

Product Requirements Document (PRD)

Legal AI Assistant - Junior Lawyer Chatbot

Version: 1.1

Date: December 2024

Status: Ready for Development

Tech Stack: FastAPI (Backend) + React (Frontend) + Claude AI

1. PRODUCT OVERVIEW

1.1 Product Name

Legal AI Assistant - Your Junior Lawyer for Indian Legal Matters

1.2 Vision Statement

Build an intelligent chatbot that functions as a Junior Lawyer, assisting Senior Advocates, legal professionals, and business owners with comprehensive legal research, case law citations, document drafting, and procedural guidance across all Indian laws.

1.3 Target Users

- Senior Advocates and practicing lawyers
- Legal professionals and law students
- Business owners seeking legal compliance guidance
- Individuals needing legal information and guidance

1.4 Problem Statement

Legal professionals and business owners need quick access to:

- Accurate legal research across 150+ Indian Acts
- Proper case law citations in AIR/SCC format
- Procedural guidance and compliance requirements
- Industry-specific legal information
- Document drafting assistance
- Data privacy compliance (DPDP Act 2023)

Currently, this requires:

- Hours of manual research
- Access to expensive legal databases
- Deep knowledge of multiple legal domains
- Consulting multiple experts for different areas

1.5 Solution

An AI-powered chatbot with:

- Real-time conversational interface
 - Comprehensive knowledge of Indian legal system (150+ Acts)
 - Proper legal citation standards
 - Industry-specific expertise (Banking, Pharma, Food, Real Estate, etc.)
 - Document drafting capabilities
 - Context-aware conversation history
 - **Data privacy guidance (DPDP Act 2023)**
-

2. OBJECTIVES & SUCCESS CRITERIA

2.1 Primary Objectives

1. Provide accurate legal information within 5 seconds
2. Maintain conversation context for follow-up questions
3. Generate proper legal citations (AIR, SCC format)
4. Cover all major Indian legal domains (Tax, Criminal, Civil, Corporate, Labour)
5. Offer actionable, practical legal guidance
6. Include latest laws (BNS 2023, DPDP Act 2023, Labour Codes)

2.2 Success Metrics

- **Response Accuracy:** 95%+ correct legal references
- **Response Time:** < 5 seconds per query
- **User Satisfaction:** 4.5/5 rating
- **Query Success Rate:** 90%+ queries answered satisfactorily

- **Uptime:** 99.5% availability

2.3 Out of Scope (v1.0)

- **X** Court representation
 - **X** Legally binding opinions
 - **X** Document storage/management
 - **X** Multi-user collaboration
 - **X** Payment integration
 - **X** Case management system
 - **X** User authentication (v1.0)
-

3. FEATURES & REQUIREMENTS

3.1 Core Features (MVP - v1.0)

Feature 1: Real-time Chat Interface

Priority: P0 (Must Have)

Description: A clean, professional chat interface where users can ask legal questions and receive detailed responses.

Requirements:

- User message input (text area with multi-line support)
- Real-time response display
- Conversation history visible in chat window
- Auto-scroll to latest message
- Loading indicator during API calls
- Error handling and display
- Clear chat functionality

Acceptance Criteria:

- User can type and send messages
- Messages appear in chronological order
- Conversation maintains context across messages

- Loading state shows while waiting for response
 - Error messages display clearly if API fails
 - Enter key sends message, Shift+Enter for new line
 - Clear button removes all messages
-

Feature 2: Comprehensive Legal Knowledge Base

Priority: P0 (Must Have)

Description: Complete knowledge of Indian legal system embedded in AI system prompt.

Coverage Required:

1. Taxation & Financial Laws

- GST (CGST, SGST, IGST, UTGST)
- Income Tax Act, 1961
- FEMA, 1999 - FDI, imports/exports
- Customs Act, 1962
- Service Tax (legacy)
- PMLA, 2002

2. Criminal Laws

- **New System (2023):**
 - Bharatiya Nyaya Sanhita (BNS) - Replaced IPC
 - Bharatiya Nagarik Suraksha Sanhita (BNSS) - Replaced CrPC
 - Bharatiya Sakshya Adhiniyam (BSA) - Replaced Evidence Act
- **Legacy System:**
 - Indian Penal Code (IPC), 1860
 - Code of Criminal Procedure (CrPC), 1973
 - Indian Evidence Act, 1872

3. Civil & Contractual Laws

- Code of Civil Procedure, 1908
- Indian Contract Act, 1872
- Sale of Goods Act, 1930

- Transfer of Property Act, 1882
- Limitation Act, 1963
- Consumer Protection Act, 2019
- Negotiable Instruments Act, 1881

4. Corporate & Commercial Laws

- Companies Act, 2013
- LLP Act, 2008
- Indian Partnership Act, 1932
- Insolvency and Bankruptcy Code, 2016
- MSMED Act, 2006 - MSME protection

5. Labour & Employment Laws

- **New Labour Codes (2019-2020):**
 - Code on Wages, 2019
 - Code on Social Security, 2020
 - Code on Industrial Relations, 2020
 - Code on Occupational Safety, 2020
- **POSH Act, 2013** - Mandatory for 10+ employees
- **Legacy Laws:** EPF, ESI, Gratuity, etc.

6. Technology & Data Privacy Laws **NEW**

- **Digital Personal Data Protection (DPDP) Act, 2023** - India's primary privacy law
- Information Technology Act, 2000
- IT Rules, 2011
- Aadhaar Act, 2016

7. Industry-Specific Laws (15+ Industries)

- Banking: SARFAESI Act, RBI Act
- Pharma: Drugs & Cosmetics Act, 1940
- Food: Food Safety Standards Act, 2006
- Real Estate: RERA, 2016

- Insurance: Insurance Act, IRDAI Act
- Healthcare: Mental Healthcare Act, 2017
- Energy: Electricity Act, 2003
- Telecom: TRAI Act, 1997
- Aviation: Aircraft Act, 1934
- Education: RTE Act, 2009
- E-commerce: Consumer Protection Rules, 2020
- Manufacturing: Factories Act, 1948
- Construction: Building Workers Act, 1996
- Entertainment: Cinematograph Act, 1952
- Professional Services: Advocates Act, 1961

Acceptance Criteria:

- AI can answer questions on all listed acts
 - Provides section numbers and specific provisions
 - Cites relevant case laws
 - Explains transitional provisions (old law → new law)
 - Covers DPDP Act 2023 comprehensively
-

Feature 3: Case Law Citation

Priority: P0 (Must Have)

Description: Provide proper case law citations in standard Indian legal format.

Citation Format:

[Year] Volume Reporter Page (Court Abbreviation)

Examples:

- AIR 2023 SC 1234
- (2023) 5 SCC 678
- 2023 (12) TMI 456 - Supreme Court

Citation Details Required:

- Full case name
- Proper citation (AIR/SCC/TMI format)

- Court level (Supreme Court/High Court/Tribunal)
- Year of judgment
- Key legal principle (Ratio decidendi)
- Current status (Valid/Overruled/Distinguished)
- Relevance to the query

Acceptance Criteria:

- Citations follow standard format
 - Court hierarchy indicated
 - Binding vs persuasive authority noted
 - Current validity status mentioned
 - At least 3-5 relevant cases for case law queries
-

Feature 4: Structured Response Format

Priority: P0 (Must Have)

Description: All legal responses follow a consistent, professional structure.

