

GSA CUSTOMER EXPERIENCE CHAT ASSISTANT

General Services Administration | Voice of Customer

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Keywords:

Machine Learning, Natural Language Processing, Large Language Models, Retrieval-Augmented Generation (RAG), LangChain, Python

Summary:

Developed a RAG system to enable intelligent querying of VoC team document collections, addressing the challenge of efficiently accessing information. The system automatically processes documents from multiple formats, breaks them into searchable pieces, and uses advanced AI models to provide accurate, conversational responses with proper source citations, and asks follow up questions. By processing over 100 of government documents and delivering answers in few seconds, this system has the potential to improve workplace efficiency by turning static document libraries into interactive knowledge assistants that help employees quickly find the information they need.

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General Services Administration (GSA)

Voice of Customer

Camille Tucker — VoC Program Manager

coding it forward >



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Voice of Customer Team

- **Survey Management:** Handle approvals, compliance, and Qualtrics platform operations
- **Customer Data Analysis:** Collect feedback, analyze sentiment, and generate insights
- **CX Strategy & Design:** Implement human-centered design and conduct research

Customers: GSA teams



Instant Access to VoC Knowledge

- **VoC team** has deep expertise in research methods and customer experience
- **Challenge:** Knowledge exists in hundreds of different documents and other teams contact VoC directly
- **Solution:** Generative AI trained specifically on VoC team 's knowledge base
- **Goal:** Let other GSA teams get expert CX guidance instantly: *Like having a VoC team member available anytime to answer your customer experience*

cif> questions.

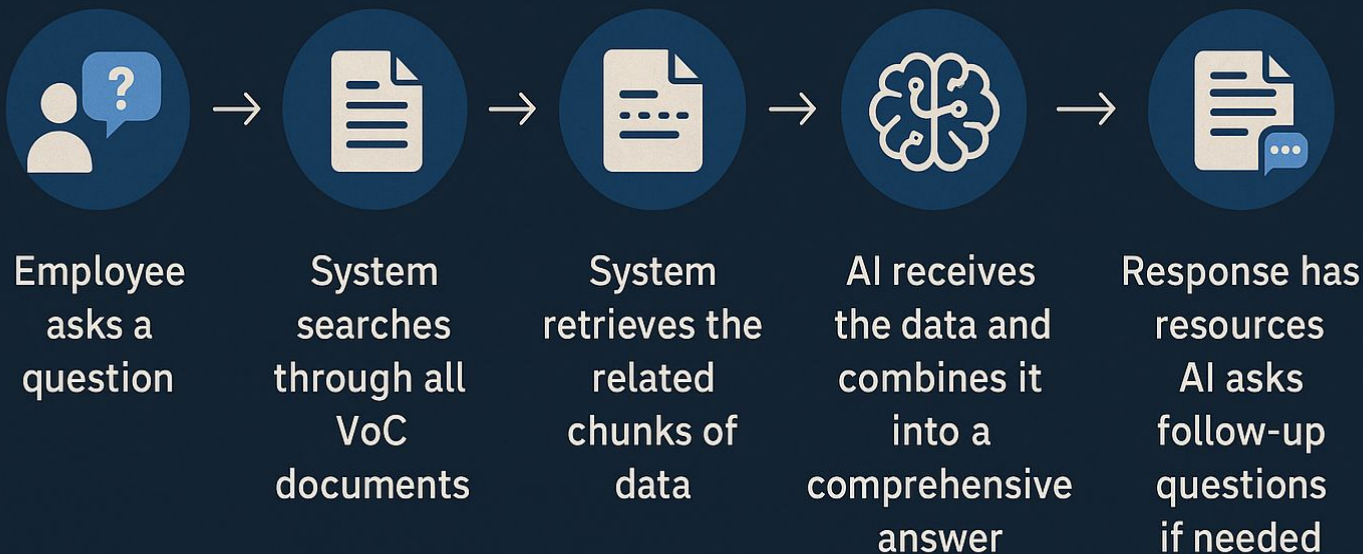


How to Use Generative AI to Improve Access to VoC Knowledge?

- **The AI that knows more! (Thanks to RAG)**
- **What is RAG** (Retrieval-Augmented Generation) ?
 - 1. Retrieval:** It searches a trusted internal database or document collection
 - 2. Augmentation:** It pulls the most relevant information
 - 3. Generation:** It uses that info to generate a response tailored to the user's question.
- Literature review, article reading, and research

HOW RAG WORKS

RAG = Retrieval-Augmented Generation



Chat GPT vs VoC RAG

Question: What advice would you give to a GSA office that is starting a survey to understand customer experience?

Chat GPT's response: If a GSA office is starting a survey to understand customer experience, I'd recommend designing it with **clear goals, customer-focused language, and a plan for action**. First, define exactly what you want to learn and ensure each question ties back to a decision or improvement you intend to make. Keep questions short, relevant, and written in plain, jargon-free language, focusing on the customer's needs, experiences, and pain points. Use consistent, recognized CX metrics like Customer Satisfaction (CSAT), Net Promoter Score (NPS), or Customer Effort Score (CES) so results are meaningful and comparable over time. Ensure the survey is accessible, inclusive, and available in multiple languages and formats to reach all customer groups. Before launch, pilot test it with a small audience to refine clarity and flow. Finally, commit to using the results to make visible changes and communicate those changes back to participants—building trust and showing that their feedback leads to real improvements.

Chat GPT vs VoC RAG

Question: What advice would you give to a GSA office that is starting a survey to understand customer experience?

VoC RAG's response:

Remember the Broader CX Context

Keep in mind that customer experience at GSA encompasses multiple touchpoints, including:

- Facility maintenance
- Customer support responsiveness
- Process simplicity
- Employee experience (which strongly connects to customer experience)
- Thoughtful technology implementation

By approaching your survey strategically and working with the OCE, you'll be better positioned to gather meaningful insights that drive real improvements for your customers.

This information is drawn from 9 GSA resources including HCD guides, training materials, and competency models.

Sources: (Full Transcript) Insights Generation Convo – 2024_09_16 09_59 PDT.docx, 04_Survey and Information Collection Types.docx, Survey creation and approval process.docx, Camille CX Tipping Point Interview.docx, X4 2023 Government Keynote - GSA Fireside Chat_Draft Responses.docx, Internal VoC Talking Points_FAQ.docx, ACT-IAC CX Summit 2019.docx, Feature Story - Agency-Wide Surveys.docx, Final_OLU CX Training FY25.pdf

Ensuring Quality


- **Evaluation:** Testing with curated question bank to measure accuracy and reliability
- **Quality metrics:** measuring answer accuracy
- **Continuous improvement:** using test results to refine the system
 - Modular document loader
 - Cache recent documents
 - Better prompts
 - Hallucination mitigation with “I don’t know” response
 - Reference to the exact source of information
 - Follow up questions without memory
 - Multi-layer fallback strategies

Outcomes & Expanding Possibilities

- **Traditional RAG? No, it is more!**
- **Future potential:** Different strategies, handling images/tables, real-time knowledge base update, expanding knowledge base, and replicating this model for other areas.
- **Bottom line:**



Faster access to expert guidance = better customer experiences for the public



Thank you for your time and attention!

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