Feature #6 Implementation Checklist

Week 1: Foundation (Dec 19-25, 2025)

Phase 1A: Storage & Database

- [ ] Update Prisma schema with Document models
- [ ] Create and run database migrations
- [ ] Test database schema
- [ ] Set up Cloudinary upload configuration
- [ ] Create upload API endpoint `/api/documents/upload`
- [ ] Test file upload to Cloudinary
- [ ] Add error handling for uploads
- [ ] Implement RBAC permissions for documents

Phase 1B: Upload UI

- [ ] Create DocumentUpload component
- [ ] Implement drag-and-drop functionality
- [ ] Add file type validation (PDF, JPG, PNG)
- [ ] Add file size validation (10MB limit)
- [ ] Create progress indicator
- [ ] Build document list view component
- [ ] Create basic document viewer
- [ ] Add delete functionality
- [ ] Test upload flow end-to-end

Week 2: Extraction (Dec 26-Jan 1, 2026)

Phase 2: OCR

- [ ] Install Tesseract.js dependency
- [ ] Create text extraction API endpoint `/api/documents/[id]/extract`
- [ ] Implement client-side OCR with Tesseract.js
- [ ] Set up Google Cloud Vision API (fallback)
- [ ] Create extraction queue system
- [ ] Add extraction status tracking
- [ ] Test OCR on various document types
- [ ] Handle multi-page documents
- [ ] Add error handling and retries

Phase 3: AI Field Extraction

- [ ] Create field extraction API endpoint `/api/documents/[id]/extract-fields`
- [ ] Design OpenAI prompts for extraction
- [ ] Implement field mapping system
- [ ] Add confidence scoring

- [ ] Create form auto-population logic
- [ ] Build review/edit interface
- [ ] Add validation rules
- [ ] Test extraction accuracy
- [ ] Handle edge cases

Week 3: Classification & Compliance (Jan 2-8, 2026)

Phase 4: Classification

- [ ] Create classification API endpoint `/api/documents/[id]/classify`
- [ ] Implement document type detection
- [ ] Add category assignment logic
- [ ] Build search functionality
- [ ] Create filtering system
- [ ] Add tag management
- [ ] Test classification accuracy
- [ ] Add manual override option

Phase 5: Compliance

- [ ] Define compliance rules for required documents
- [ ] Create compliance checking engine
- [ ] Build required documents tracker
- [ ] Implement expiration monitoring
- [ ] Create compliance dashboard component
- [ ] Add alert system for missing/expiring documents
- [ ] Build notification system
- [ ] Test compliance logic
- [ ] Add reporting features

Week 4: Generation & Polish (Jan 9-15, 2026)

Phase 6: Document Generation

- [ ] Install pdf-lib dependency
- [ ] Create template system
- [ ] Build template editor (admin)
- [ ] Implement auto-fill logic
- [ ] Create PDF generation API `/api/documents/generate`
- [ ] Design common templates (admission, care agreement, etc.)
- [ ] Add template preview
- [ ] Test generation with various data
- [ ] Add error handling

Phase 7: Testing & Deployment

- [ ] Write unit tests for APIs
- [ ] Write integration tests

- [ ] Perform end-to-end testing
- [ ] Test with real documents
- [ ] Fix bugs and issues
- [ ] Optimize performance
- [ ] Polish UI/UX
- [ ] Create user documentation
- [ ] Create admin documentation
- [ ] Deploy to production
- [ ] Monitor for issues
- [ ] Gather user feedback

Post-Launch

- [ ] Monitor usage metrics
- [ ] Track accuracy metrics
- [ ] Collect user feedback
- [ ] Plan improvements
- [ ] Train users
- [ ] Create video tutorials

Dependencies to Install

```
npm install tesseract.js
npm install pdf-lib
npm install react-pdf
npm install @types/pdf-lib
npm install cloudinary
```

Environment Variables to Add

```
# Cloudinary (Already configured)
CLOUDINARY_CLOUD_NAME=dygtsnu8z
CLOUDINARY_API_KEY=328392542172231
CLOUDINARY_API_SECRET=<existing>

# Google Cloud Vision API (Optional)
GOOGLE_CLOUD_VISION_API_KEY=<to_be_configured>

# OpenAI (Already configured)
OPENAI_API_KEY=<existing>
```

Progress: 0% Complete
Start Date: December 19, 2025
Target Completion: January 16, 2026