



# My Staff Chatbot Handover Document

**Project Name:** My Staff Chatbot Project

**Date of Handover:** 03/25/2025

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<b>1. Project Overview .....</b>	<b>3</b>
<b>1.1 Features and Functionalities .....</b>	<b>4</b>
1.1.1 Borrowing Management .....	4
1.1.2 Availability and Copies .....	4



1.1.3 Personalized Recommendations.....	5
1.1.4 Book and Author Insights .....	5
1.1.5 Literary Discussions.....	5
1.1.6 Returns and Check-ins .....	6
1.1.7 Staff Access and Authorization .....	6
1.1.8 Library Guidance .....	7
<b>2. Dataset Cleaning Process .....</b>	<b>8</b>
<b>2.1 Data Cleaning Time Sheet .....</b>	<b>8</b>
<b>2.2 Data Collection .....</b>	<b>9</b>
<b>2.3 Data Preprocessing.....</b>	<b>14</b>
<b>2.4 Data Cleaning.....</b>	<b>20</b>
<b>2.5 Data Labeling .....</b>	<b>22</b>
<b>2.6 Data Storage &amp; Versioning.....</b>	<b>22</b>
<b>3. Prompt Engineering and Optimization .....</b>	<b>23</b>
<b>4. Integration Details .....</b>	<b>24</b>
<b>4.1 Planned APIs.....</b>	<b>24</b>
<b>5. Maintenance &amp; Monitoring .....</b>	<b>24</b>
<b>6. User Acceptance Testing (UAT) &amp; QA .....</b>	<b>25</b>
<b>6. 1 Testing Approach:.....</b>	<b>25</b>
<b>Sample Test Scenarios &amp; Prompt Structure: Positive Prompts Testing &amp; Expected Behavior (Passed or Failed): .....</b>	<b>25</b>
<b>Prompt Testing and Output example:.....</b>	<b>27</b>
<b>Edge Cases &amp; Expected Behavior .....</b>	<b>32</b>
<b>Prompt Testing Example:.....</b>	<b>33</b>
<b>Ambiguous Testing &amp; Expected Behavior .....</b>	<b>39</b>
<b>Future Enhancements: .....</b>	<b>45</b>
<b>Acceptance Criteria:.....</b>	<b>45</b>
<b>6. Future Refinement .....</b>	<b>45</b>
<b>7. Credentials &amp; Access .....</b>	<b>45</b>
<b>Data Cleaning Guidelines.....</b>	<b>45</b>
<b>Library API Request Documentation .....</b>	<b>47</b>
<b>Overview .....</b>	<b>47</b>
<b>Justification.....</b>	<b>47</b>



<b>Requested API Endpoints</b> .....	47
• Book Search API.....	47
● Book Availability API .....	47
• Book Recommendation API .....	48
<b>8 Service Level</b> .....	48
<b>8.1 Service Details</b> .....	48
<b>8.2 Service Scope</b> .....	49
<b>8.3 Service Availability</b> .....	49
<b>8.4 Response &amp; Resolution Times</b> .....	49
<b>8.5 Performance Metrics</b> .....	50
<b>8.6 Escalation Process</b> .....	50
Level 1: [Support Team] – Initial triage & troubleshooting .....	50
Level 2: [Tech Team] – Escalation for deeper assessment.....	50
Level 3: [Support, Management, and Engineering] – Final resolution & fixes.....	51
Quality Assurance: [UAT, Testing] .....	51
8.6.1 Escalation Diagram.....	53
<b>9. Support &amp; Maintenance</b> .....	53
<b>10. Limitations &amp; Exclusions</b> .....	54
<b>11. Review</b> .....	54

## 1. Project Overview

- **Description:** A Dify chatbot designed as an Admin My Staff Chatbot, assisting in managing staff members, predicting relevant insights, calculating minutes spent, summarizing task details, checking all activity reports of each staff, and efficiently handling staff management.
- **Tech Stack:** DifyAI
- **Deployment Details:**



In a future update, the MyStaff chatbot will merge into **Botley** in MyTeams, appearing in the My teams' icons. Once integrated, users will be able to interact with it to check staff details, track activity reports, monitor time spent on tasks, get predictive insights, and manage staff operations—all within a seamless chat experience.

- **Repository Link:**

- Workflow link: [Merged Bookstop - Dify](#)
- Published chatbot link: [Merged Bookstop - Powered by Dify](#)

## 1.1 Features and Functionalities

This chatbot serves as an intelligent assistant for staff management, providing seamless access to staff information, activity tracking, and task monitoring. It simplifies workforce management, enhances efficiency through predictive insights, and promotes engagement with team performance analytics. Managers can securely access staff reports when needed, ensuring smooth operations. Below are its key features and capabilities:

### 1.1.1 Activity Report Management

The chatbot enables users to efficiently monitor and manage staff activity reports. By simply requesting specific details, users can review each staff member's activity report, including time spent on tasks, completed assignments, and overall performance insights.