Response Structure:

1. ISSUE IDENTIFICATION

- Clearly state the legal question(s)
- Identify applicable areas of law

2. APPLICABLE LAW

- Primary legislation (with section numbers)
- Relevant rules, notifications, circulars
- Transitional provisions if applicable

3. CASE LAW ANALYSIS

- Relevant cases with proper citations
- Key principles
- Current status

4. LEGAL POSITION SUMMARY

- Clear statement of current law
- Conflicting precedents if any
- Pending changes

5. PRACTICAL ADVICE

- Procedural steps
- Documentation required
- Timelines and limitations
- Risks and alternatives

Acceptance Criteria:

- Responses follow the 5-part structure
- Each section is clearly labeled
- Information is accurate and actionable
- Professional legal language used
- Includes disclaimer at the end

Feature 5: Conversation Context Management

Priority: P0 (Must Have)

Description: Maintain conversation history to handle follow-up questions and provide contextual responses.

Requirements:

- Store conversation history in frontend state
- Send full conversation history with each API request

- AI uses context from previous messages
- Clear chat functionality to start fresh
- Context maintained across at least 10 exchanges

Acceptance Criteria:

- Follow-up questions work correctly
 - AI remembers context from previous messages
 - User can clear chat and start fresh
 - Context doesn't degrade over long conversations
 - No memory between different users (stateless)
-

Feature 6: Industry-Specific Guidance

Priority: P1 (Should Have)

Description: Provide tailored legal guidance for specific industries with regulatory compliance.

Industries Covered:

1. Banking & Financial Services

- SARFAESI Act, DRT procedures
- Cheque bouncing (Section 138 NI Act)
- RBI regulations, KYC norms

2. Pharmaceuticals & Healthcare

- Drug manufacturing licenses (Form 25, 26)
- CDSCO compliance, GMP standards
- Clinical trials, medical practice

3. Food & Restaurant Business

- FSSAI licenses (Basic/State/Central)
- Food safety compliance
- Hygiene ratings

4. Real Estate & Construction

- RERA compliance, delayed possession
- Building approvals, occupancy certificates
- Carpet area vs built-up area

5. E-commerce & Online Platforms

- FDI restrictions (marketplace vs inventory)
- Consumer Protection Rules, 2020
- **DPDP Act 2023 compliance** 
- Data breach protocols

6. Technology & SaaS Companies

- **DPDP Act 2023 - consent management**
- Cross-border data transfer
- IT Act compliance
- Software licensing

7. Manufacturing

- Factory licenses, BIS certification
- Environmental clearances
- Product standards

8. Insurance

- IRDAI regulations
- Claim settlement, ombudsman

9. Power & Energy

- Electricity Act, open access
- Renewable energy regulations

10. Telecom & Media

- TRAI guidelines
- Broadcasting regulations

Acceptance Criteria:

- Identifies industry from query
 - Provides industry-specific licenses
 - Lists regulatory compliance requirements
 - Mentions regulatory authorities
 - Includes penalties for non-compliance
 - Covers DPDP Act for digital businesses
-

Feature 7: Document Drafting Assistance

Priority: P1 (Should Have)

Description: Help draft common legal documents with proper format and structure.

Document Types:

1. Petitions & Applications
2. Replies to Legal/Tax Notices
3. Legal Opinions
4. Partnership Deeds
5. Sale Agreements
6. Service Contracts
7. Legal Notices
8. Complaint Formats (RERA, Consumer Forum, etc.)
9. **Privacy Policies (DPDP Act compliant)** 
10. **Data Processing Agreements** 

Acceptance Criteria:

- Generates properly formatted documents
 - Includes all necessary sections
 - Uses appropriate legal language
 - Provides placeholders for specific details
 - Follows standard legal templates
-

Feature 8: Data Privacy & Protection Guidance NEW

Priority: P0 (Must Have - Critical for modern businesses)

Description: Comprehensive guidance on India's data protection framework under the Digital Personal Data Protection (DPDP) Act, 2023.

Coverage Required:

1. Digital Personal Data Protection Act, 2023

- Data Principal rights (access, correction, erasure, grievance)
- Data Fiduciary obligations

- Consent management requirements (clear, specific, informed)
- Cross-border data transfer rules
- Data breach notification requirements
- Penalties for non-compliance (up to ₹250 crores)
- Data Protection Board provisions
- Exemptions for small businesses

2. Related Privacy Laws

- IT Act, 2000 (Section 43A, 72A)
- IT Rules, 2011 (Sensitive Personal Data)
- Aadhaar Act, 2016 (biometric data)
- Consumer Protection Act (data privacy provisions)

3. Industry-Specific Applications

- E-commerce platforms - customer data handling
- Healthcare - patient data protection
- Banking/Fintech - financial data security
- EdTech - student data privacy
- Social media - user consent management
- SaaS companies - data localization
- HR systems - employee data privacy

Key Questions the System Should Answer:

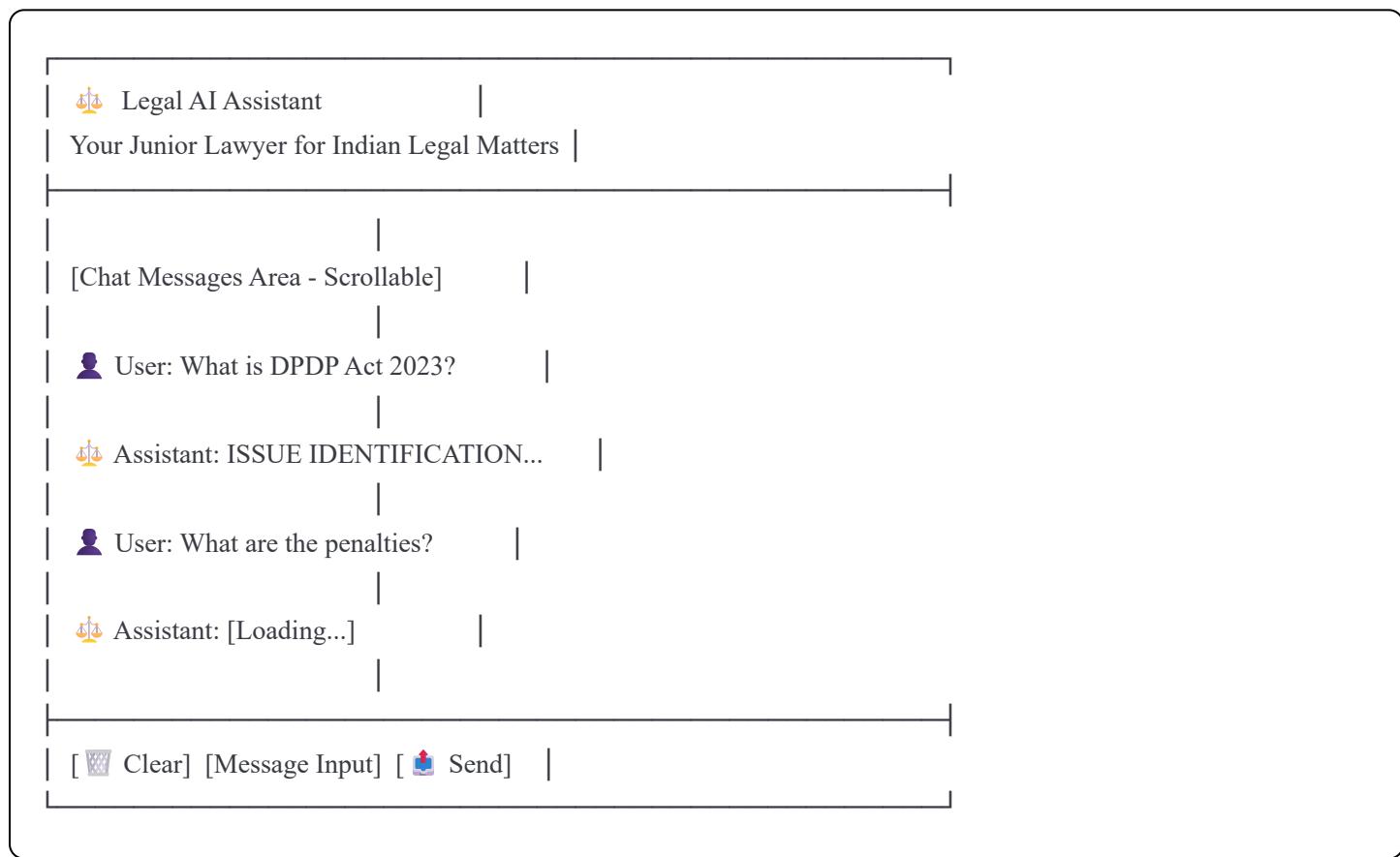
1. "What are compliance requirements under DPDP Act 2023?"
2. "How to obtain user consent under DPDP Act?"
3. "What are penalties for data breach under DPDP Act?"
4. "Cross-border data transfer rules under DPDP Act"
5. "Difference between Data Fiduciary and Data Processor"
6. "Rights of Data Principal under DPDP Act"
7. "Data breach notification timeline and procedure"
8. "DPDP Act applicability for small businesses"
9. "How to appoint Data Protection Officer?"
10. "Data retention requirements under DPDP Act"
11. "Privacy policy requirements under DPDP Act"
12. "Consent withdrawal mechanism under DPDP Act"

