Overview

Today's Agenda

01 **Context & Background**

Who I am and the challenges we face

02 **Our Approach: Vibe Coding**

Building systems with AI as a partner

03 **Prototype Demonstrations**

Cataloging, AI Concierge, RAG Manuals

04 **Lessons & The Power of Frontline Staff**

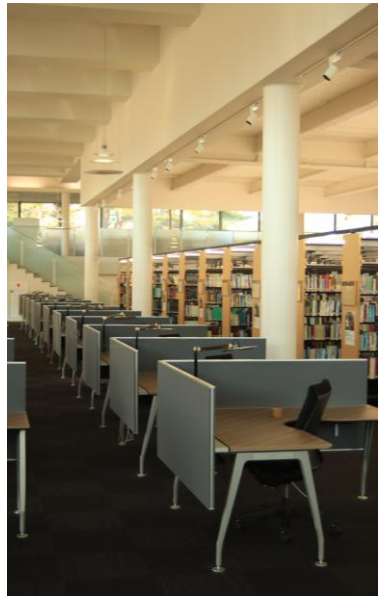
Technical challenges and in-house flexibility

05 **Conclusion: Coding the Future Together**

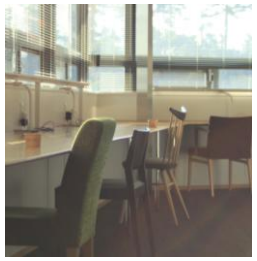
Context: My Workplace

Agricultural Library, Tohoku University

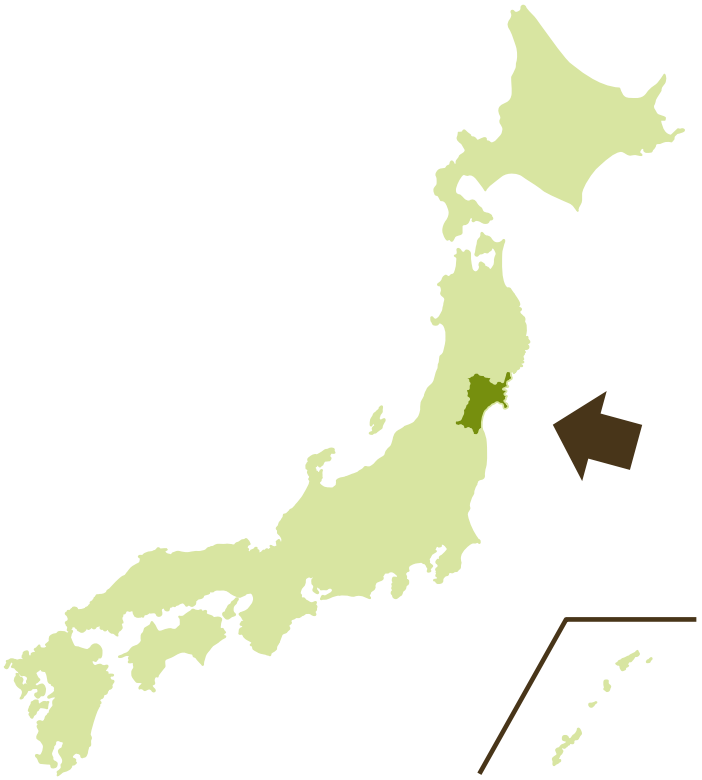










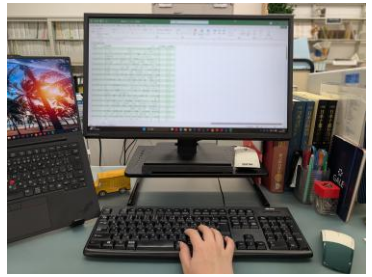


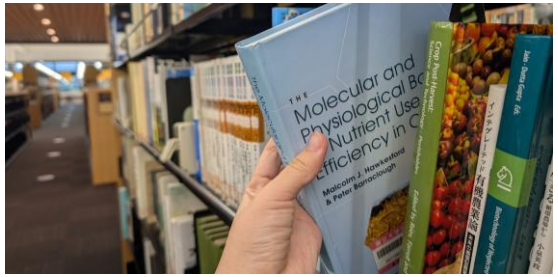
Context: About Me

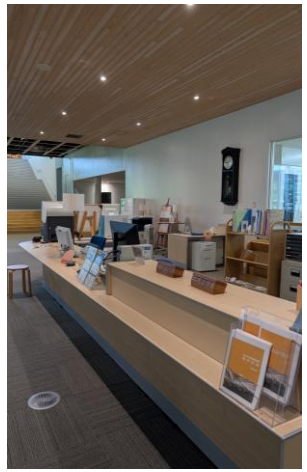
My Daily Life in the Library

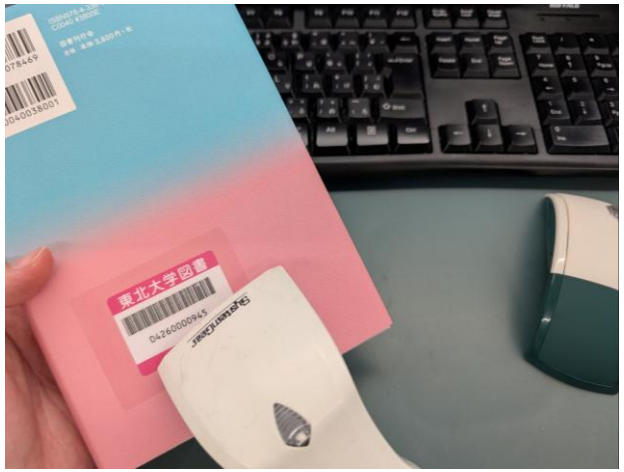
My Daily Tasks:

- Book Acquisitions & Selection
- Circulation & Reference
- Library Workshops & Training
- Website Management
- ...and more !









A Frontline Librarian. Not an IT Engineer.