*Figure*

1.

### 1.1.2 Attendance Checking

The chatbot allows users to check if a book is available and see how many copies remain. If a book is currently unavailable, users can reserve it or save it for future reference.



### **1.1.3 Holidays Tracking**

With this feature, users can easily see which staff members have a holiday or are not scheduled to work on a particular day, ensuring better planning and coordination of tasks and workforce availability.

*Figure 2.*

### **1.1.4 Task summary Insights**

This feature provides a detailed overview of staff tasks, including the specific assignments they are working on, the location where the task is being performed, and the corresponding date. This helps managers track progress, allocate resources efficiently, and ensure timely task completion.

### **1.1.5 Authorization Checker**

This feature helps secure sensitive staff information by ensuring that only authorized personnel can access specific data. It prevents intruders from obtaining confidential details, enhancing data security and protecting workforce information.

*Figure 3.*

### **1.1.6 Dreampoints checker**

This feature focuses on tracking and displaying the DreamPoints of each staff member, allowing the team lead to see the DreamPoints of each member effortlessly.

### 1.1.6 The chatbot assists users in returning borrowed books by guiding them through the check-in process and confirming successful returns.

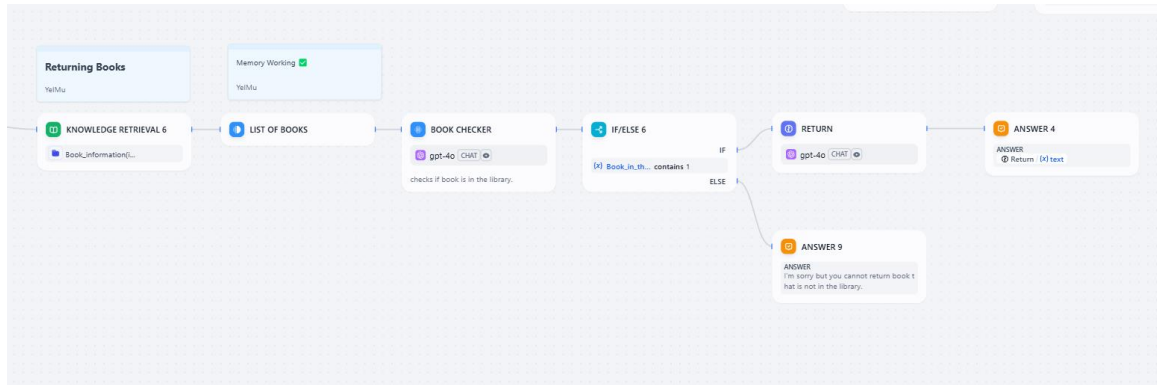
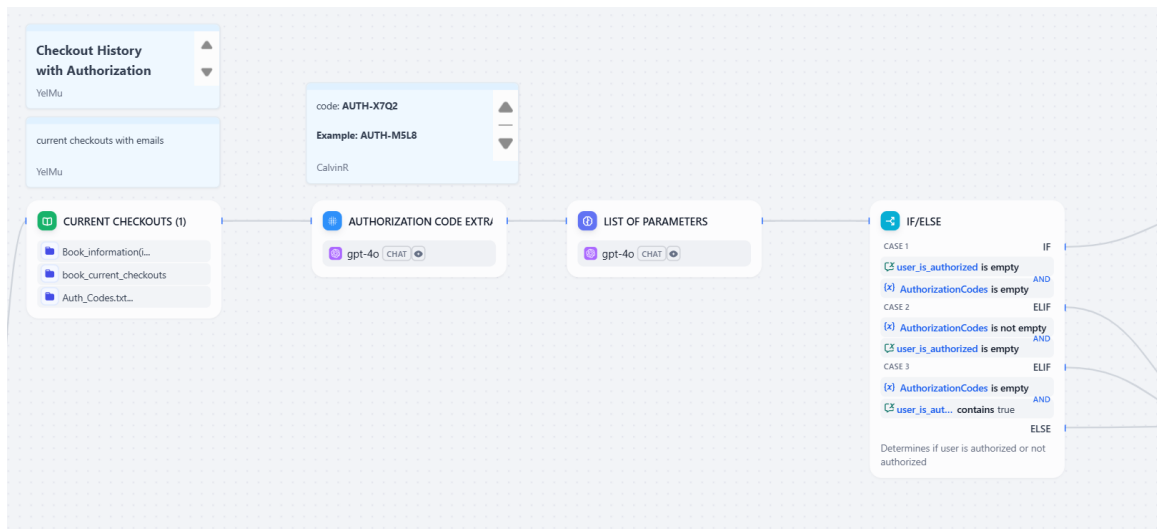


Figure 4. Return Flow.