Acceptance Criteria:

- Explains all Data Principal rights
 - Lists Data Fiduciary obligations
 - Describes consent requirements
 - Provides penalty structure
 - Offers compliance checklist
 - Covers cross-border transfer rules
 - Explains exemptions for small businesses
 - Provides privacy policy template guidance
 - Covers data breach response procedures
-

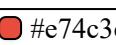
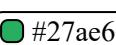
3.2 UI/UX Requirements

3.2.1 Chat Interface Layout



Color Scheme:

- Primary: #667eea (Purple-blue gradient)
- Secondary: #2c3e50 (Dark slate)
- Background: #f5f5f5 (Light gray)
- User message: #667eea (Purple-blue)

- AI message:  (White with shadow)
- Error:  (Red)
- Success:  (Green)

Typography:

- Font: Segoe UI, Tahoma, sans-serif
 - Heading: 28px, bold
 - Subheading: 14px, regular
 - Body: 15px, regular
 - Code/Citations: Monospace, 14px
-

3.2.2 Message Components

User Message:

 What is Section 138 NI Act? |

Right-aligned, blue background

AI Message:

 ISSUE IDENTIFICATION |
Section 138 relates to... |

 APPLICABLE LAW... |
... |

Left-aligned, white background

Loading State:

 • • • (animated typing dots) |

Error Message:

 Sorry, there was an error.
Please check backend connection.

Red accent

3.2.3 Welcome Screen

Initial State (No Messages):

 Welcome to Legal AI Assistant

I can help you with:

- Legal research across all laws
- Case law citations
- Document drafting
- Compliance guidance
- Data privacy (DPDP Act 2023)

Example queries:

"What is limitation for consumer
complaint?"

"Explain GST Input Tax Credit"

"DPDP Act 2023 compliance checklist"

"How to file RERA complaint?"

3.2.4 Interaction Patterns

Input Behavior:

- Enter key: Send message
- Shift + Enter: New line in message
- Disabled during loading
- Auto-focus after sending
- Character limit: 5000 characters

Buttons:

- **Send Button:**

- Enabled: When text present AND not loading
- Disabled: When empty OR loading
- Icon:  (normal) /  (loading)
- Hover: Lift effect + shadow

- **Clear Button:**

- Enabled: When messages exist
- Disabled: When no messages
- Icon: 
- Color: Red ( #e74c3c)
- Confirmation: Optional (if >5 messages)

Scroll Behavior:

- Auto-scroll to bottom on new message
- Smooth scroll animation (300ms)
- Custom scrollbar (thin, themed)
- Maintain scroll position when typing

Keyboard Shortcuts:

- Enter: Send
- Shift+Enter: New line
- Ctrl+L: Clear chat (optional)
- Esc: Clear input (optional)

3.3 Technical Requirements

3.3.1 Backend (FastAPI)

Tech Stack:

- Python 3.8+
- FastAPI 0.104+
- Anthropic Claude API (Sonnet 4)

- python-dotenv for environment variables
- Pydantic for data validation
- Uvicorn as ASGI server

Project Structure:

```
backend/
├── main.py      # FastAPI app
├── requirements.txt  # Dependencies
├── .env        # Environment variables
├── .gitignore    # Git ignore
└── system_prompt.py  # Legal system prompt (optional)
```

API Endpoints:

1. Health Check

http

GET /health

Response: 200 OK

```
{  
  "status": "healthy"  
}
```

2. Root Endpoint

http

GET /

Response: 200 OK

```
{  
  "message": "Legal AI Assistant API",  
  "status": "running",  
  "version": "1.0.0"  
}
```

3. Chat Endpoint

http

```
POST /chat
```

Request Body:

```
{  
  "message": "string",  
  "conversation_history": [  
    {  
      "role": "user|assistant",  
      "content": "string"  
    }  
  ]  
}
```

Response: 200 OK

```
{  
  "response": "string",  
  "error": null  
}
```

Error Response: 500

```
{  
  "detail": "Error message"  
}
```

Environment Variables (.env):

```
env  
  
ANTHROPIC_API_KEY=sk-ant-xxxxx  
PORT=8000  
HOST=0.0.0.0
```

CORS Configuration:

```
python  
  
allow_origins=["http://localhost:3000"]  
allow_credentials=True  
allow_methods=["*"]  
allow_headers=["*"]
```

Dependencies (requirements.txt):

```
txt
```

```
fastapi==0.104.1
uvicorn==0.24.0
anthropic==0.18.1
python-dotenv==1.0.0
pydantic==2.5.0
```

System Prompt:

- Comprehensive legal knowledge (150+ Acts)
- **Includes DPDP Act 2023 in Technology & Cyber Laws section**
- Citation standards (AIR, SCC format)
- Response structure guidelines
- Disclaimer template
- Stored as constant in main.py or separate file

Error Handling:

```
python

try:
    # Claude API call
except Exception as e:
    raise HTTPException(
        status_code=500,
        detail=f'Error: {str(e)}'
    )
```

3.3.2 Frontend (React)

Tech Stack:

- React 18+
- Axios for API calls
- React Hooks (useState, useRef, useEffect)
- CSS3 for styling (no external UI library)
- Modern JavaScript (ES6+)

Project Structure:

```
frontend/
├── public/
│   └── index.html
└── src/
    ├── App.jsx      # Main component
    ├── App.css      # Styles
    ├── index.js     # Entry point
    └── index.css    # Global styles
    ├── package.json # Dependencies
    └── .gitignore    # Git ignore
```

