDF/Image reports for automatic data extraction. * **Secure Platform:** HIPAA-compliant security with role-based access.

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2. Getting Started

Registration & Login

1. Navigate to the **Home Page**.
2. Click **"Get Started"** or **"Register"**.
3. Fill in your details:
    - **Name:** Full legal name.
    - **Email:** Valid email address (used for verification).
    - **Password:** Strong password (min 8 chars, mixed case, numbers).
    - **Role:** Select "Patient" or "Doctor" (Doctor accounts require admin verification).
4. Click **"Create Account"**.
5. Check your email for a **Verification Link** and click it to activate your account.

Password Recovery

If you forget your password: 1. Click **"Forgot Password?"** on the Login screen. 2. Enter your registered email. 3. Click the link in the password reset email. 4. Set a new secure password.

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3. Patient User Guide

As a patient, you can monitor your heart health, run assessments, and track changes over time.

Dashboard Overview

Your command center showing: * **Latest Risk Score:** Your most recent heart health assessment. * **Quick Actions:** Buttons to "New Assessment" or "View History". * **Health Trends:** Simple charts showing your progress.

Running a Risk Assessment

1. Click **"Assess My Risk"**.
2. **Manual Entry:** Fill in the health form (Age, Blood Pressure, Cholesterol, etc.).
    - *Tip:* If you don't know a value, use the default average provided or leave it blank if allowed.
3. Click **"Calculate Risk"**.
4. **View Results:**
    - **Risk Level:** Low (Green), Moderate (Yellow), High (Red).
    - **Probability:** Percentage chance of heart issues in the next 10 years.

- **Recommendations:** Personalized lifestyle advice based on your inputs.
5. **Download Report:** Click "Download PDF" to save a copy for your records.

Viewing History

- Click **"History"** to see a list of all your past assessments.
- Use the **Trends Graph** to see if your risk is increasing or decreasing.
- Click on any past entry to view full details.

Managing Your Profile

- Go to **"Profile"** to update personal details (Phone, Address).
- **Sensitive Changes:** Changing critical health data (like Date of Birth) may require **Admin Approval** for security. You will be notified when approved.
- **Data Rights:** You can request a "Data Export" or "Account Deletion" from the Settings tab (GDPR compliance).

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4. Doctor User Guide

Doctors have powerful tools to manage patients and analyze medical documents efficiently.

Doctor Dashboard

- **Patient List:** Quick access to your assigned patients.
- **Recent Uploads:** Status of processed medical reports.
- **Risk Alerts:** Notifications for patients flagged as "High Risk".

Patient Management

1. Go to **"My Patients"**.
2. **Search:** Find patients by name or ID.
3. **Assign Patient:** Use the "Add Patient" button to link a patient to your care (requires patient consent/code).
4. **View Profile:** Click a patient to see their full assessment history and trends.

Uploading Medical Reports (OCR)

Eliminate manual data entry by uploading scanned reports.

1. Click **"Upload Report"**.

2. Select a patient.
3. **Drag & Drop** a file (PDF, JPG, PNG).
    - *Supported:* Lab reports, clinical summaries.
    - *Max Size:* 10MB.
4. Click **"Analyze"**.
5. **Review Extracted Data:** The AI will extract values (Cholesterol, BP, etc.).
    - *Verify:* Check the "Confidence Score".
    - *Edit:* Correct any misread numbers before submitting.
6. **Confirm:** The system runs the risk prediction automatically using the extracted data.

Analyzing Results

- **Clinical Report:** Generated PDFs include:
    - Patient Demographics.
    - Extracted Vitals.
    - AI Risk Assessment.
    - **SHAP Analysis:** "Why this prediction?" (Explains top contributing factors like 'High Systolic BP').

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5. Administrator User Guide

Admins oversee the platform's security, user base, and data integrity.

Admin Panel Overview

Access the comprehensive dashboard at `/admin`. * **System Stats:** Total users, daily assessments, error rates. * **Pending Actions:** Approval requests, user verifications.

User Management

- **View Users:** List all registered Patients and Doctors.
- **Actions:**
    - **Deactivate:** Suspend suspicious accounts.
    - **Reset MFA:** Assist users locked out of accounts.
    - **Assign Role:** Upgrade a user to "Doctor" or "Admin" status.

Approving Profile Changes

For data integrity, sensitive profile updates (e.g., Name, DOB) enter a "Pending" state. 1. Go to **"Approvals"**. 2. Review the **"Pending Changes"** list. 3.

Compare "Old Value" vs. "New Value". 4. Click **"Approve"** to update the potentially or **"Reject"** to discard.

System Analytics

- **Prediction Logs:** detailed audit trail of every prediction run.
- **Performance Metrics:** Monitor API latency and ML model accuracy.
- **Security Logs:** View failed login attempts and potential brute-force attacks.

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6. Troubleshooting & Support

Issue	Possible Cause	Solution
Login Failed	Incorrect password or unverified email	Check "Caps Lock" or check email for verification link.
OCR Reading Error	Low quality image or handwriting	Use a scanned PDF or clear photo. Ensure text is typed, not handwritten.
"Access Denied"	Insufficient permissions	Contact Admin if you need Doctor access.
Report Download Fails	Pop-up blocker	Allow pop-ups for CardioDetect.

Still need help? Contact support at `support@cardiodetect.com`.