**📚 Project Documentation: AI Resume Feedback Bot**

**🧾 Table of Contents**

1. [Introduction](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#introduction)
2. [System Requirements](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#system-requirements)
3. [Features](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#features)
4. [Architecture Overview](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#architecture-overview)
5. [Installation Guide](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#installation-guide)
6. [Usage Guide](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#usage-guide)
7. [Modules and Responsibilities](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#modules-and-responsibilities)
8. [Database Schema](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#database-schema)
9. [Error Handling](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#error-handling)
10. [Future Enhancements](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#future-enhancements)
11. [Credits](https://chatgpt.com/c/688c4b96-78f4-8012-ba29-170d6c47c366#credits)

**📌 Introduction**

**AI Resume Feedback Bot** is a user-friendly, intelligent web application built with **Streamlit** that helps job seekers refine and optimize their resumes using the latest **LLaMA 3 models** via **Groq API**. It provides AI-powered resume feedback, rewriting suggestions, audio guidance, and the ability to export an improved resume in PDF format.

**🖥️ System Requirements**

* **Python**: 3.8 or above
* **Libraries**:  
  streamlit, gtts, groq, PyPDF2, python-docx, reportlab, playsound, sqlite3, tempfile

**✨ Features**

| **Feature** | **Description** |
| --- | --- |
| 🔐 Login/Signup | Secure authentication system |
| 🔁 Forgot & Change Password | With OTP placeholder for recovery |
| 📄 Resume Upload | Accepts .pdf and .docx files |
| 🎯 Target Role Input | Guides feedback contextually |
| 💡 GPT Feedback | Suggestions, strengths, and resume score |
| 🔊 Audio Tips | Generated using gTTS and streamed with playsound |
| ✍️ Resume Rewriting | ATS-optimized resume generator |
| 📤 Export PDF | Generated using reportlab |
| 🗃️ History | Saves feedback per user |
| 🧹 Delete History | Clean up older feedback |
| 📊 Admin Dashboard | Basic usage analytics and charts |
| 📧 Email Feedback | Placeholder via SMTP |

**🧩 Architecture Overview**

[User Upload] --> [Resume Processor (PDF/DOCX)]

|

[Groq API (LLaMA 3) for feedback]

|

[Feedback Renderer] <--> [Audio Generator (gTTS)]

|

[Resume Rewriter] --> [PDF Export (reportlab)]

|

[SQLite Storage] <--> [Streamlit UI]

**⚙️ Installation Guide**

# 1. Clone repository

git clone https://github.com/your-username/ai-resume-feedback-bot.git

cd ai-resume-feedback-bot

# 2. Create a virtual environment

python -m venv venv

venv\Scripts\activate # On Windows

# 3. Install dependencies

pip install -r requirements.txt

# 4. Set up environment variables in .env

GROQ\_API\_KEY=your\_groq\_key\_here

EMAIL\_USER=your\_email@example.com

EMAIL\_PASS=your\_password\_here

# 5. Run the app

streamlit run app.py

**🧪 Usage Guide**

1. **Sign up or log in** to access the dashboard.
2. **Upload your resume** and enter your target job title.
3. Click **"Analyze Resume"** to receive feedback and score.
4. Generate **audio tips** using the “🔊 Generate Audio Tips” button.
5. Use **AI Rewriter** to generate an improved resume.
6. **Export** the rewritten resume as a PDF.
7. View past feedback in the **History** tab.
8. Admins can view usage stats in the **Admin Dashboard**.

**🧱 Modules and Responsibilities**

| **Module** | **Role** |
| --- | --- |
| app.py | Main Streamlit app, handles UI, routing, logic |
| gtts | Text-to-speech for voice tips |
| groq | Groq API for AI feedback |
| PyPDF2 | Extract text from PDF resumes |
| python-docx | Extract text from .docx resumes |
| reportlab | PDF generation for rewritten resumes |
| sqlite3 | Stores users, history, feedback |
| playsound | Plays generated audio |
| tempfile | Manages temporary audio files |

**🗃️ Database Schema (SQLite: resume\_bot.db)**

**users table**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id | INTEGER | Primary key |
| name | TEXT | Full name |
| email | TEXT | Unique |
| phone | TEXT | Unique |
| password | TEXT | Encrypted |
| is\_admin | INTEGER | 0 = user, 1 = admin |

**feedback\_history table**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| id | INTEGER | Primary key |
| user\_id | INTEGER | Foreign key to users |
| uploaded\_resume | TEXT | File name |
| feedback | TEXT | AI feedback |
| score | INTEGER | Resume score |
| rewritten\_resume | TEXT | Rewritten content |
| timestamp | TEXT | Date/time of submission |