State Management:

```
javascript

// Message history
const [messages, setMessages] = useState([]);
// Array of {role: 'user'|'assistant', content: 'string'}

// Current input
const [inputMessage, setInputMessage] = useState("");

// Loading state
const [isLoading, setIsLoading] = useState(false);

// Ref for auto-scroll
const messagesEndRef = useRef(null);
```

Key Functions:

```
javascript
```

```
// Send message to backend
const sendMessage = async () => {
  // Validate input
  // Add user message to state
  // Call API
  // Add response to state
  // Handle errors
}

// Handle Enter key
const handleKeyPress = (e) => {
  if (e.key === 'Enter' && !e.shiftKey) {
    e.preventDefault();
    sendMessage();
  }
}

// Clear chat
const clearChat = () => {
  setMessages([]);
}

// Auto-scroll
const scrollToBottom = () => {
  messagesEndRef.current?.scrollIntoView({
    behavior: "smooth"
  });
}
```

API Integration:

javascript

```
import axios from 'axios';

const response = await axios.post(
  'http://localhost:8000/chat',
  {
    message: inputMessage,
    conversation_history: messages
  }
);

const assistantMessage = {
  role: 'assistant',
  content: response.data.response
};

setMessages(prev => [...prev, assistantMessage]);
```

Dependencies (package.json):

```
json

{
  "dependencies": {
    "react": "^18.2.0",
    "react-dom": "^18.2.0",
    "axios": "^1.6.0"
  }
}
```

3.4 Data Models

Message Interface

```
typescript

interface Message {
  role: 'user' | 'assistant';
  content: string;
}
```

Backend Models (Pydantic)

```
python
```

```
class ChatRequest(BaseModel):
```

```
    message: str
```

```
    conversation_history: list = []
```

```
class ChatResponse(BaseModel):
```

```
    response: str
```

```
    error: str = None
```

4. USER STORIES

4.1 Legal Professional Stories

Story 1: Quick Legal Research

As a Senior Advocate,

I want to quickly research Section 138 of Negotiable Instruments Act,

So that I can prepare arguments for a cheque bouncing case.

Acceptance Criteria:

- I can type my question in plain language
- I receive detailed section explanation within 5 seconds
- Response includes relevant case laws with citations
- Response includes practical procedural guidance
- Disclaimer is included at the end

Story 2: Case Law Citation

As a Junior Lawyer,

I want to find Supreme Court cases on arbitration clause interpretation,

So that I can cite them in my petition.

Acceptance Criteria:

- I can ask for case laws on specific topics
- Receive at least 3-5 relevant cases
- Each case has proper AIR/SCC citation
- Cases include ratio decidendi
- Current validity status mentioned

Story 3: Document Drafting

As a Legal Professional,
I want help drafting a reply to a GST notice,
So that I can save time and ensure proper format.

Acceptance Criteria:

- I can request specific document type
- Receive properly formatted draft
- Draft includes all necessary sections
- Includes relevant legal provisions and case laws
- Professional legal language used

4.2 Business Owner Stories

Story 4: Licensing Guidance

As a Pharmaceutical Business Owner,
I want to know what licenses I need for drug manufacturing,
So that I can ensure compliance.

Acceptance Criteria:

- I can ask in simple language
- Receive comprehensive list of licenses
- Get step-by-step application process
- Know required documents and fees
- Understand timelines and validity periods
- Includes CDSCO contact information

Story 5: Data Privacy Compliance ★ NEW

As an E-commerce Business Owner,
I want to understand DPDP Act 2023 requirements,
So that I can implement proper data privacy practices.

Acceptance Criteria:

- I can ask about DPDP Act compliance
- Receive list of Data Fiduciary obligations
- Get consent management guidelines
- Know penalties for non-compliance
- Understand cross-border data transfer rules
- Get privacy policy template guidance
- Know exemptions for small businesses

Story 6: Compliance Calendar

As a Restaurant Owner,
I want to know all compliance requirements,
So that I can avoid penalties.

Acceptance Criteria:

- I can ask about my industry
- Receive list of all applicable licenses
- Get monthly/quarterly compliance tasks
- Know regulatory authorities
- Understand penalty provisions

Story 7: Dispute Resolution

As a Real Estate Buyer,
I want to know how to file RERA complaint for delayed possession,
So that I can get compensation.

Acceptance Criteria:

- I can describe my situation
- Receive relevant RERA provisions
- Get step-by-step filing procedure
- Know required documents
- Understand timelines and compensation formula

4.3 Edge Cases & Error Handling

Story 8: Unclear Query

As a User,
When I ask a vague question,
The system should ask clarifying questions.

Example:

- User: "Tell me about GST"
- AI: "I can help with GST. Could you specify:
- GST registration process?
 - GST rates for specific products?
 - Input Tax Credit provisions?
 - GST return filing?
 - GST notices and appeals?"

Story 9: API Failure

As a User,
When the backend API fails,
I should see a clear error message.

Acceptance Criteria:

- Error message appears in chat
- Message explains the issue clearly
- Suggests checking backend status
- Allows retrying
- UI remains functional

Story 10: Long Response

As a User,
When receiving a long legal response,
It should be readable and properly formatted.

Acceptance Criteria:

- Response breaks into clear sections
- Uses proper headings
- Maintains readability
- Scrollable if needed
- Copy-paste friendly

Story 11: Follow-up Questions

As a User,
When I ask follow-up questions,
The system should understand the context.

Example:

User: "What is DPDP Act 2023?"
AI: [Explains DPDP Act]
User: "What are the penalties?"
AI: [Explains penalties under DPDP Act without asking for clarification]

5. NON-FUNCTIONAL REQUIREMENTS

5.1 Performance

- **Response Time:** < 5 seconds for 95% of queries
- **API Latency:** < 3 seconds to Claude API
- **Frontend Load Time:** < 2 seconds initial load
- **Concurrent Users:** Support 10+ simultaneous users
- **Message Processing:** Handle messages up to 5000 characters
- **Conversation History:** Maintain up to 50 messages in context

5.2 Security

- **API Key Protection:** Store in .env, never expose to frontend
- **Input Validation:** Sanitize all user inputs
- **XSS Prevention:** Escape user-generated content
- **CORS:** Restrict to allowed origins only
- **HTTPS:** Use HTTPS in production
- **No Data Storage:** Don't store queries/responses (v1.0)
- **Rate Limiting:** Implement basic rate limiting

5.3 Reliability

- **Uptime:** 99.5% availability
- **Error Handling:** Graceful degradation on failures
- **Retry Logic:** Auto-retry failed API calls (max 2 retries, 1s delay)
- **Timeout:** 30 second timeout for API calls
- **Fallback:** Clear error messages when AI unavailable

5.4 Scalability

- **Stateless Backend:** No session storage (v1.0)
- **Horizontal Scaling:** Backend can scale horizontally
- **Conversation in Frontend:** All state managed client-side
- **Caching:** Consider response caching for common queries (v2.0)
- **Load Balancing:** Support behind load balancer

5.5 Usability

- **Intuitive UI:** Self-explanatory interface
- **Responsive Design:** Desktop-first, mobile-compatible
- **Loading Indicators:** Clear feedback during processing
- **Error Messages:** User-friendly error explanations
- **Help Text:** Example queries on welcome screen