The Turning Point

Tohoku University Library Lab

~10%

Effort for R&D

The required effort ranges from 5% to 10% annually. It is stipulated that the performance of regular duties takes top priority and that this activity must be carried out without interfering with those duties.

Participation conditions	Full-time library staff members in their third year of employment or later may participate on a voluntary basis.
Continuation	It is recommended to work on the same theme over multiple years to deepen one's expertise.
Select Theme	Participants select one of the following themes and engage in planning and research activities.. • Digital Archives • Floor Design • Service Design • New Library Services Leveraging AI and Other Technologies

Our Approach: Vibe Coding

What is "Vibe Coding"?

- AI as a Partner:

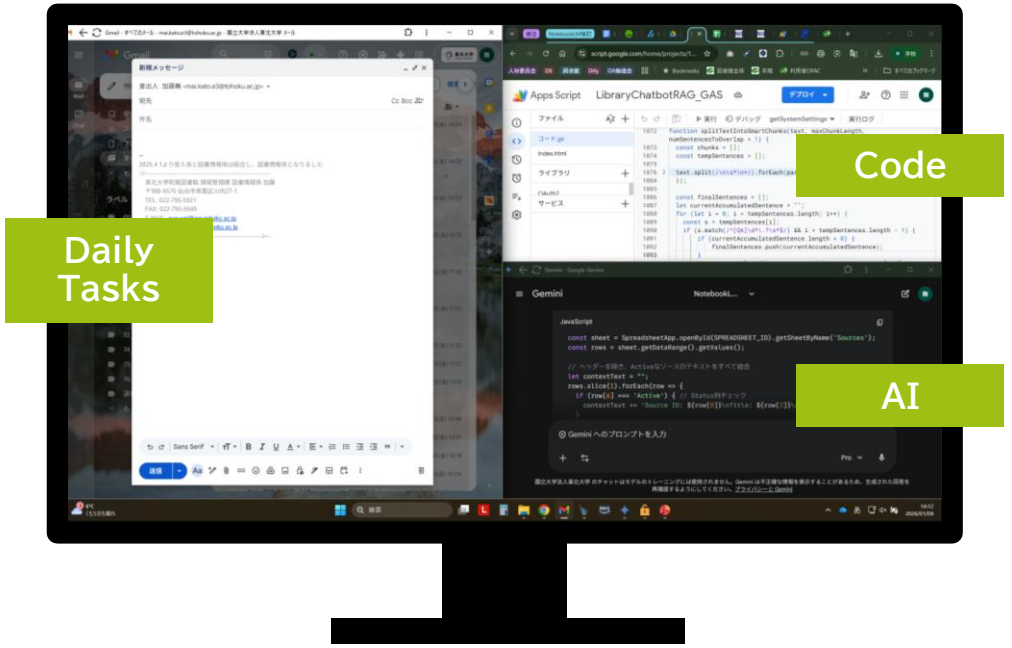
  Talking to Gemini instead of writing from scratch.

- Natural Language:

  Building tools through conversation.