**🚫 Error Handling**

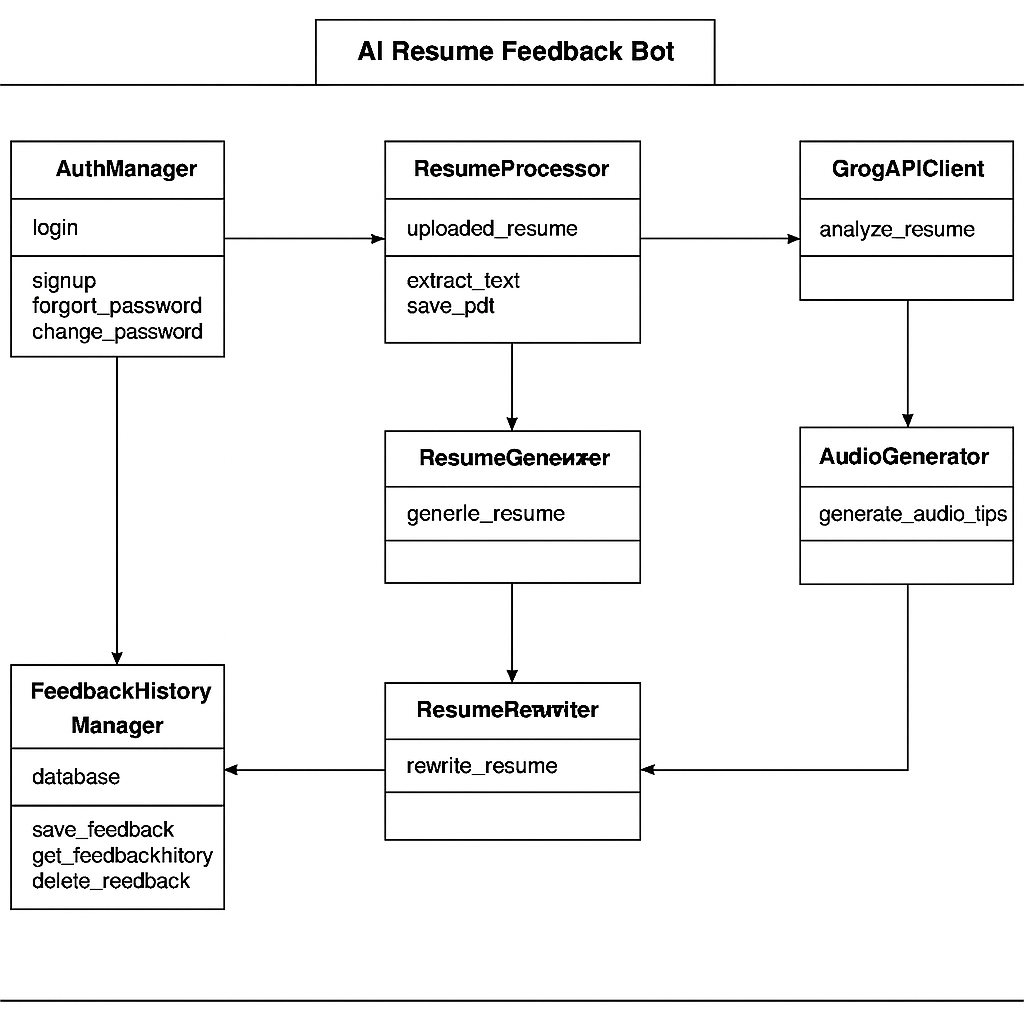
| **Error** | **Cause** | **Fix** |
| --- | --- | --- |
| No module named 'reportlab' | Missing dependency | pip install reportlab |
| playsound WinError 32 | File locked during playback | Add time.sleep(1) before deleting |
| Invalid password | Incorrect login | Reset using forgot password |
| Groq API error | Invalid API key | Check .env or Groq usage limits |

**🚀 Future Enhancements**

* ✅ Real OTP via email or SMS (Twilio or SMTP)
* ✅ Google login integration (OAuth2)
* ✅ Subscription plans with daily/monthly limits
* ✅ Multiple feedback modes: Recruiter, ATS, Technical Reviewer
* ✅ More advanced dashboard analytics

**🙏 Credits**

* [Groq](https://groq.com/) – For ultra-fast LLaMA 3 inference
* [Streamlit](https://streamlit.io/) – UI framework
* [gTTS](https://pypi.org/project/gTTS/) – Google Text-to-Speech
* [PyPDF2 / python-docx / reportlab] – File parsing and export
* [GitHub Copilot, ChatGPT, and You ❤️] – Code, debug, and polish

**UML DIAGRAM  
  
**