Conversational Book Recommendation Chatbot

🚀 AN AI-BASED BOOK RECOMMENDER USING IBM WATSONX ASSISTANT

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Problem Statement

- Millions of books exist—users often feel overwhelmed when choosing one.
- Existing platforms lack conversation-driven, personalized book recommendations.
- Objective: Create an AI-powered chatbot that understands user preferences and suggests relevant books.

Project Objectives

- Develop a chatbot that interacts naturally with users.
- Collect genre, mood, and author inputs using slot-filling.
- Generate personalized book recommendations.
- Use IBM Watson Assistant to manage intent detection and dialog flows.

Technology Stack

- IBM Watsonx Assistant: Core conversational AI engine.
- Watsonx Intents & Entities: Natural language understanding.
- Dialog Skills (Slot Filling): To collect input dynamically.
- Cloud Deployment: IBM Cloud (Optional).
- Version Control: GitHub (for code & training data management).

System Architecture

Flow

- User Input – Natural language query.
- Intent Detection – e.g., "I want a happy romance novel".
- Entity Extraction – Watson captures genre, mood, author.
- Slot Prompting – If any slot is missing, asks follow-up questions.
- Response Logic – Suggests a book based on all inputs.

Entities

Created

- @genre → Romance, Thriller, Sci-Fi, Horror, Mystery, etc.
- @mood → Happy, Sad, Curious, Relaxed, Adventurous
- @author → J.K. Rowling, Colleen Hoover, Agatha Christie, etc.
- 🔁 Examples and synonyms added to improve entity recognition like:
- Romance: love, relationship
- Happy: joyful, cheerful

Dialog Design (Slot Filling)

Main Dialog Node: Book Recommender

Slots Defined:

@genre → "Which genre are you interested in?"

@mood → "How are you feeling today?"

@author → "Any favorite author you'd like?"

✅ The bot collects all three before giving a recommendation.

✅ Each missing input triggers a friendly follow-up question.

Sample Responses

- Here's how the bot responds based on combinations:
- Romance + Happy + Colleen Hoover
- "Based on your preferences, I suggest It Ends with Us by Colleen Hoover."
- Mystery + Curious + Agatha Christie
- "You'll love Murder on the Orient Express by Agatha Christie!"
- Thriller + Sad + No Author
- "Try The Girl on the Train – it's emotionally gripping and thrilling!"

Testing and Challenges

✓ Thoroughly tested with multiple query combinations.

✗ Issue: Initially the bot showed intent name in the response.

✓ Resolved by editing response node formatting.

✗ Handling unknown authors/genres took effort.

✓ Added fallback messages and retry prompts.

Future Scope & Conclusion

- Future Enhancements:
- Integrate with Google Books API for real-time suggestions.
- Add cover images, ratings, and summaries in responses.
- Embed chatbot on website or mobile app.

Conclusion:

“A hands-on project that combines AI, conversation design, and creativity to solve a real-world problem in book discovery.”