Smart Repair Assistant - Professional Services Feature Plan

Project Overview

This document outlines the implementation plan for adding a professional services marketplace to the Smart Repair Assistant application. This feature will connect diagnosed problems with qualified local professionals while maintaining privacy and providing transparency in the service process.

Database Schema Changes

New Tables Required

Table: professionals

Field	Type	Description
id	UUID (Primary Key)	Unique identifier
user_id	UUID (Foreign Key)	Links to auth.users
category	ENUM	plumber, electrician, carpenter, painter, hvac, locksmith, etc.
business_name	VARCHAR(255)	Optional business name
qualifications	TEXT	Professional certifications and qualifications
experience_years	INTEGER	Years of experience
description	TEXT	Free text about themselves
location_address	VARCHAR(500)	Required - Full address
location_lat	DECIMAL(10,8)	Latitude coordinates
location_lng	DECIMAL(11,8)	Longitude coordinates
phone	VARCHAR(20)	<i>Private</i> - Only for professional editing
email	VARCHAR(255)	<i>Private</i> - Only for professional editing
hourly_rate	DECIMAL(8,2)	Optional hourly rate
is_active	BOOLEAN	Account status
created_at	TIMESTAMP	Registration date
updated_at	TIMESTAMP	Last modification

Table: professional_cases

Field	Type	Description
id	UUID (Primary Key)	Unique identifier
problem_id	UUID (Foreign Key)	Links to problems table
professional_id	UUID (Foreign Key)	Links to professionals table
client_contact_info	TEXT	How professional can contact client

Field	Type	Description
professional_notes	TEXT	Private notes for professional
estimated_cost	DECIMAL(10,2)	Initial cost estimate
actual_cost	DECIMAL(10,2)	Final cost
status	ENUM	contacted, accepted, in_progress, completed, cancelled
start_date	DATE	When work began
completion_date	DATE	When work was completed
created_at	TIMESTAMP	Case creation date
updated_at	TIMESTAMP	Last modification

Table: case_updates

Field	Type	Description
id	UUID (Primary Key)	Unique identifier
case_id	UUID (Foreign Key)	Links to professional_cases
update_text	TEXT	Update description
update_type	ENUM	status_change, note, cost_update
created_by	UUID	Professional who created update
created_at	TIMESTAMP	Update timestamp

Application Structure

New Page Routes

Professional Registration & Authentication

- **/professional/register** - Professional sign-up form
- **/professional/login** - Professional login (separate from client auth)

Professional Dashboard & Management

- **/professional/dashboard** - Main dashboard with active cases overview
- **/professional/cases** - Complete case management interface
- **/professional/revenue** - Revenue tracking with time-based filters
- **/professional/profile** - Edit professional information and qualifications
- **/professional/settings** - Account settings and preferences

Client-Professional Integration

- **/log/[id]/professionals** - Find professionals for specific problem
- **/log/[id]/case/[caseId]** - View case progress and updates

Implementation Phases

Phase 1: Professional Registration System

Duration: 1-2 weeks

Tasks: Create professional registration form with:

- Category selection dropdown
- Qualifications text area
- Experience years input
- Description text area
- **Required location picker** (Google Maps integration)
- Contact information (phone, email)
- Optional hourly rate

Implement location services:

- Google Maps API integration
- Address autocomplete
- Coordinate storage for location-based search

Create professional authentication flow:

- Separate login system for professionals
- Professional dashboard routing
- Role-based access control

Phase 2: Professional Dashboard

Duration: 2-3 weeks

Tasks: Main Dashboard:

- Active cases overview
- Recent case updates
- Quick stats (total cases, completion rate)
- Revenue summary

Case Management Interface:

- List all assigned cases
- Filter by status, date, client
- Case detail views

- Update case status functionality

Revenue Tracking:

- Total earnings display
- Time-based filtering (weekly, monthly, yearly)
- Case completion statistics
- Revenue per category breakdown

Profile Management:

- Edit qualifications and experience
- Update location and contact info
- Manage availability status

Phase 3: Client-Professional Connection

Duration: 2-3 weeks

Tasks: Professional Discovery:

- "Find Local Professionals" button in problem log
- Search professionals by category
- Location-based filtering (distance radius)
- Display professional profiles (public information only)

Contact System:

- Contact professional functionality
- Automatic case creation when client reaches out
- Professional notification system
- Client contact information sharing with professional

Professional Selection Interface:

- Professional profile cards showing: Category and experience, Qualifications, Description, Distance from problem location, **No contact information visible**

Phase 4: Case Management & Updates

Duration: 2-3 weeks

Tasks: Professional Case Updates:

- Add case notes and status updates

- Cost estimation and actual cost tracking
- Photo uploads for work progress
- Timeline management (start/completion dates)

Client Case Viewing:
- Case progress timeline
- Professional updates and notes
- Cost information (estimates and final)
- Case status tracking

Update System:
- Real-time notifications for case updates
- Update history and timeline
- Status change notifications
- Professional note system

Phase 5: Revenue Analytics & Optimization

Duration: 1-2 weeks

Tasks: Advanced Revenue Tracking:
- Monthly/yearly revenue reports
- Case completion rate analytics
- Average case value tracking
- Category performance analysis

Professional Performance Metrics:
- Client satisfaction indicators
- Response time tracking
- Case completion statistics
- Repeat client rate

Key Features Breakdown

For Professionals

Registration Features:

- Category-based professional classification
- Qualification and experience documentation
- **Mandatory location specification**
- Private contact information management
- Business information (optional)

Dashboard Features:

- Active case monitoring
- Revenue tracking and analytics
- Profile and information management
- Case status updates and notes
- Client communication history

Privacy Controls:

- Contact information remains private
- Professional decides when to share contact details
- Case update visibility controls

For Clients

Professional Discovery:

- Search by problem category
- Location-based professional finding
- Professional qualification viewing
- Experience and description access
- **No direct contact information access**

Case Management:

- Case progress tracking
- Professional update viewing
- Cost estimate and final cost visibility

- Case history and timeline access
- Status change notifications

Privacy Features:

- Contact information shared only with chosen professional
- Case updates visible to both parties
- Secure communication channel

Privacy & Security Considerations

Data Protection:

- Professional contact information encrypted
- Client contact details shared only upon case creation
- Secure case update system
- Role-based access control

Communication Security:

- No direct contact information exposure
- Platform-mediated initial contact
- Secure case update system
- Privacy-compliant data handling

Professional Verification:

- Qualification documentation
- Experience verification system
- Location validation
- Professional status management

Technical Requirements

Third-Party Integrations:

- **Google Maps API** for location services
- **Geocoding services** for address validation
- **Distance calculation** for professional search
- **Real-time notifications** for case updates

Database Considerations:

- Efficient location-based queries
- Case update performance optimization
- Revenue calculation indexes
- Professional search optimization

Security Implementation:

- Role-based authentication
- Privacy-compliant data storage
- Secure communication channels
- Professional verification system

Success Metrics

For Professionals:

- Registration completion rate
- Active professional count
- Average revenue per professional
- Case completion rate
- Professional retention rate

For Clients:

- Professional contact rate from problem logs
- Case completion satisfaction
- Repeat professional usage
- Problem resolution time improvement

Platform Metrics:

- Total cases created
- Revenue processed through platform
- Professional-client match success rate
- Geographic coverage expansion

Future Enhancement Opportunities

Payment Integration:

- In-app payment processing
- Escrow services for case payments
- Automatic revenue tracking
- Professional payout system

Rating & Review System:

- Client professional ratings
- Professional performance scores
- Review and feedback system
- Quality assurance metrics

Advanced Features:

- Professional scheduling system
- Automated professional matching
- AI-powered professional recommendations
- Multi-professional case collaboration

Conclusion

This professional services feature transforms the Smart Repair Assistant from a diagnostic tool into a complete home repair ecosystem. By connecting diagnosed problems with qualified local professionals while maintaining privacy and transparency, the platform provides value to both clients seeking repairs and professionals seeking customers.

The phased implementation approach allows for iterative development, testing, and refinement of features while building a robust foundation for future enhancements.