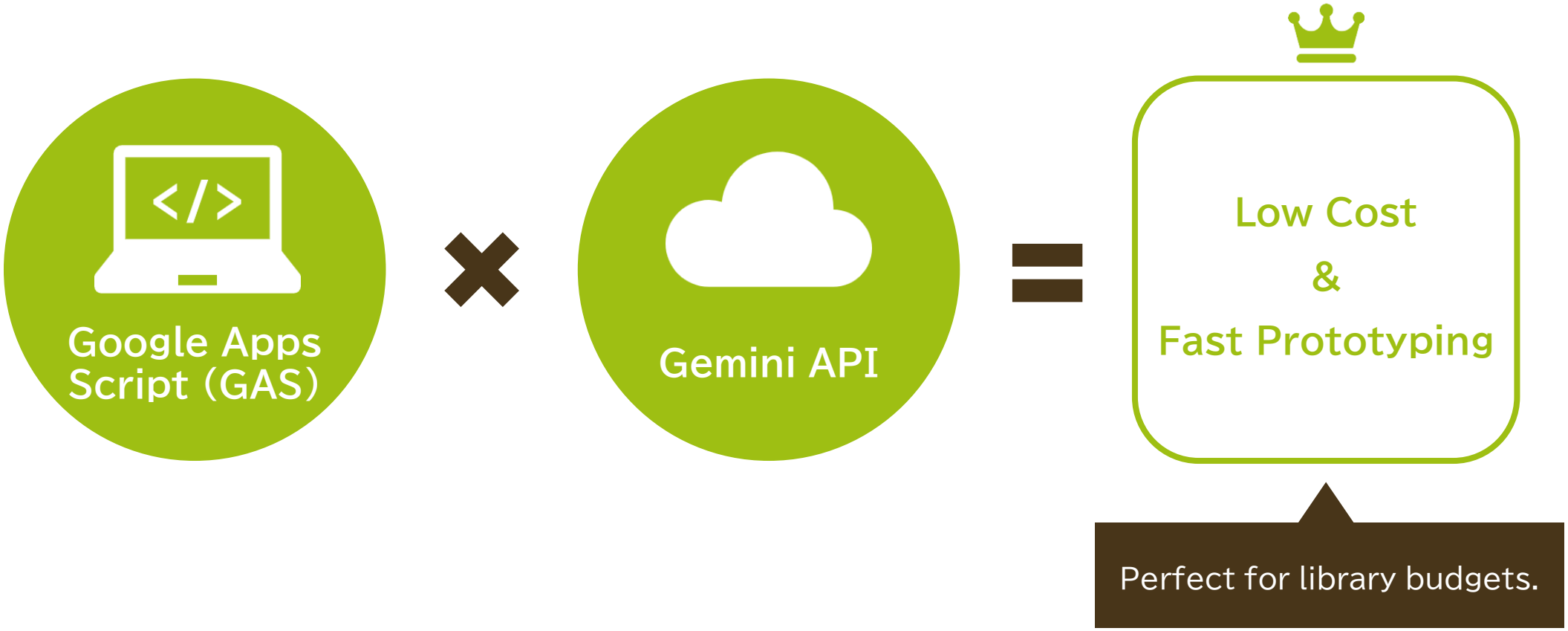
- Rapid Learning:

  Developing skills and tools simultaneously.



Technical Foundation

Lightweight & Serverless Architecture



Practical Application 1

AI-Assisted Cataloging System



Step 1: Upload a photo of the book (cover / colophon)

- ✓ Input: Images of book cover and colophon.
- ✓ Output: NCR2018 bibliographic data.
- ✓ ”If unsure, it says ’Unknown’ — prioritizing accuracy for humans.”

Practical Application 1

AI-Assisted Cataloging System



Step 2: Select "Rare Book Mode" and Generate

- ✓ Input: Images of book cover and colophon.
- ✓ Output: NCR2018 bibliographic data.
- ✓ ”If unsure, it says ’Unknown’ — prioritizing accuracy for humans.”

Practical Application 1

AI-Assisted Cataloging System



Step 3: Gemini analyzes the image and maps it to NCR 2018 rules...

- ✓ Input: Images of book cover and colophon.
- ✓ Output: NCR2018 bibliographic data.
- ✓ ”If unsure, it says ’Unknown’ — prioritizing accuracy for humans.”