### 1.1.7 Staff Access and Authorization

Staff members can securely input authorization codes to access borrower information. This ensures that only authorized personnel can view user borrowing details.



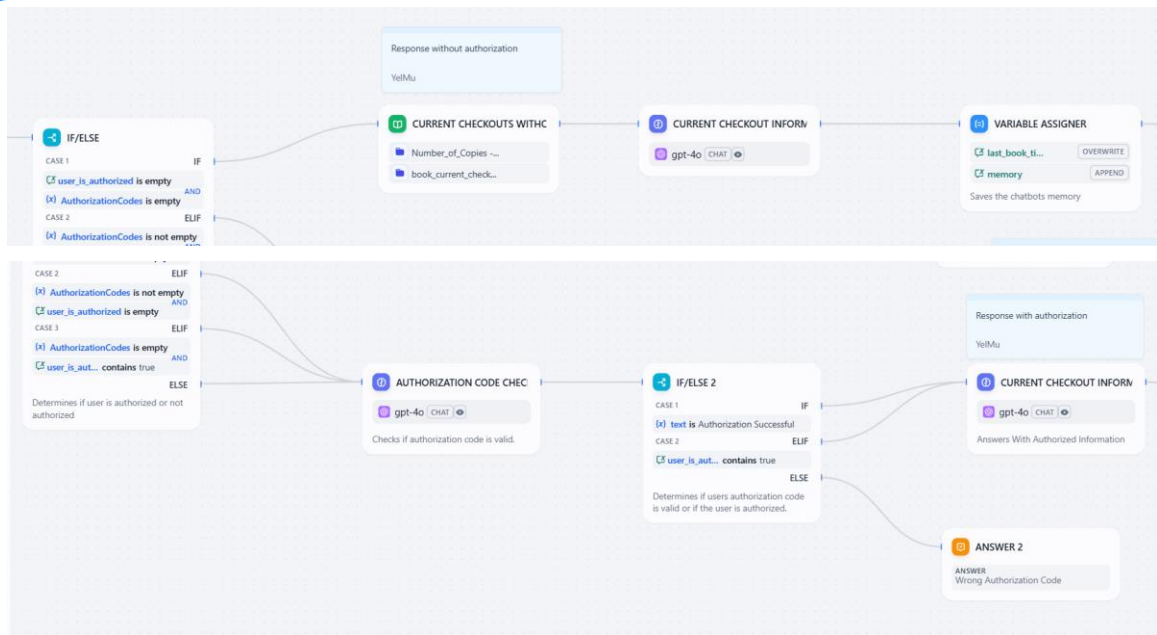


Figure 5. Authorization flow.

### 1.1.8 Library Guidance

The chatbot provides information on borrowing and return policies, guiding users through library rules and procedures. It also offers general support on navigating and utilizing its features effectively. Additionally, it recognizes when to conclude a conversation, responds with warm and engaging greetings, and assists users when they request help by displaying command guides

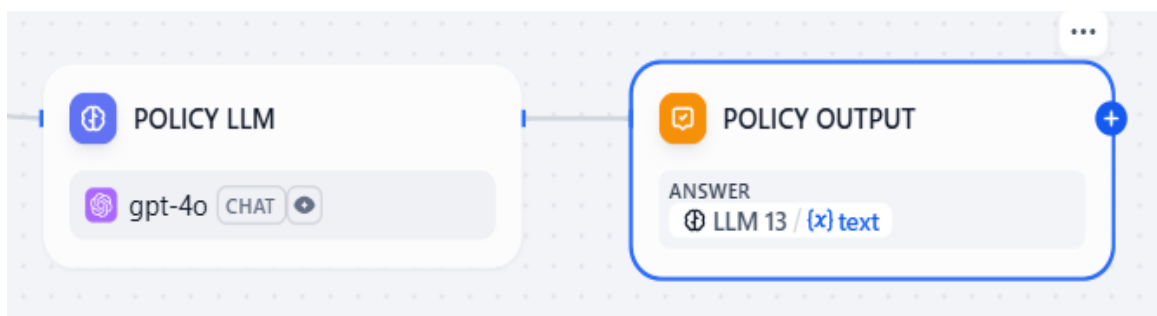


Figure 6. Policy flow.

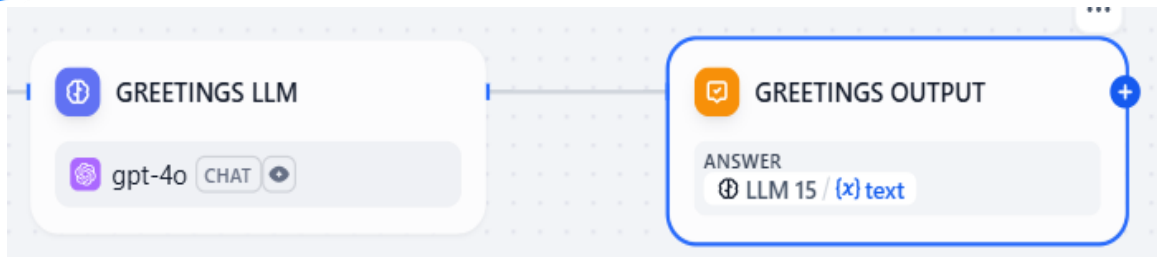


Figure 7. Greetings flow.

