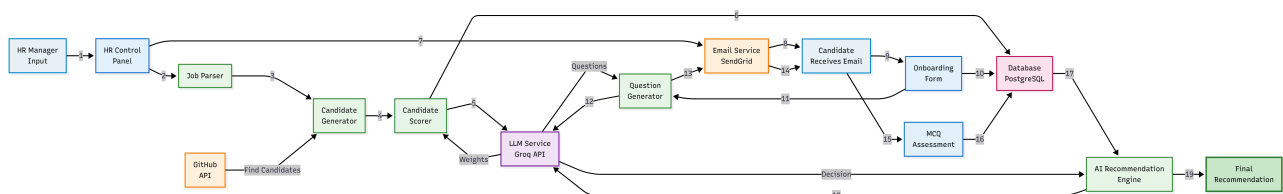


# Agentic Hiring System - Short Documentation

## 1. System Overview

### Architecture Diagram



The **Agentic Hiring System** is a fully automated AI-powered recruitment platform that handles the complete hiring workflow from job creation to candidate assessment. The architecture diagram above shows the complete flow through all system components.

## 2. Tools and Technologies Used

Category	Tool	Purpose	Justification
AI/LLM	Groq API (Llama 3.1)	Question generation, scoring, recommendations	Free tier: 14,400 requests/day; fast inference
Backend	Python 3.9+, Flask 3.0.0	Core application & web framework	Rich ecosystem, lightweight, microservices-ready
Email	SendGrid 6.11.0	Automated email delivery	100 free emails/day; reliable deliverability
Data	Pandas, NumPy, Faker	Data processing & mock generation	Industry standard tools for prototyping

Category	Tool	Purpose	Justification
Deployment	Render	Cloud hosting	750 free hours/month; auto-deploy from Git
Database	PostgreSQL, SQLAlchemy	Data persistence & ORM	Open-source, secure, prevents SQL injection

**Total Cost: \$0/month** using free tiers 💰

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## 3. Assumptions and Limitations

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### Assumptions

1. Candidates have valid email addresses and internet access
2. All content is in English
3. Traffic stays within free tier limits (Render: <750hrs/month, Groq: <14,400 requests/day, SendGrid: <100 emails/day)
4. Synchronous processing is acceptable for prototype
5. Single organization deployment

### Current Limitations

**Technical:** - File-based storage (JSON) instead of database - No authentication/authorization system - No rate limiting on endpoints - Single-threaded processing - Limited error handling and retry logic


**Functional:** - No candidate dashboard or status tracking - No resume parsing capability - Only multiple-choice questions (no coding challenges) - No calendar integration for interviews - No analytics or reporting dashboard

**Business:** - Dependent on free tier availability - No SLA or uptime guarantees (Render free tier) - Cold starts after inactivity (15min+ response time) - Not GDPR/EEOC compliant

## 5. Conclusion

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The Agentic Hiring System demonstrates a fully automated, AI-powered recruitment pipeline at **zero operational cost**. The modular architecture provides a clear scaling path from prototype to enterprise-ready software.

**Key Achievements:** -  Complete end-to-end automation -  AI-powered decision making -  Zero-cost deployment -  Microservices architecture

**Next Steps:** Focus on security (authentication), database migration, and performance optimization based on user feedback.

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