Practical Application 1

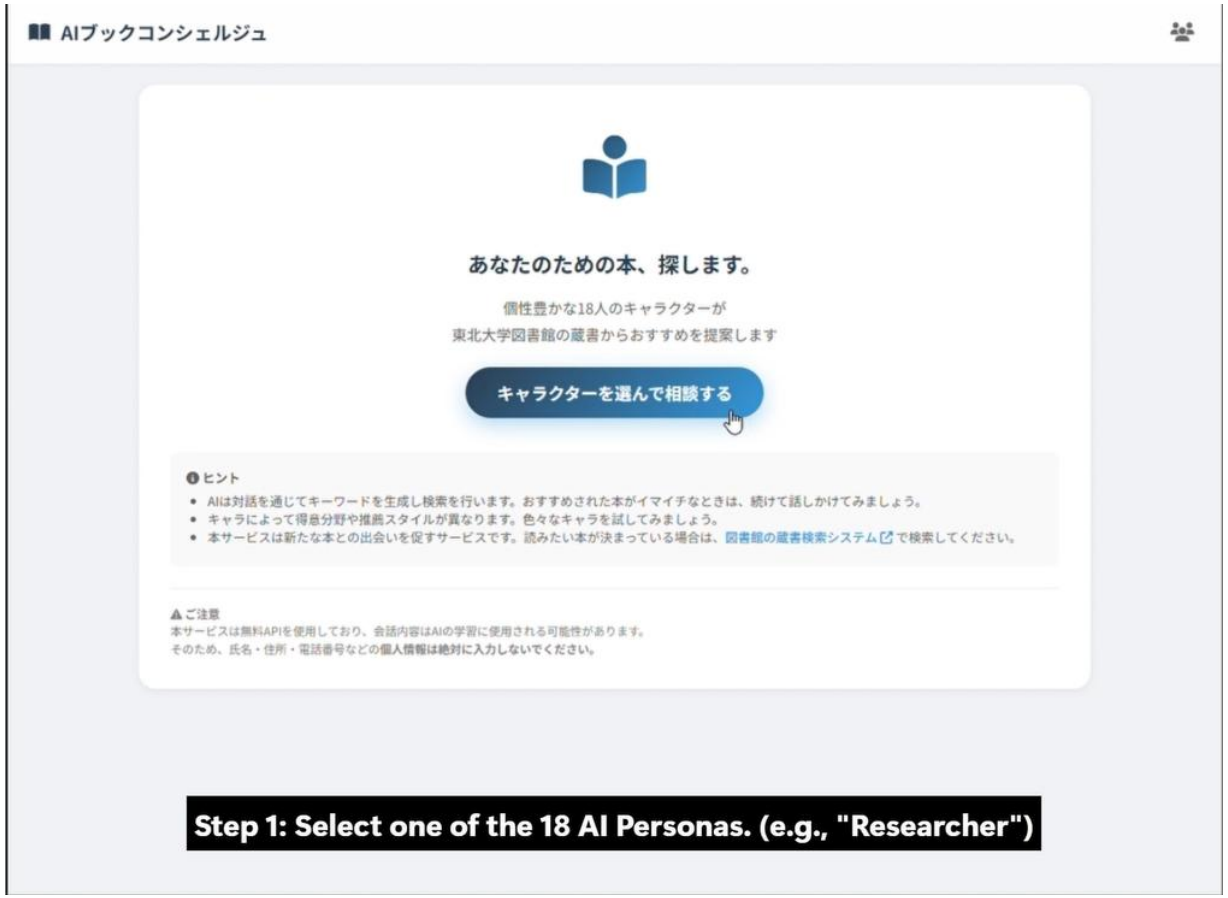
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Practical Application 2

AI Book Concierge



Uncovering latent needs through conversation.

- ✓ 18 Diverse AI Personas
- ✓ Natural language interaction
- ✓ Direct connection to CiNii search