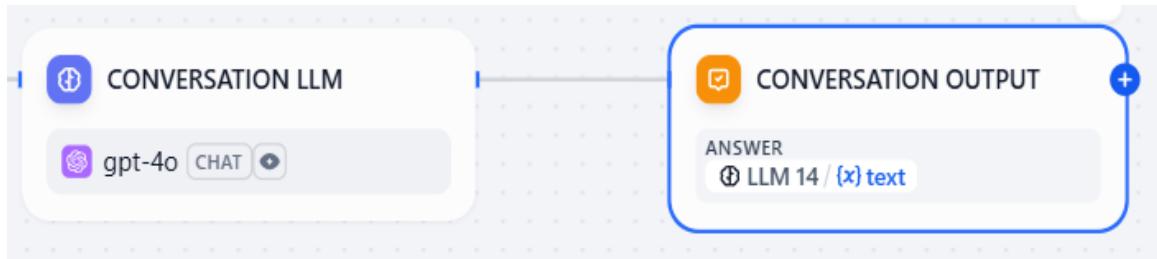


Figure 8. Conversation ends flow.

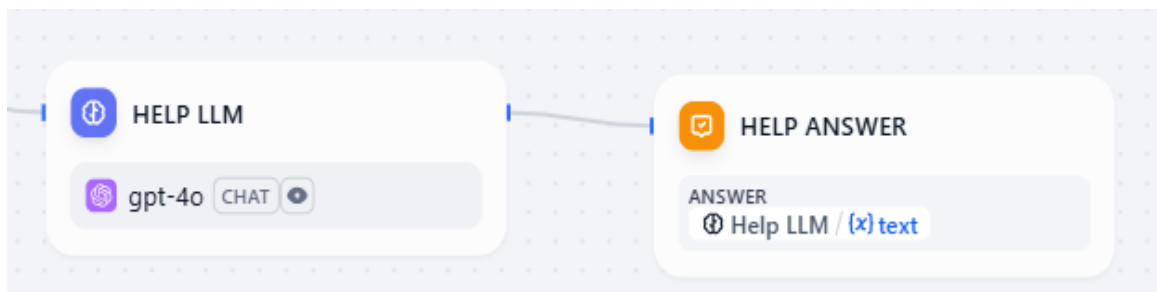


Figure 9. Help flow.

## 2. Dataset Cleaning Process

### 2.1 Data Cleaning Time Sheet

During the **first trial run**, both AndreiC and TerecC encountered challenges executing the data-cleaning steps due to their unfamiliarity with Excel. The software acted as a blocker, requiring extra time to navigate functions, apply formulas, and resolve formatting issues. However, by seeking guidance, they were able to overcome obstacles more efficiently. Without assistance, the process would have taken significantly longer.

Testers	1st Trial	2 <sup>nd</sup> Trial
AndreiC	1 hour 22 minutes	44 minutes 11 seconds



TereeC	1 hour 11 minutes	30 minutes 14 seconds
--------	-------------------	-----------------------

By the **second trial run**, both had developed a better understanding of Excel, allowing them to execute the steps more efficiently with minimal hesitation, leading to a substantial reduction in completion time.

## 2.2 Data Collection

- Link to the compiled files:

[Merged Library Dataset.xlsx](#)

- CSV Format Used
- Extraction methods (Web Scraping using OctoParse)
- Data Collection should be done every Friday morning

### 2.2.1 Web Scraping Extraction Method

- **Source Website:**

- **Libib** (<https://www.libib.com/u/cloudstaff>)

The book data was scraped from the **Cloudstaff Bookstop** collection on Libib, an online library management platform.

- **Tool Used:**

- **OctoParse Download Link:** [Free Download | Octoparse](#)

OctoParse, a no-code web scraping tool, was utilized to automate data extraction from the Libib website.

