



**RevInfotech**  
revolution redefined



**Case Study  
of  
AI Features  
Integrated with  
Real Estate website**

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**VERSION:**

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## AI Implementation Case Study – Revinfotech Pvt. Ltd.

### Project Title:

### AI-Powered Process Automation for a Leading Real Estate Company (North America)

### Client Overview:

- **Industry:** Real Estate, Property Management
- **Client Name:** Confidential (Leading US-based Property Services Company)
- **Employees:** 200+
- **Operational Regions:** North America
- **Deployment Type:** Cloud-Based AI Suite – Voice AI, RAG, Valuation Engine

### Executive Summary:

Revinfotech partnered with a prominent real estate firm to implement an AI-powered automation platform designed to reduce manual workload, enhance customer interaction, and streamline property intelligence. The solution included three mission-critical components:

1. **Voice AI Agent** for call handling and lead engagement
2. **Order Form Automation** using document AI + RAG
3. **Property Valuation System** using structured data + ML models

This project aimed to:

- Reduce human dependency for outbound communications
- Accelerate document processing and order intake
- Standardize property valuations using AI/ML algorithms
- Integrate smoothly with the client's CRM and internal systems

## Delivered Modules

### 1. AI-Powered Call Handling Agent (Voice AI)

**Objective:** Automate outbound calls for inspection scheduling, client communication, and lead follow-up.

**Features Delivered:**

- Outbound call flow via **Twilio Voice API**
- **Speech-to-Text (Whisper)** and **Text-to-Speech (ElevenLabs)**
- GPT-4o integrated via **LangChain** for natural conversations
- Contextual memory for multi-turn conversations
- CRM sync with call summaries and tags
- Custom scripts based on property type, agent name, location, and lead stage

**Integrations:**

- CRM (custom REST API)
- Google Calendar
- Call recording and logging

**Benefits Achieved:**

- 80% reduction in manual calls
- 60% increase in customer follow-up rate
- Avg. call resolution in <90 seconds
- 2x faster lead conversion

### 2. Order Form Automation (RAG-based AI)

**Objective:** Eliminate manual order entry by automatically reading and extracting data from property service forms.

**Features Delivered:**

- OCR using **LayoutLMv3 + Tesseract**
- **RAG pipeline** with FAISS indexing and GPT-4o for dynamic responses
- Form type classification (inspection, appraisal, maintenance, etc.)
- Data extraction & auto-fill into backend system
- Confidence scoring & human-in-the-loop validation

**Integrations:**

- Google Drive / Email PDF ingestion

- Internal order management system (Node.js API)

**Benefits Achieved:**

- 95% reduction in manual entry
- Form processing time dropped from 4 hours to <10 minutes
- 98% accuracy rate on field mapping
- Improved operational efficiency and order compliance

### **3. Automated Property Valuation System**

**Objective:** Build an ML-driven property valuation engine using structured data inputs and external sources.

**Features Delivered:**

- Feature engineering on:
  - Lot size, number of beds/baths, condition, property type
  - Location + market trends + recent sales
- ML model: **XGBoost Regression with custom preprocessing pipeline**
- API-driven input + confidence intervals + comparable suggestions
- Instant valuation PDF report generation

**Data Sources:**

- Internal CRM
- Zillow API, MLS (mock integration), County records

**Benefits Achieved:**

- Cut valuation turnaround from 3 days to real-time
- MAE (Mean Absolute Error) under 6.8%
- Streamlined underwriting and client reporting
- Valuation generation integrated into sales flow

#### 4. Architecture & Technical Stack

- **LLM & NLP:** OpenAI GPT-4o + LangChain
- **Voice Layer:** Twilio, ElevenLabs, Whisper
- **OCR & Document AI:** LayoutLMv3, Donut, Tesseract
- **Database:** PostgreSQL
- **Backend APIs:** FastAPI (Python)
- **Deployment:** AWS (EC2 + S3 + Lambda)
- **Security:** OAuth2, JWT auth, Role-based access
- **Monitoring:** CloudWatch + Prometheus + Grafana dashboards

#### 5. Business Impact

Metric	Before AI	After AI	Impact
Form Processing Time	~4 hours	<10 mins	↓ 95% reduction
Appointment Scheduling Effort	Manual (2–3 calls)	Fully automated	↓ 80% manual load
Lead Follow-up Completion Rate	~50%	85%+	↑ 70% more touchpoints
Property Valuation Turnaround	2–3 days	Instant (API or form input)	↑ 3x faster decisions
HR/Staff Load on Data Entry	High	Negligible	↓ Reduced dependency drastically

## 6. Future Scope & Roadmap

- **Client Chatbot:** 24/7 virtual assistant for property inquiries and updates
- **Lease Document Parsing:** Auto-tagging, clause extraction
- **Voice + Chat Hybrid Agent** for tenants and agents
- **Visual Property Scanning (CV)** for automated condition scoring
- **Mobile App:** Form fill + voice task creation for on-site staff

## 7. Why Revinfotech?

- **AI-Native Engineering:** From LLMs to RAG to MLOps — AI is in our DNA
- **Global Presence:** Offices in the USA, UAE, UK, Canada, Australia, and India
- **Experienced Team:** 100+ ERP & AI consultants and developers
- **20+ Years of Excellence:** 500+ enterprise-grade solutions delivered
- **Top Tech Partners:** AWS, Google Cloud, Microsoft, SAP, Zoho
- **Real Estate Expertise:** Deep knowledge of domain workflows and compliance