Practical Application 2

AI Book Concierge

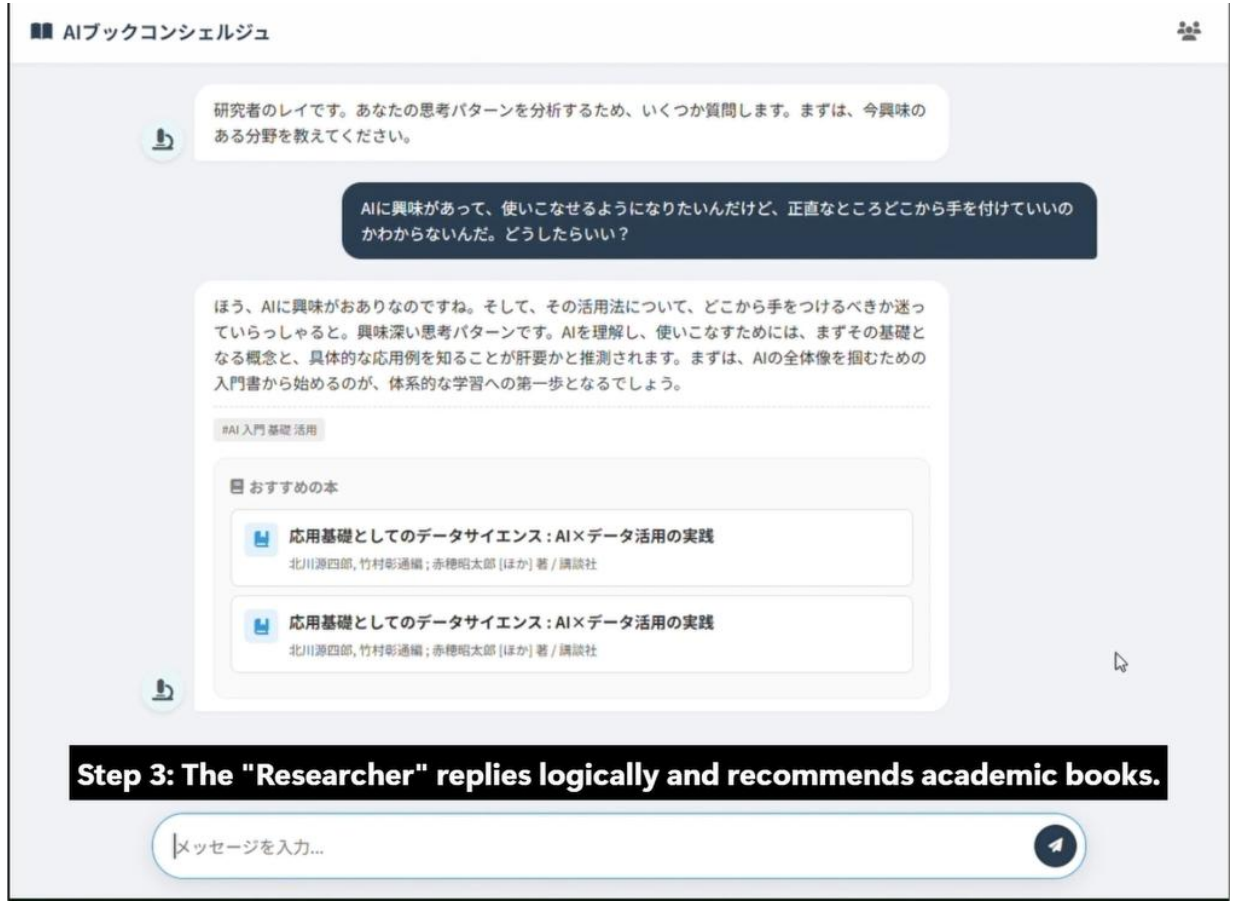


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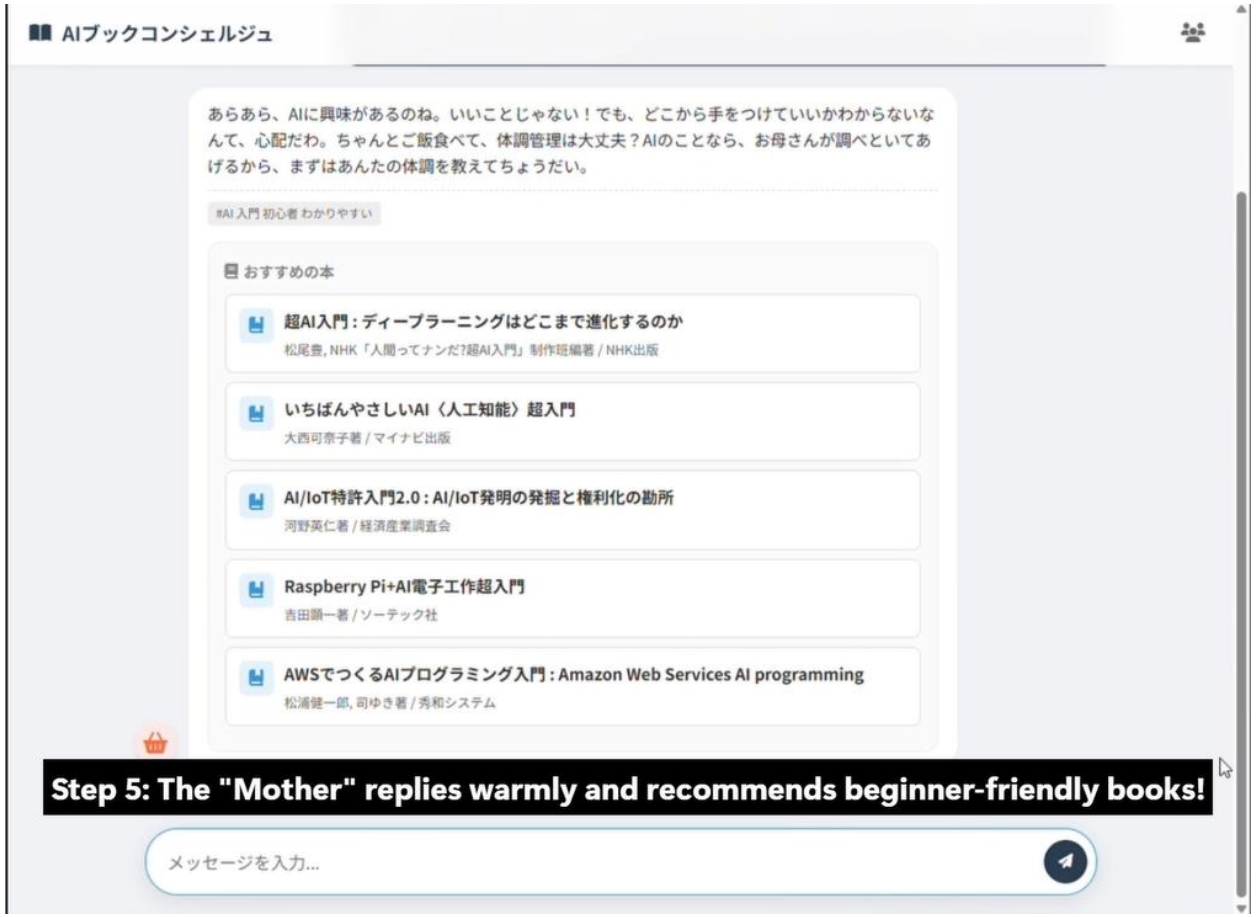