- **Target Data**

The extracted data included:

- Copies
- Title
- Description

- **Steps in the Web Scraping Process**

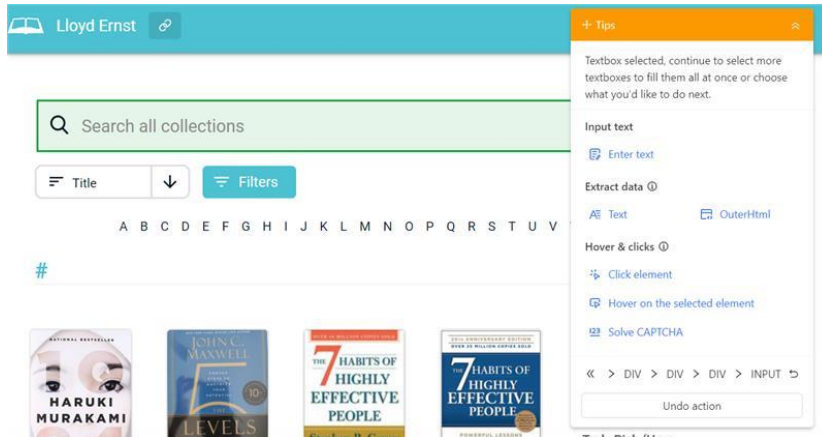
- Open **OctoParse** and create a **new custom task**.
- Select **"Enter Manually"** as the input method.

A screenshot of the 'New Task' form in the Cloudstaff application. The form has a sidebar on the left with 'Home' and 'New Task' tabs. The 'New Task' tab is active. The form includes a 'Task Group' dropdown menu set to 'My Group', a 'New Group' button, a 'URL Source' section with buttons for 'Enter manually', 'Import from file', 'Import from task', and 'Batch generate', and a 'URL Input' text area containing the URL 'https://www.libib.com/u/cloudstaff'. Below the text area is a note: 'Please enter no more than 10K URLs.' and a 'Save' button.

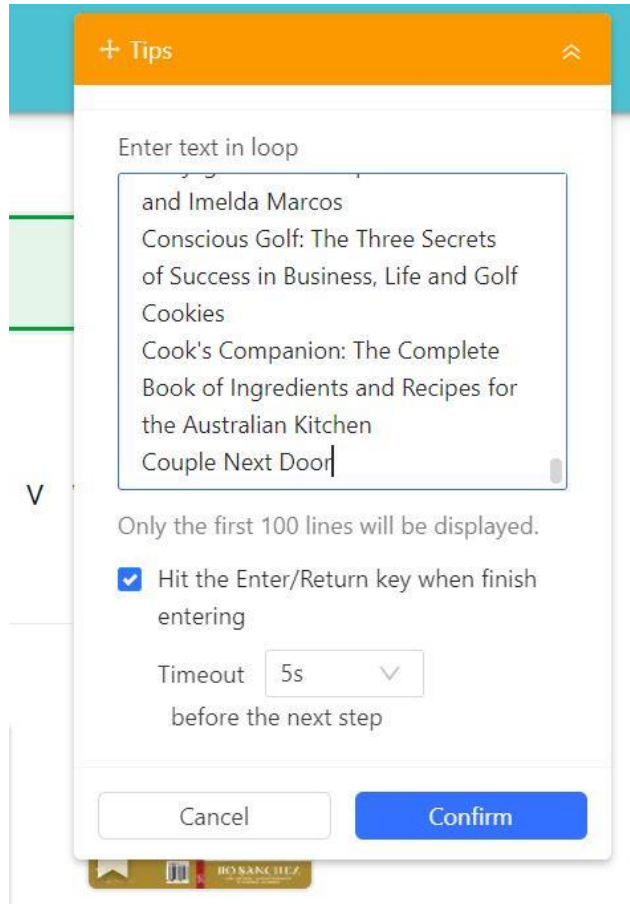
- Input the **URL** of the **Libib Bookstop** website.
- Open the provided **All\_Book\_Titles** file, copy its contents, and paste them into Octoparse to begin searching for each book title on the Libib Bookstop website.
  - [All Book Titles](#)

A screenshot of a Microsoft Excel spreadsheet titled 'All\_Book\_Titles'. The spreadsheet has a single column of text in column A, with rows numbered 1 to 30. The text in the cells includes various book titles and authors, such as '100 Business Tools for Success', '100 Mistakes that Changed History: Backfires and Blunders That Collapsed Empires, Crashed Economies, and Altered the Course of Our World', '10x Is Easier Than 2x', '12 Rules for Life: An Antidote to Chaos', '1Q84', '21 Irrefutable Laws of Leadership: Follow Them and People Will Follow You', '21 Lessons for the 21st Century', '48 Laws of Power (A Joost Elffers Production)', '5 Levels of Leadership', '7 Habits of Highly Effective People', '7 Habits of Highly Effective People: Powerful Lessons in Personal Change', '8 Secrets of the Truly Rich (How You Can Create Material Wealth and Gain Spiritual Abundance At The Same Time)', '8th Habit: From Effectiveness to Greatness', 'Abduction', 'Abundance Mind-Set', 'Adventures of Captain Underpants', 'Adventures of Sherlock Holmes (Collins Classics)', 'Alchemist: A Fable About Following Your Dream', 'Alexander Hamilton', 'Algebra of Happiness', 'All Your Perfects: A Novel', 'Anatomicum', 'Ancient City of Pingyao', 'And Then There Were None', 'Andromeda Strain', 'Animal Farm', 'Animalium (Welcome To The Museum)', 'Any Way the Wind Blows', and 'Arsene Lupin, Gentleman-Thief (Penguin Classics)'. The spreadsheet is viewed in 'Sheet1'.