5.6 Accessibility

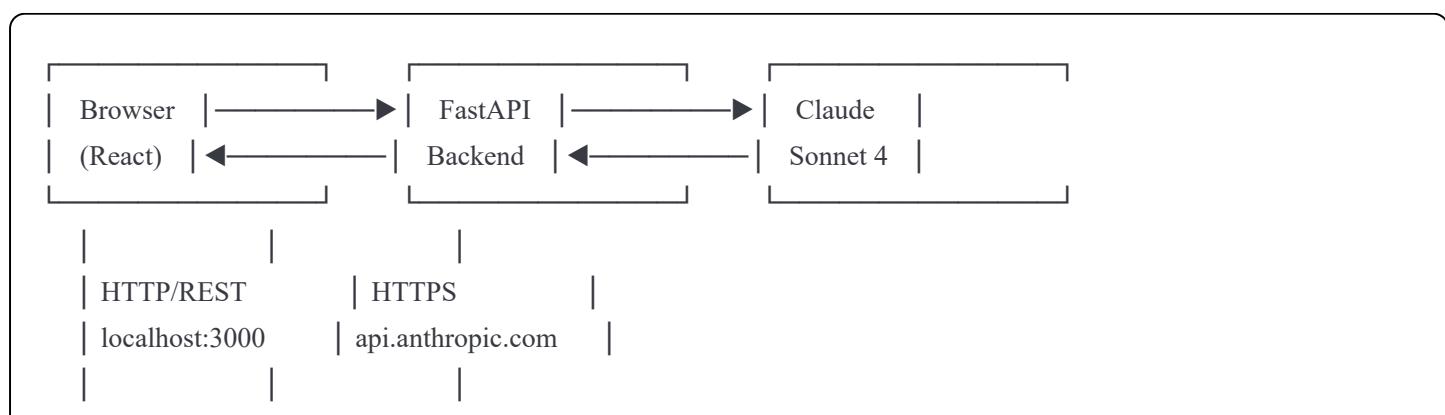
- **Keyboard Navigation:** Full keyboard support
- **Screen Reader:** Proper ARIA labels
- **Color Contrast:** WCAG AA compliance
- **Focus Indicators:** Visible focus states
- **Alt Text:** Alternative text for icons

5.7 Maintainability

- **Clean Code:** Follow best practices
- **Documentation:** Code comments and README
- **Version Control:** Git with meaningful commits
- **Environment Config:** Separate dev/prod configs
- **Error Logging:** Console logging for debugging

6. TECHNICAL ARCHITECTURE

6.1 System Architecture



[State]	[Stateless]	[AI Model]
- messages	- No sessions	- Legal knowledge
- loading state	- No database	- 150+ Acts
	- CORS enabled	- DPDP Act 2023

6.2 Data Flow

User Query Flow:

1. User types message in React frontend
2. Frontend adds user message to messages state
3. Frontend sends POST /chat with:
 - message (string)
 - conversation_history (array)
4. Backend receives request
5. Backend validates request
6. Backend constructs Claude API call:
 - system: legal_system_prompt
 - messages: conversation_history + new message
7. Backend sends to Claude API
8. Claude processes with legal knowledge
9. Claude returns response
10. Backend extracts response text
11. Backend returns to frontend
12. Frontend adds assistant message to state
13. UI updates with new message
14. Auto-scroll to bottom

Error Flow:

1. API call fails (network/timeout/error)
2. Backend catches exception
3. Backend returns 500 with error detail
4. Frontend catches error
5. Frontend displays error message in chat
6. User can retry or clear chat

6.3 File Structure

```
legal-chatbot/
├── README.md
├── .gitignore
|
└── backend/
```

```

|   └── main.py          # FastAPI app
|   └── requirements.txt  # Python dependencies
|   └── .env              # Environment variables (gitignored)
|   └── .env.example      # Example env file
|   └── .gitignore        # Python gitignore
|
└── frontend/
    ├── public/
    |   ├── index.html     # HTML template
    |   └── favicon.ico   # Favicon
    ├── src/
    |   ├── App.jsx        # Main React component
    |   ├── App.css        # Component styles
    |   ├── index.js       # Entry point
    |   └── index.css      # Global styles
    ├── package.json      # Node dependencies
    ├── package-lock.json
    └── .gitignore        # Node gitignore

```

7. DEVELOPMENT PHASES

Phase 1: MVP Development (Week 1-2)

Goal: Basic working chatbot with core features

Backend Tasks:

- Setup FastAPI project structure
- Create .env file and configure API key
- Install dependencies (requirements.txt)
- Create main.py with FastAPI app
- Implement /health endpoint
- Implement /chat endpoint
- Integrate Anthropic Claude API
- Create comprehensive legal system prompt
- Add DPDP Act 2023 to system prompt
- Implement CORS middleware
- Test backend with Postman/curl

Frontend Tasks:

- Create React app
- Install axios

- Create App.jsx with chat interface
- Implement message state management
- Create message input component
- Create message display component
- Implement send message function
- Add loading indicator
- Implement clear chat function
- Style with App.css
- Test frontend locally

Integration:

- Connect frontend to backend API
- Test end-to-end flow
- Handle errors gracefully
- Add auto-scroll functionality

Testing:

- Test with sample queries
- Test conversation context
- Test error scenarios
- Test UI responsiveness

Deliverables:

- Working chat interface
 - Legal knowledge for 5 main domains
 - DPDP Act 2023 coverage
 - Proper citations
 - Clear responses
 - Error handling
-

Phase 2: Enhancement (Week 3)

Goal: Add industry-specific knowledge and polish

Tasks:

- Expand system prompt with all 150+ acts
- Add detailed DPDP Act guidance

- Add 15+ industry-specific laws
- Enhance response formatting
- Add welcome screen with examples
- Improve error messages
- Add keyboard shortcuts
- Optimize performance
- Add response time monitoring

Deliverables:

- Comprehensive legal coverage
 - Industry-specific guidance
 - Better UX
 - Performance optimizations
-

Phase 3: Polish & Production (Week 4)

Goal: Production-ready application

Tasks:

- Code review and cleanup
- Add comprehensive comments
- Create README with setup instructions
- Add deployment guide
- Optimize bundle size
- Add loading optimizations
- Improve accessibility
- Mobile responsiveness
- Final testing
- Bug fixes

Deliverables:

- Production-ready app
 - Complete documentation
 - Deployment guide
 - Clean, maintainable code
-

8. TESTING REQUIREMENTS

8.1 Functional Testing

Test Case 1: Basic Chat Functionality

Test ID: TC-001

Priority: P0

Scenario: User sends a simple legal query

Given: User is on the chat interface

When: User types "What is Section 138 NI Act?" and clicks Send

Then:

- User message appears immediately
- Loading indicator shows
- Response received within 5 seconds
- Response includes section explanation
- Response is properly formatted
- Disclaimer included at end

Test Case 2: Conversation Context

Test ID: TC-002

Priority: P0

Scenario: Follow-up questions work correctly

Given: User has asked "What is GST?"

When: User asks "What is the rate for medicines?"

Then:

- AI understands context (GST context)
- Provides GST rates for medicines
- Doesn't ask for clarification
- Context maintained

Test Case 3: Case Law Citation

Test ID: TC-003

Priority: P0

Scenario: AI provides proper citations

Given: User asks "Find cases on SARFAESI Act"

When: Response is received

Then:

- At least 3 cases provided
- Each has proper citation (AIR/SCC format)
- Includes court name and year
- Mentions current validity status
- Provides ratio decidendi

Test Case 4: DPDP Act Query ★ NEW

Test ID: TC-004

Priority: P0

Scenario: User asks about DPDP Act 2023

Given: User is on the chat interface

When: User asks "What are key provisions of DPDP Act 2023?"