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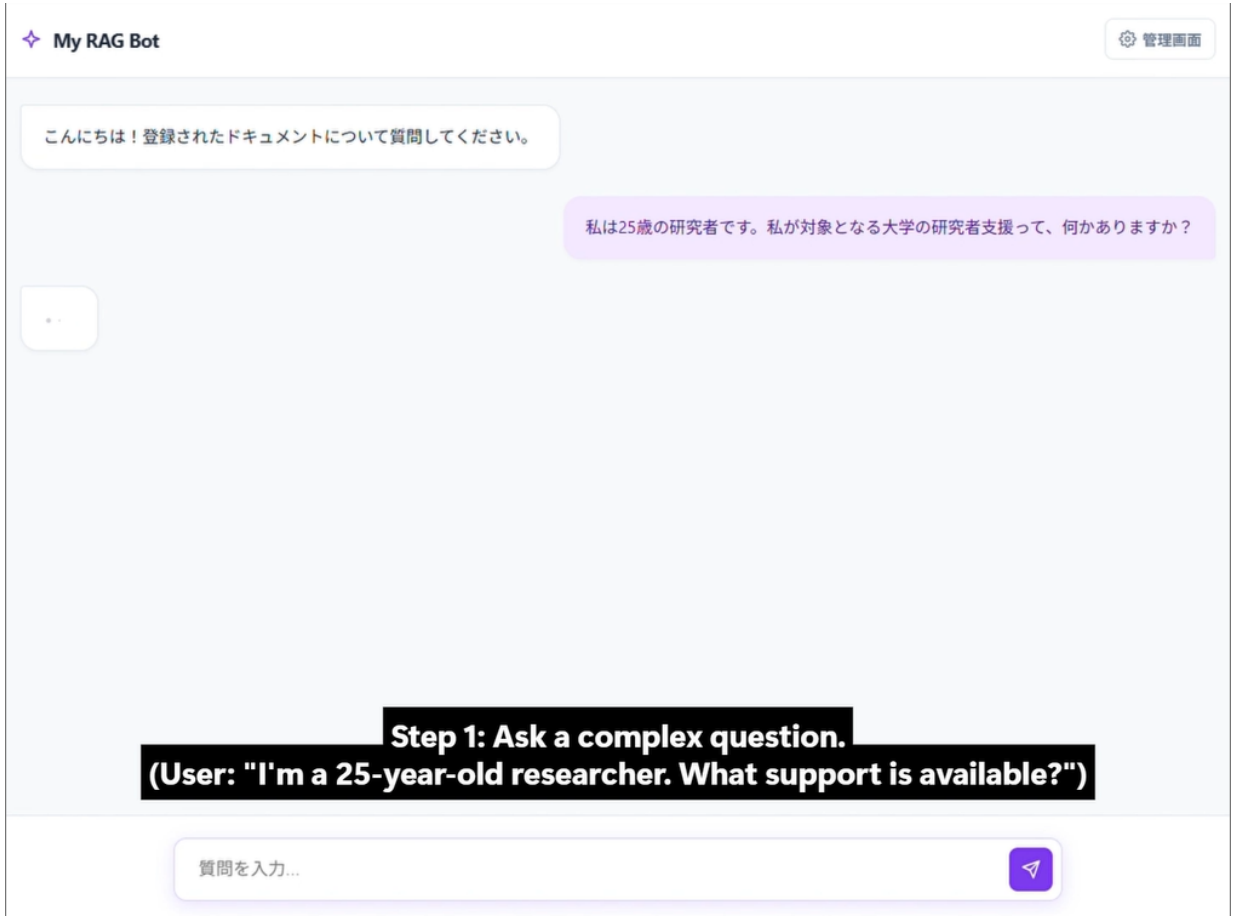