- In **Octoparse**, click **Search > Enter Text**.



- Click **Enter Text in Loop**, then:
  - Check the **Hit Enter/Return** checkbox.
  - Set timeout to **5 seconds**.
  - From the dataset, input **100 entries**, then click **Confirm**.
- Click the **title of the book**, then select **Extract Data > "Text"**.



+ Tips

Enter text in loop

and Imelda Marcos  
Conscious Golf: The Three Secrets of Success in Business, Life and Golf  
Cookies  
Cook's Companion: The Complete Book of Ingredients and Recipes for the Australian Kitchen  
Couple Next Door

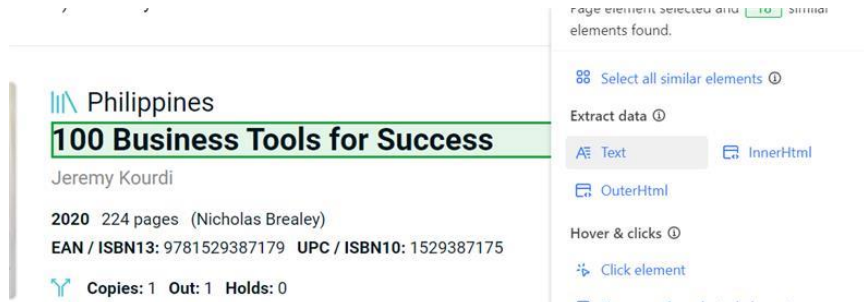
Only the first 100 lines will be displayed.

☒ Hit the Enter/Return key when finish entering

Timeout 5s  
before the next step

Cancel Confirm

- Click the **title of the book**, then select **Extract Data > "Text"**.



Philippines

**100 Business Tools for Success**

Jeremy Kourdi

2020 224 pages (Nicholas Brealey)

EAN / ISBN13: 9781529387179 UPC / ISBN10: 1529387175

Copies: 1 Out: 1 Holds: 0

Extract data

Text InnerHtml

OuterHtml

Hover & clicks

Click element

- Click on the **number of copies** and the **description** to extract these details.



Jeremy kourai

2020 224 pages (Nicholas Brealey)

EAN / ISBN13: 9781529387179 UPC / ISBN10: 1529387175

 Copies:  Out: 1 Holds: 0

### Description

The world is full of business ideas. But how do you know which the best to find time to read them? 100 Business Tools for Success may be a little bit of the best business tools that have come from the very best business brains.

lected, total 1 lin... [Preview more data](#)

[Enter subpage](#)

Field1

Field


- The extracted data should appear in the following format:

Business Startups Technology			
a fields pre-selected, total 1 lin... <a href="#">Preview more data</a> <a href="#">Enter subpage</a>			
lo.	Pre	Field1	Field2
1		100 Business Tools for Success	1
			The world is full of business ideas. But ...

- Click **Run on Your Device**, then select **Standard Mode**. Ensure that **100 items per run** are extracted. After each run, repeat the process to extract

another **100 items**, and continue doing so until all items are extra

How would you like to run your task? X




**Run on your device**

Run the task on your local device. Great for task troubleshooting and quick runs. Data will be extracted and stored locally.

Running...

Automation Settings



**Run in the Cloud**

Run task in the Cloud and have scalable cloud processors working for you 24/7 non-stop. Data will be stored in cloud with easy access any time. API supported.

Standard Mode

Boost Mode

Automation Settings

- After extracting, merge all the data into a **single sheet** named **“Book\_information”** and should look like this:

	A	B	C	D
1	Title	Number_of_Copies	Description	
2	100 Business Tools for Success		1 The world is full of business ideas. But how do you find the right ones?	
3	100 Mistakes that Changed History		1 Collected in one volume, here are backfires and failures that shaped the world.	
4	10x Is Easier Than 2x		1 Expanding upon one of his high-level foundations, the author shows how to achieve 10x results.	
5	12 Rules for Life: An Antidote to Chaos		5 The #1 Sunday Times and International Bestseller	
6	1Q84		1 “Murakami is like a magician who explains the world in a way that is both magical and real.”	
7	21 Irrefutable Laws of Leadership		2 What would happen if a top expert with more than 40 years of experience wrote a book on leadership?	
8	21 Lessons for the 21st Century		2 In Sapiens, he explored our past. In Homo Deus, he explores our future.	
9	48 Laws of Power (A Joost Elmsland Production)		6 Drawn from 3,000 years of the history of power, this is the most comprehensive, practical and cunning guide to power ever written.	
10	5 Levels of Leadership		1 True leadership isn't a matter of having a certain title or position. It's a matter of having a certain mindset.	
11	7 Habits of Highly Effective People		3 *New York Times bestseller--over 40 million copies sold	
12	7 Habits of Highly Effective People		1 One of the most inspiring and impactful books ever written.	
13	8 Secrets of the Truly Rich (How to Get Ahead in Business)		2 The book is a manual on how to create material wealth.	
14	8th Habit: From Effectiveness to Greater Contribution		2 The world has changed dramatically since the publication of the 7 Habits of Highly Effective People.	
15	Abduction		1	
16	Abundance Mind-Set		1 Go beyond the ordinary and break out into the extraordinary.	
17	Adventures of Captain Underpants and the Annoying Monkey		1 Celebrate the 25th and a half anniversary of this hilarious series.	
18	Adventures of Sherlock Holmes		1 HarperCollins is proud to present its new range of Sherlock Holmes books.	

## 2.3 Data Preprocessing



- Creation of Dataset named Book\_information.
  - In the csv named “**Book\_information**” add two additional columns namely creators and tags.

	A	B	C	D	E
1	Title	creators	tags	Number_of_Copies	Description
2	100 Business Tools for Success				1 The world is full of business ideas
3	100 Mistakes that Changed History: Backfires and Blunders That Collapsed Empires, Cr				1 Collected in one volume, here are
4	10x Is Easier Than 2x				1 Expanding upon one of his high-l
5	12 Rules for Life: An Antidote to Chaos				5 The #1 Sunday Times and Intern
6	1Q84				1 Æ Murakami is like a magician
7	21 Irrefutable Laws of Leadership: Follow Them and People Will Follow You				2 What would happen if a top expe
8	21 Lessons for the 21st Century				2 In Sapiens, he explored our past.
9	48 Laws of Power (A Joost Elffers Production)				6 Drawn from 3,000 years of the hi
10	5 Levels of Leadership				1 True leadership isn't a matter of h
11	7 Habits of Highly Effective People				3 *New York Times bestseller--ove
12	7 Habits of Highly Effective People: Powerful Lessons in Personal Change				1 One of the most inspiring and im
13	8 Secrets of the Truly Rich (How You Can Create Material Wealth and Gain Spiritual Abu				2 The book is a manual on how to i
14	8th Habit: From Effectiveness to Greatness				2 The world has changed dramatic
15	Abduction				1
16	Abundance Mind-Set				1 Go beyond the ordinary and bre
17	Adventures of Captain Underpants				1 Celebrate the 25th and a half an

- Add sheets 3 more on the Book information named
  - items-not-lent
  - current-checkout
  - merged title and creators
- The **items-not-lent** sheet and **current-checkout** sheet data can be found here:

[Hand-over-data](#)

**Copy the data and paste** it into their respective sheets in **Book\_information.csv**.

E6				
	A	B	C	D
1	Title	creator	Collections	tags
2	Why My Cat Is More Impressive Than Jeremy Kourdi		Philippines	
3	Toyota Engagement Equation	Ernie Richardson, Tracey Richardson	Philippines	business
4	How To	Randall Munroe	Philippines	personal growth
5	Day Trading 101: From Understanding David Borman		Philippines	finance, stock market
6	Lean Thinking: Banish Waste and Create Value	James P. Womack, Daniel T. Jones	Philippines	business, finance
7	Leaders Make the Future: Ten New Lessons from Bob Johansen		Philippines	business, leadership & management
8	Crucial Conversations Tools for Talking When Stakes Are High	Kerry Patterson, Joseph Grenny, Ron McMillan	Philippines	business, communication
9	Strengths Based Leadership: Great Leaders Don't Quit	Tom Rath, Barry Conchie	Philippines	business, leadership & management
10	Psych 101: Psychology Facts, Basics, and Tips	Paul Kleinman	Philippines	personal growth
11	Thinking, Fast and Slow	Daniel Kahneman	Philippines	business, new york time bestseller

06

- In the **Merged Title and Creators** sheet, copy the **Title** and **Creator** columns from both the **items-not-lent** and **current-checkout** sheets, then paste them into the **Merged Title and Creators** sheet. Ensure that all **titles** and **creators** from both sheets are included.



