

# Medical Code Extractor Frontend Documentation

## Overview

This document outlines the frontend requirements for the Medical Code Extractor application, which automatically identifies and extracts medical billing codes (ICD-10, CPT, HCPCS) from uploaded medical documents using AI-powered analysis.

## API Specification

### Endpoint

POST /api/demo\_backend\_v2/extract-medical-coding

### Request Format

Content-Type: `multipart/form-data`

### Parameters:

- `file` (required): Medical document file for code extraction
  - Accepted formats: PDF, DOC, DOCX, TXT, RTF, JPG, PNG
  - Max file size: 20MB
  - Document types: Clinical notes, discharge summaries, operative reports, lab results, radiology reports

### Response Format

#### Success Response (200):

```
{
  "message": "Medical coding extraction completed successfully",
  "result": "This image shows a tax invoice from KK Women's and Children's Hospital, which is part of SingHealth in Singapore. The invoice is for a patient named Vercella Veronica, who appears to be from Indonesia. \n\nKey details from the invoice include:\n1. Invoice date: 24.08.2010\n2. Admission date: 17.08.2010\n3. Discharge date: Not specified (shows 00:00)\n4. Patient's stay: 4.0 days in Ward Class B1 and 4.0 days in Ward Class B2\n\nThe invoice lists various charges including:\n- Ward charges\n- Daily treatment fee\n- Laboratory investigations\n- Specialized investigations\n- Drugs/prescriptions/injections\n- Ward procedures\n- Consumables\n- Professional fees for doctor\n- Other procedures\n\nThe total charges amount to 11,636.41 (currency not specified, but likely Singapore Dollars).\n\nAt the bottom of the invoice, there's information about the KK Hospital Health Endowment Fund, which is a registered charity. There's an option for the patient to make a donation
```

to this fund.\n\nThe invoice is marked as \"This is not a Final Bill\", suggesting that additional charges may be added later.\"

```
}
```

#### **Error Response (400/500):**

```
{  
  "detail": "Error message describing the specific issue"  
}
```

## **Frontend Requirements**

### **Core Features**

#### **1. Document Upload System**

- Multi-format drag-and-drop interface
- File validation and preview
- Progress tracking during upload
- Document type auto-detection

#### **2. Sample Document Library**

- Three pre-loaded medical documents
- Different specialties and complexity levels
- Quick-test functionality
- Educational examples

#### **3. Code Extraction Results**

- Categorized code display (ICD-10, CPT, HCPCS)
- Confidence scoring with visual indicators
- Context and location information
- Interactive code details

### **Sample Documents for Testing**

#### **1. Sample 1: Cardiology Discharge Summary**

- Document Type: Inpatient discharge summary
- Specialty: Cardiovascular
- Complexity: High (multiple procedures, devices)
- Expected Codes: ICD-10 diagnoses, surgical CPT codes, device HCPCS

#### **2. Sample 2: Orthopedic Operative Report**

- Document Type: Surgical procedure note
- Specialty: Orthopedic Surgery
- Complexity: Moderate (single procedure, implants)
- Expected Codes: Surgical CPT codes, implant HCPCS, anesthesia

### 3. **Sample 3: Primary Care Office Visit**

- Document Type: Outpatient visit note
- Specialty: Family Medicine
- Complexity: Low (evaluation, preventive care)
- Expected Codes: E/M codes, preventive CPT, lab orders

## **Component Specifications**

### **1. Sample Documents Section**

- **Layout:** Horizontal card layout with medical icons
- **Each Sample Card:**
  - Specialty icon (cardiology, orthopedic, primary care)
  - Document type and complexity indicator
  - Expected code categories preview
  - One-click "Try Sample" button
  - Hover tooltip with document details

### **2. File Upload Zone**

- **Design:** Large medical-themed dropzone
- **Visual Elements:**
  - Hospital/medical document icon
  - Supported format badges
  - HIPAA compliance notice
  - Security indicators
- **States:**
  - Default: Light blue background with dashed border
  - Drag over: Animated green border with highlight
  - File selected: Document preview with metadata
  - Processing: Progress bar with extraction stages

### **3. Extraction Summary Cards**

- **Summary Statistics Card:**
  - Total codes found with breakdown
  - Average confidence score
  - Processing time
  - Quality indicators

## 6. Recommendations Panel

- **Actionable Recommendations:**
  - Code specificity improvements
  - Missing code suggestions
  - Documentation enhancements
  - Compliance recommendations
- **Warning Alerts:**
  - Low confidence codes
  - Potential bundling issues
  - Medical necessity concerns
  - Review requirements

## Responsive Design Breakpoints

- **Desktop (1200px+):** Multi-column dashboard with side panels
- **Tablet (768px-1199px):** Stacked sections with horizontal scroll for code details
- **Mobile (320px-767px):** Single column with collapsible code sections

## Screen Short :