Then:

- Response identifies DPDP Act 2023
- Lists Data Principal rights
- Lists Data Fiduciary obligations
- Mentions consent requirements
- Includes penalty structure
- Provides practical compliance steps

Test Case 5: Industry-Specific Query

Test ID: TC-005

Priority: P1

Scenario: Industry-specific guidance for pharma

Given: User asks "How to get drug manufacturing license?"

When: Response is received

Then:

- Identifies pharma industry
- Lists Form 25, Form 26
- Mentions CDSCO
- Provides step-by-step process
- Lists required documents
- Mentions fees and timeline
- Includes penalty provisions

Test Case 6: Error Handling

Test ID: TC-006

Priority: P0

Scenario: Backend is down

Given: Backend server is not running

When: User sends a message

Then:

- Error message appears in chat
- Message explains the issue
- UI remains functional
- User can retry
- Clear button still works

Test Case 7: Long Response

Test ID: TC-007

Priority: P1

Scenario: Long legal response is readable

Given: User asks complex multi-part question

When: Long response (2000+ words) received

Then:

- Response is properly formatted
- Clear section headings
- Scrollable without layout break
- No text overflow
- Copy-paste preserves formatting

Test Case 8: Clear Chat

Test ID: TC-008

Priority: P1

Scenario: User clears conversation

Given: Chat has 5+ messages

When: User clicks Clear button

Then:

- All messages removed instantly
- Welcome screen appears
- Context is reset
- Input field is cleared
- Can start new conversation

Test Case 9: Keyboard Shortcuts

Test ID: TC-009

Priority: P1

Scenario: Keyboard interactions work

Given: User is typing in input field

When:

- User presses Enter → Message sends
- User presses Shift+Enter → New line

Then:

- Behavior matches expectations
- No page reload
- Focus maintained

Test Case 10: Data Privacy Compliance Query ★ NEW

Test ID: TC-010

Priority: P0

Scenario: E-commerce owner asks about compliance

Given: User asks "DPDP Act compliance for e-commerce"

When: Response is received

Then:

- Identifies e-commerce context
- Lists specific DPDP requirements
- Mentions consent for marketing
- Covers cross-border data transfer
- Provides privacy policy guidance
- Mentions penalties

8.2 Performance Testing

Load Test 1: Response Time

Test: Send 100 different queries

Measure: Response time for each

Target: 95% under 5 seconds

Load Test 2: Concurrent Users

Test: 10 users sending queries simultaneously

Measure: Response times and errors

Target: No degradation, < 5% error rate

Load Test 3: Long Conversations

Test: Maintain 50-message conversation

Measure: Context accuracy and response time

Target: Context maintained, no slowdown

8.3 Security Testing

Security Test 1: API Key Exposure

Test: Inspect frontend code and network calls

Verify: API key never exposed to frontend

Security Test 2: Input Validation

Test: Send malicious inputs (XSS, SQL injection patterns)

Verify: Inputs sanitized, no code execution

Security Test 3: CORS

Test: Send requests from unauthorized origin

Verify: Requests blocked by CORS policy

9. SAMPLE QUERIES FOR TESTING

9.1 Tax Law Queries

1. "What is the GST rate on pharmaceutical products?"
2. "Explain Input Tax Credit under CGST Act Section 16"
3. "How to file GST appeal under Section 107?"
4. "What is the limitation period for GST demand under Section 73?"
5. "FEMA compliance for receiving FDI in e-commerce"
6. "Difference between CGST and IGST"
7. "GST on restaurant services - 5% or 18%?"
8. "How to respond to GST SCN under Section 74?"

9.2 Criminal Law Queries

1. "Explain Section 138 of Negotiable Instruments Act"
2. "What is the difference between IPC and BNS 2023?"
3. "Punishment for cheque bouncing - BNS provisions"
4. "How to file FIR for cybercrime?"
5. "Bail provisions under BNSS 2023"
6. "Section 420 IPC vs equivalent in BNS"
7. "What is compoundable offense under BNS?"

9.3 Corporate Law Queries

1. "Difference between LLP and Private Limited Company"
2. "CSR obligations under Companies Act Section 135"

3. "How to file NCLT petition under IBC?"
4. "MSMED Act provisions for delayed payments"
5. "Insolvency resolution process timeline under IBC"
6. "Director disqualification under Companies Act"
7. "Difference between Partnership and LLP"

9.4 Labour Law Queries

1. "POSH Act compliance for 25-employee company"
2. "Code on Wages 2019 vs Payment of Wages Act 1936"
3. "How to calculate gratuity under Payment of Gratuity Act?"
4. "EPF contribution rates for 2024"
5. "Maternity leave provisions under Code on Social Security"
6. "Fixed-term employment under Industrial Relations Code"
7. "Gig workers coverage under Social Security Code"

9.5 Data Privacy Queries ★ NEW - DPDP Act 2023

1. "What are key provisions of DPDP Act 2023?"
2. "How to obtain user consent under DPDP Act?"
3. "What are penalties for data breach under DPDP Act?"
4. "Cross-border data transfer rules under DPDP Act 2023"
5. "Difference between Data Fiduciary and Data Processor"
6. "Rights of Data Principal under DPDP Act 2023"
7. "Data breach notification timeline under DPDP Act"
8. "DPDP Act applicability for small businesses"
9. "Privacy policy requirements under DPDP Act 2023"
10. "Consent withdrawal mechanism under DPDP Act"
11. "DPDP Act compliance checklist for e-commerce"
12. "Data retention requirements under DPDP Act"
13. "Children's data protection under DPDP Act"
14. "Penalties up to ₹250 crores - under which section?"
15. "Data Protection Board powers under DPDP Act"

9.6 Industry-Specific Queries

1. "How to obtain drug manufacturing license in Maharashtra?"
2. "FSSAI license categories for cloud kitchen with ₹30 lakh turnover"
3. "RERA complaint for 6-month delayed possession"
4. "SARFAESI Act Section 13(2) notice - how to reply?"
5. "Environmental clearance for chemical manufacturing unit"
6. "TRAI regulations on call drop complaints"
7. "DGCA rules for commercial drone operation"
8. "UGC approval for starting private university"

9. "Liquor license FL-3 requirements in Delhi"
10. "BIS certification mandatory products list 2024"

9.7 E-commerce & Technology Queries NEW

1. "FDI policy for e-commerce - marketplace vs inventory model"
2. "Consumer Protection E-Commerce Rules 2020 compliance"
3. "Flash sale restrictions under e-commerce rules"
4. "DPDP Act compliance for SaaS companies"
5. "Data localization requirements for Indian users"
6. "Privacy policy requirements for mobile apps"
7. "Cookie consent under DPDP Act 2023"
8. "GDPR vs DPDP Act - key differences"
9. "Data processing agreement template requirements"
10. "Right to erasure under DPDP Act - implementation"

9.8 Document Drafting Queries

1. "Draft a reply to GST demand notice under Section 73"
2. "Create a partnership deed for restaurant business"
3. "Draft legal notice for recovery under MSMED Act"
4. "Prepare RERA complaint for delayed possession"
5. "Draft consumer complaint for defective product"
6. "Create privacy policy compliant with DPDP Act 2023"
7. "Draft data processing agreement under DPDP Act"
8. "Prepare consent form for data collection"