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Practical Application 3

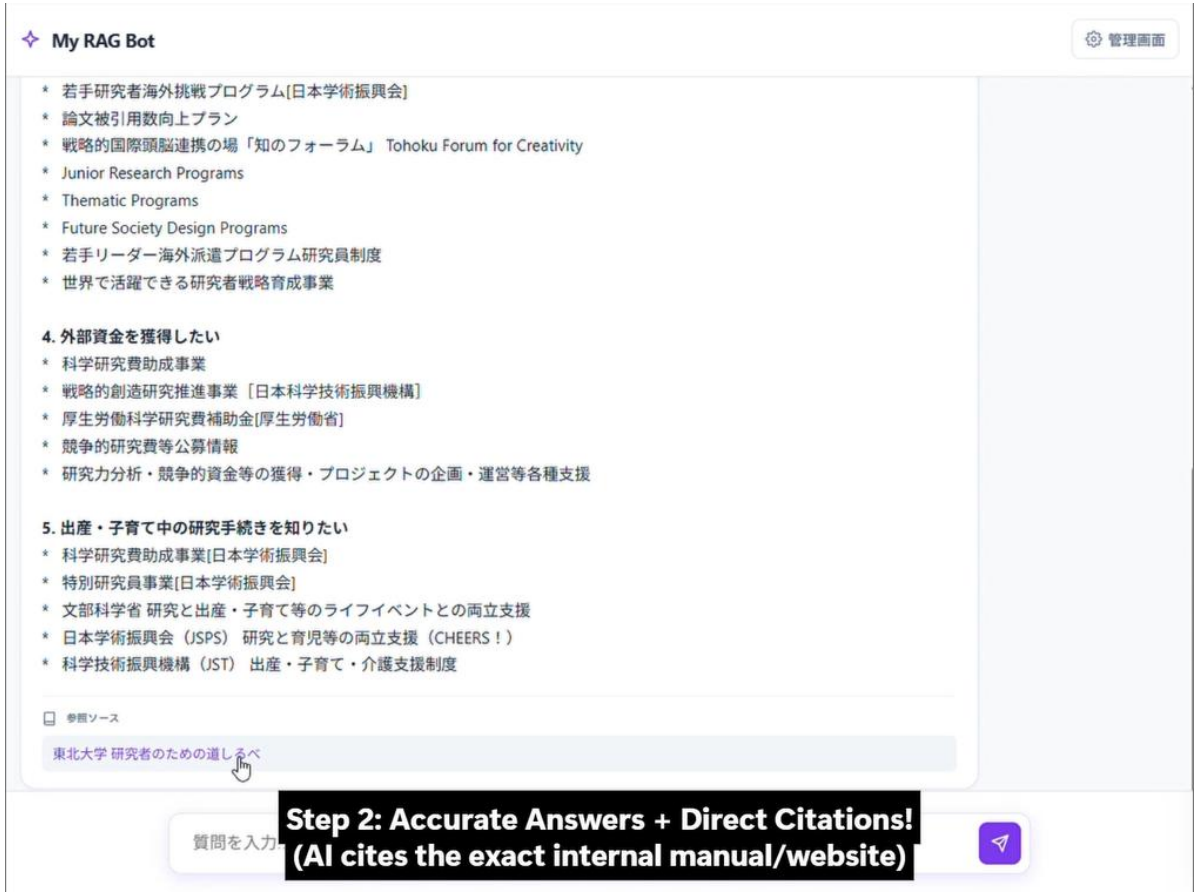
RAG Chatbot for Staff Manuals



- ✓ Long Context RAG
- ✓ Auto-Updating Answers
- ✓ No more digging through complex PDFs.

Practical Application 3

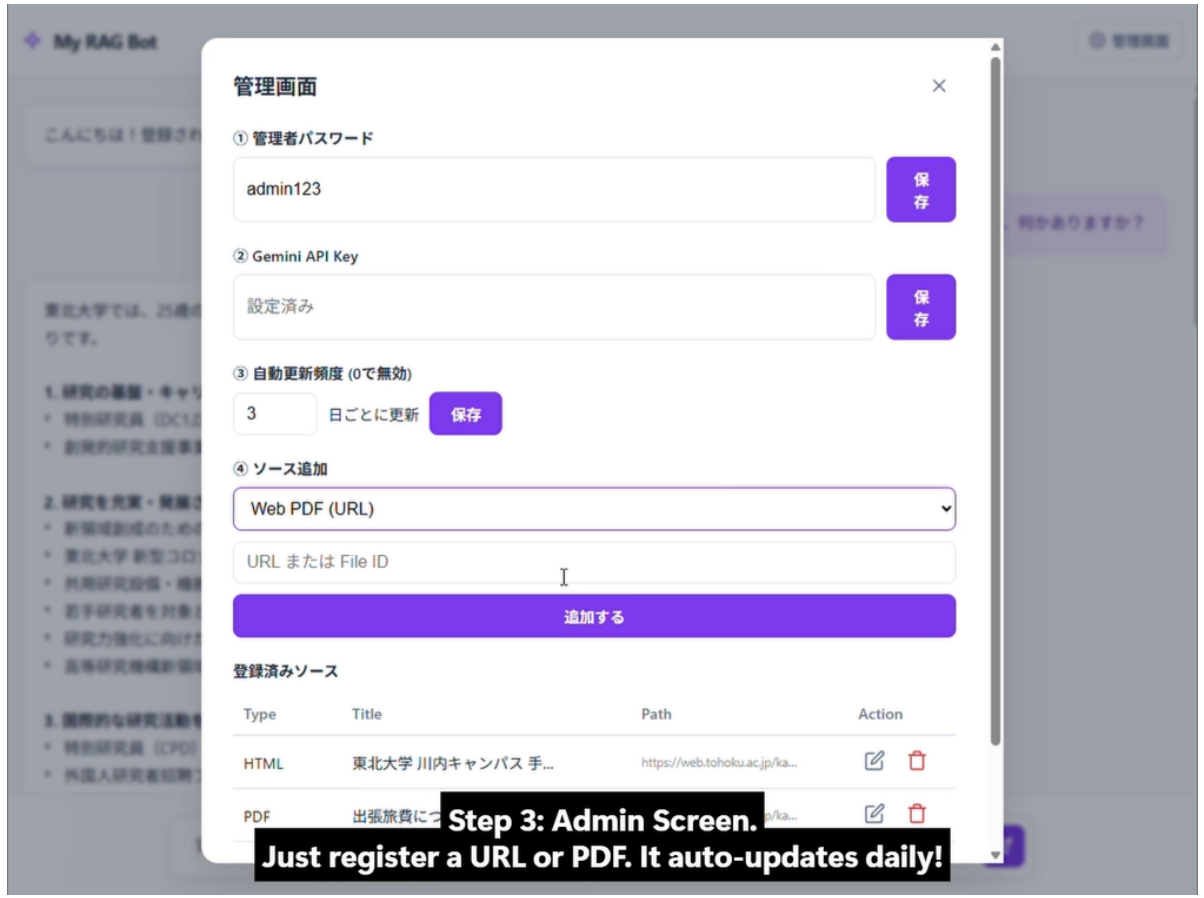
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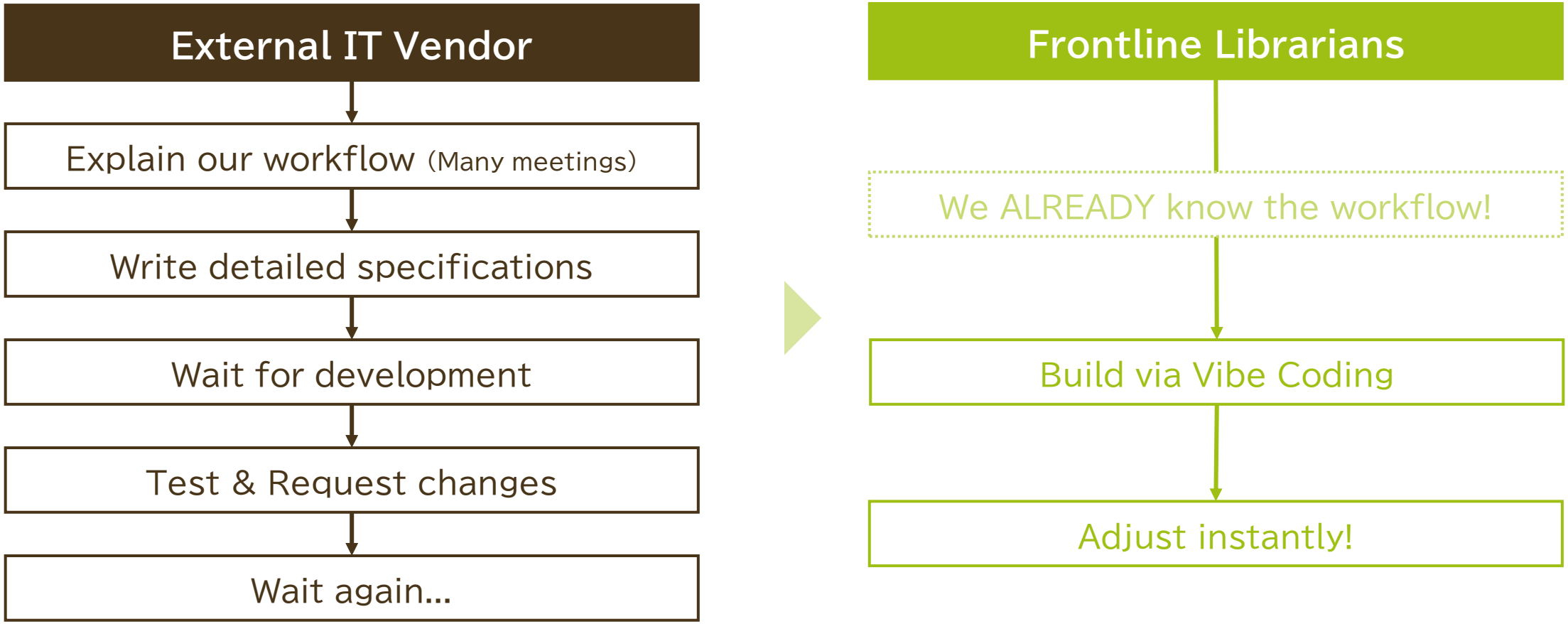
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Why Frontline Staff?

The Power of Flexibility



Impact on Staff

Professional Growth & Motivation

- **A Solid Core Skill**

  Developing a long-term career path in AI and DX.

- **Future View**

  Seeing library operations from a strategic perspective.

- **Official Support**

  High motivation thanks to the Lab’s formal framework.

Creating "New Value"

AI cannot tell us what the future library should be.

That is uniquely our job.



Coding the Future Together !

Thank you !

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