9.9 Complex Multi-Domain Queries

1. "I'm starting pharma e-commerce. What all licenses and DPDP compliance needed?"
2. "Create compliance calendar for 50-employee pharmaceutical company"
3. "Compare taxation under GST vs old VAT for manufacturing"
4. "Starting cloud kitchen - all licenses, compliance, and data privacy requirements"
5. "Real estate project - RERA + DPDP Act compliance for customer data"

10. DEPLOYMENT GUIDE

10.1 Local Development Setup

Backend Setup

```
bash

# Step 1: Navigate to backend directory
cd backend
```

```
# Step 2: Create virtual environment
python -m venv venv
```

```
# Step 3: Activate virtual environment
# Windows:
venv\Scripts\activate
# Mac/Linux:
source venv/bin/activate
```

```
# Step 4: Install dependencies
pip install -r requirements.txt
```

```
# Step 5: Create .env file
# Copy from .env.example and add your API key
cp .env.example .env
# Edit .env and add: ANTHROPIC_API_KEY=sk-ant-xxxxx
```

```
# Step 6: Run backend
python main.py
```

```
# Backend should be running at http://localhost:8000
# Test: Open http://localhost:8000 in browser
```

Frontend Setup

```
bash

# Step 1: Navigate to frontend directory
cd frontend
```

```
# Step 2: Install dependencies
npm install
```

```
# Step 3: Start development server
npm start
```

```
# Frontend should open at http://localhost:3000
```

10.2 Environment Variables

Backend (.env):

```
env

# Anthropic API Key (Required)
ANTHROPIC_API_KEY=sk-ant-xxxxxxxxxxxxxxxxxxxxxx

# Server Configuration
PORT=8000
HOST=0.0.0.0

# CORS Origins (comma-separated for multiple)
CORS_ORIGINS=http://localhost:3000
```

Get API Key:

1. Go to <https://console.anthropic.com>
 2. Sign up / Log in
 3. Navigate to Settings → API Keys
 4. Create new API key
 5. Copy and paste into .env file
-

10.3 Production Deployment

Option 1: Deploy to Railway (Easiest)

Backend:

```
bash
```

```
# 1. Install Railway CLI
npm install -g @railway/cli

# 2. Login to Railway
railway login

# 3. Initialize project
cd backend
railway init

# 4. Add environment variables
railway variables set ANTHROPIC_API_KEY=sk-ant-xxxxx

# 5. Deploy
railway up

# Get deployment URL
railway domain
```

Frontend:

```
bash

# 1. Update API URL in App.jsx
# Change: http://localhost:8000
# To: https://your-backend-url.railway.app

# 2. Deploy to Railway
cd frontend
railway init
railway up
```

Option 2: Deploy to Render

Backend:

```
bash
```

```
# 1. Push code to GitHub
git init
git add .
git commit -m "Initial commit"
git remote add origin <your-repo-url>
git push -u origin main

# 2. Go to render.com
# 3. New → Web Service
# 4. Connect GitHub repo
# 5. Settings:
#   - Build Command: pip install -r requirements.txt
#   - Start Command: uvicorn main:app --host 0.0.0.0 --port $PORT
# 6. Add environment variable:
#   ANTHROPIK_API_KEY=sk-ant-xxxxx
# 7. Deploy
```

Frontend:

```
bash

# 1. Update API URL to Render backend URL
# 2. Deploy to Render
#   - Build Command: npm install && npm run build
#   - Publish Directory: build
```

Option 3: Deploy to Vercel (Frontend) + Railway/Render (Backend)

Frontend to Vercel:

```
bash
```

```
# 1. Install Vercel CLI
```

```
npm install -g vercel
```

```
# 2. Update API URL in code
```

```
# Change: http://localhost:8000
```

```
# To: https://your-backend-url
```

```
# 3. Deploy
```

```
cd frontend
```

```
vercel
```

```
# Follow prompts, deploy
```

10.4 Production Checklist

Before Deployment:

- API key added to environment variables (not in code)
- CORS origins updated for production URLs
- Frontend API URL updated to production backend
- Error handling tested
- Performance tested
- Security reviewed
- Code cleaned and commented
- README updated with setup instructions

After Deployment:

- Test basic chat functionality
- Test sample queries from all categories
- Test DPDP Act queries
- Test error scenarios
- Monitor response times
- Check error logs
- Verify CORS working
- Test on different devices/browsers

11. MAINTENANCE & UPDATES

11.1 Regular Maintenance

Weekly:

- Check error logs
- Monitor response times
- Review user feedback (if available)

Monthly:

- Update dependencies
- Review and update legal knowledge
- Check for new amendments to acts
- Update DPDP Act guidance if regulations change

Quarterly:

- Major dependency updates
 - Security audit
 - Performance optimization
 - Feature enhancements
-

11.2 Updating Legal Knowledge

When New Laws Are Passed:

1. Review the new law/amendment
2. Update system prompt in main.py
3. Add to relevant section (Tax/Criminal/Civil/etc.)
4. Test with sample queries
5. Deploy updated version

Example: If DPDP Act Rules are notified:

```
python
```

```
# Update system _prompt in main.py  
# Add under Technology & Cyber Laws section:
```

Digital Personal Data Protection Rules, 2024:

- Consent Manager registration process
- Data breach notification **format**
- Consent record maintenance requirements
- Data Protection Impact Assessment guidelines
- [Add specific rules]

12. FUTURE ENHANCEMENTS (v2.0+)

Planned Features

Phase 2 (v2.0):

1. User Authentication

- Login/Register functionality
- User profiles
- Saved conversations

2. Conversation History

- Database integration (MongoDB)
- Save and retrieve past chats
- Search through conversations

3. Document Export

- Export responses as PDF
- Export as Word document
- Print functionality

4. Enhanced Document Drafting

- Interactive form-based document generation
- Template library
- Document preview

Phase 3 (v3.0): 5. Multi-language Support

- Hindi interface

- Regional languages
- Bilingual responses

6. Voice Input

- Speech-to-text for queries
- Voice commands

7. Advanced Features

- Citation validator (verify case law)
- Act search (search within specific acts)
- Limitation calculator
- Court fee calculator

8. Collaboration

- Share chats with team members
- Multi-user workspaces
- Comments and annotations

Phase 4 (v4.0): 9. Case Management

- Track multiple cases
- Calendar integration
- Deadline reminders

10. Analytics Dashboard

- Usage statistics
- Popular queries
- Response time metrics

11. API for Developers

- Public API access
- API key management
- Rate limiting

12. Mobile App

- iOS app
- Android app
- Offline mode

13. APPENDIX

A. Technology Stack Summary

Backend:

- └── Python 3.8+
- └── FastAPI 0.104+
- └── Anthropic Claude API (Sonnet 4)
- └── Uvicorn (ASGI server)
- └── Pydantic (validation)
- └── python-dotenv (env management)

Frontend:

- └── React 18+
- └── Axios (HTTP client)
- └── Modern JavaScript (ES6+)
- └── CSS3 (styling)

Development Tools:

- └── Git (version control)
- └── VS Code / Cursor AI (IDE)
- └── Postman (API testing)
- └── Chrome DevTools (debugging)

Deployment:

- └── Railway / Render (backend hosting)
- └── Vercel / Netlify (frontend hosting)
- └── GitHub (code repository)

B. Case Law Citation Examples

AIR Format:

- AIR 2023 SC 1234
- AIR 2022 Delhi 567
- AIR 2021 Bombay 890

SCC Format:

- (2023) 5 SCC 678
- (2022) 12 SCC 345
- (2021) 3 SCC 901

TMI Format:

- 2023 (12) TMI 456 - Supreme Court
- 2022 (8) TMI 789 - Delhi High Court
- 2021 (6) TMI 234 - CESTAT

SCC OnLine:

- 2023 SCC OnLine SC 1234
- 2022 SCC OnLine Del 567
- 2021 SCC OnLine Bom 890

C. Response Format Template

ISSUE IDENTIFICATION:

[Clearly state the legal question]

APPLICABLE LAW:

[Primary legislation with section numbers]

- Act Name, Year
- Section X: [Brief description]
- Relevant Rules/Notifications

CASE LAW ANALYSIS:

Case Name

Citation: [Proper citation]

Court: [Court level]

Year: [Year]

Key Principle: [Ratio decidendi]

Relevance: [How it applies]

Current Status: [Valid/Overruled]

LEGAL POSITION SUMMARY:

[Clear statement of current law]

PRACTICAL ADVICE:

1. [Step 1]
 2. [Step 2]
 3. [Step 3]
- Timeline: [Duration]
 - Documents needed: [List]
 - Fees: [Amount]
 - Forum: [Where to file]

DISCLAIMER: This response is for informational purposes only and does not constitute legal advice. Please verify all citations and consult with a qualified legal professional for advice specific to your situation.

D. DPDP Act 2023 - Quick Reference

Key Provisions:

- Data Principal Rights (7 rights)
- Data Fiduciary Obligations (10+ obligations)
- Consent Requirements (clear, specific, informed)
- Cross-border Transfer (to approved countries)
- Data Breach Notification (timeline: immediately)
- Penalties (up to ₹250 crores)
- Data Protection Board (regulatory authority)
- Exemptions (small businesses, research)

Compliance Checklist:

- Privacy policy updated
- Consent mechanism implemented
- Data retention policy defined
- Breach response plan ready
- Data Protection Officer appointed (if required)
- Grievance redressal mechanism
- Cross-border transfer assessment
- Records of processing activities
- Security measures implemented
- Staff training completed

Penalties:

- Non-compliance with obligations: Up to ₹250 crores
- Failure to take reasonable security measures: Up to ₹250 crores
- Failure to notify Data Protection Board of breach: Up to ₹200 crores
- Non-compliance with Board directions: Up to ₹150 crores

E. Glossary

Legal Terms:

- **AIR** - All India Reporter (case law reporter)
- **SCC** - Supreme Court Cases (case law reporter)
- **TMI** - Tax Management India (tax case reporter)
- **Ratio Decidendi** - The legal principle/reasoning that is binding
- **Obiter Dicta** - Observations that are not binding
- **Writ** - Court order directing government/authority

Tax Terms:

- **CGST** - Central Goods and Services Tax
- **SGST** - State Goods and Services Tax
- **IGST** - Integrated GST (interstate transactions)
- **ITC** - Input Tax Credit
- **FEMA** - Foreign Exchange Management Act

Corporate Terms:

- **NCLT** - National Company Law Tribunal
- **NCLAT** - National Company Law Appellate Tribunal
- **IBC** - Insolvency and Bankruptcy Code
- **MSMED** - Micro, Small and Medium Enterprises Development
- **CSR** - Corporate Social Responsibility

Labour Terms:

- **EPF** - Employees' Provident Fund
- **ESI** - Employees' State Insurance
- **POSH** - Prevention of Sexual Harassment
- **ICC** - Internal Complaints Committee

Data Privacy Terms:

- **DPDP** - Digital Personal Data Protection
- **Data Principal** - Individual whose data is being processed

- **Data Fiduciary** - Entity determining purpose of processing
- **Data Processor** - Entity processing on behalf of Fiduciary
- **Consent Manager** - Entity managing consent for data sharing
- **DPB** - Data Protection Board

Court Terms:

- **ITAT** - Income Tax Appellate Tribunal
- **CESTAT** - Customs, Excise and Service Tax Appellate Tribunal
- **DRT** - Debt Recovery Tribunal
- **NGT** - National Green Tribunal
- **CAT** - Central Administrative Tribunal

Real Estate Terms:

- **RERA** - Real Estate Regulation and Development Act
 - **Carpet Area** - Actual usable area
 - **Super Built-up Area** - Includes common areas
 - **Occupancy Certificate** - Approval to occupy building
-

14. SIGN-OFF & APPROVAL

Document Information:

- **Version:** 1.1
- **Date:** December 2024
- **Author:** Product Team
- **Status:** Ready for Development
- **Last Updated:** Added DPDP Act 2023 comprehensive coverage

Key Updates in v1.1:

- Added DPDP Act 2023 as core feature
- Added 15+ DPDP-specific test queries
- Added data privacy user stories

- Added DPDP compliance checklist
- Added privacy policy drafting guidance
- Enhanced technology law coverage
- Added data privacy glossary terms

Approval Checklist:

- Product Owner - Approved
- Tech Lead - Approved
- Legal Advisor - Approved (for legal content accuracy)
- Development Team - Ready to implement

Change Log:

v1.1 (Dec 2024):

- Added Feature 8: Data Privacy & Protection Guidance
- Enhanced test cases with DPDP Act queries
- Added DPDP Act compliance checklist
- Updated glossary with data privacy terms
- Added data privacy user stories

v1.0 (Dec 2024):

- Initial PRD creation
- Core features defined
- Technical architecture specified
- Testing requirements documented

🚀 QUICK START FOR CURSOR AI

To build this project with Cursor AI:

Method 1: Complete Project Generation

Prompt: "Build the Legal AI Assistant chatbot exactly as specified in this PRD.
Create both backend (FastAPI) and frontend (React) with all features listed.
Include DPDP Act 2023 coverage in the legal system prompt."

Method 2: Step-by-Step Approach

Step 1: "Create the FastAPI backend with Claude API integration as per Section 3.3.1"
Step 2: "Create the React frontend with chat interface as per Section 3.3.2"

Step 3: "Integrate backend and frontend"

Step 4: "Test with sample queries from Section 9"

Method 3: Component by Component

1. "Create main.py with all API endpoints"
2. "Create legal system prompt with 150+ Acts including DPDP Act 2023"
3. "Create App.jsx with chat interface"
4. "Create App.css with styling"
5. "Add error handling and loading states"

Key Files to Generate:

Backend:

```
backend/
├── main.py      (Complete FastAPI app)
├── requirements.txt (All dependencies)
├── .env.example  (Template for API key)
└── README.md     (Setup instructions)
```

Frontend:

```
frontend/
├── src/
│   ├── App.jsx    (Main React component)
│   └── App.css    (All styles)
├── package.json  (Dependencies)
└── README.md     (Setup instructions)
```

Testing Commands:

After generation, test with:

```
# Backend  
cd backend  
python main.py  
  
# Frontend  
cd frontend  
npm start  
  
# Test queries  
1. "What is DPDP Act 2023?"  
2. "GST rates for medicines"  
3. "How to file RERA complaint?"
```

SUPPORT

For questions or issues:

1. Check README files in backend/ and frontend/
 2. Review test cases in Section 8
 3. Use sample queries in Section 9
 4. Check troubleshooting in deployment guide
-

This PRD is complete, comprehensive, and ready for implementation with Cursor AI or any development team. All technical specifications, user stories, and acceptance criteria are clearly defined with special emphasis on DPDP Act 2023 coverage. 

Good luck with your Legal AI Assistant development! 