	A	B	C	D
1	Title	creator		
2	Impressive Than Your Baby	Jeremy Kourdi		
3	Toyota Engagement Equation	Richardson		
4	How To	Randall Munroe		
5	Day Trading (Adams 101)	David Borman		
6	Updated	Jones		
7	Uncertain World (Bk Business)	Bob Johansen		
8	Second Edition	Switzler		
9	Why People Follow	Tom Rath, Barry Conchie		
10	More!	Paul Kleinman		

Workbook Statistics

- The **final dataset** should include three files (Extracted\_data, Items-not-lent, Current-checkout, merged title and creators)

Extracted_data	itemsn-not-lent	current-checkout	merged title and creators	+
----------------	-----------------	------------------	---------------------------	---

- **Integration of feature “creators” and “tags” with Dataset**

- Use the **VLOOKUP** function to fill in the **Creators** and **Tags** columns.

	A	B
1	Title	creators
2	100 Business Tools for Success	=VLOOKUP(A2,
3	100 Mistakes that Changed History	

- Click on the **Title** cell (e.g., A2), then go to the **items-not-lent** sheet, and select the entire columns for **Title** and **Creator**.

	A	B
1	Title	creator
2	Why My Cat Is More Impressive Than	Matthew Inman, The The Oatmeal
3	Toyota Engagement Equation	Ernie Richardson, Tracey Richardson
4	How To	Randall Munroe
5	Day Trading 101: From Understanding	David Borman
6	Lean Thinking: Banish Waste and Cre	James P. Womack, Daniel T. Jones
7	Leaders Make the Future: Ten New Le	Bob Johansen
8	Crucial Conversations Tools for Talkin	Kerry Patterson, Joseph Grenny, Ron
9	Strengths Based Leadership: Great Le	Tom Rath, Barry Conchie
10	Psych 101: Psychology Facts, Basics, S	Paul Kleinman
11	Thinking, Fast and Slow	Daniel Kahneman
12	Difficult Conversations: How to Discu	Douglas Stone, Bruce Patton, Sheila H
13	Negotiating 101	Peter Sander
14	Bruce Lee: The Authorized Visual Hist	Steve Kerridge
15	Silk Roads: A New History of the Wor	Peter Frankopan
16	Start with Why: How Great Leaders Ir	Simon Sinek

	A	B
295	Pretty Ugly	David Sedaris, Ian Falconer (Illustrator)
296	Hot Mess (Diary of a Wimpy Kid Book	Jeff Kinney
297	Marvel Comics Library. Spider-Man. V	Ross Jonathan, Ditko Steve (Illustrator)
298	Planet Ape	Desmond Morris, Steve Parker
299	Combing The Coral Carpet (Revised E	Bruce Curran
300	Art of Futurama	Matt Groening, David X. Cohen (Intro
301	Ripley's Believe It or Not! 2025	Ripley
302	Avengers: Kree/Skrull War Gallery Ed	Roy Thomas, Sal Buscema (Artist), Ne
303	JEPH LOEB and TIM SALE: CAPTAIN AI	Jeph Loeb, Tim Sale (Illustrator, Cove
304	Ultimate Book of Space	Anne-Sophie Baumann, Olivier Latycl
305	George Herriman Library	George Herriman
306	Vegan Cuisine	Jean-Christian Jury
307	Samurai Swords - A Collector's Guide	Clive Sinclair
308	Dare to Lead	BrenÃ© Brown
309	1Q84	Haruki Murakami
310		
311		

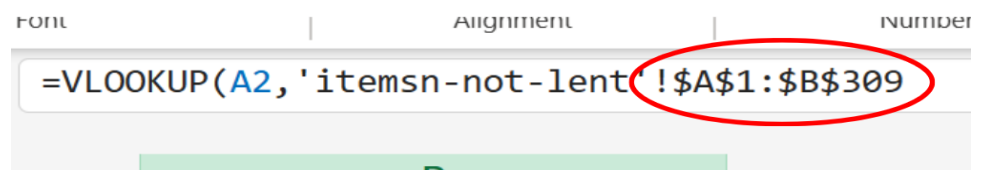
- The formula should look like this specifying the cell numbers of all selected cells:

=VLOOKUP(A2,'itemsn-not-lent'!A1:B309
B

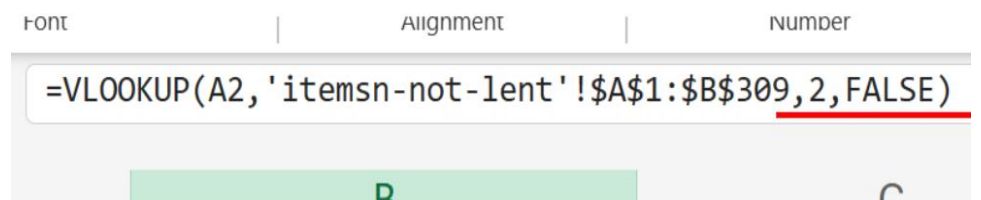
- Press **F4** on the lookup range to lock the reference:

=VLOOKUP(A2,'itemsn-not-lent'!A1:B309
B

- After pressing the **F4** key the formula should look like this with **2 \$** sign:



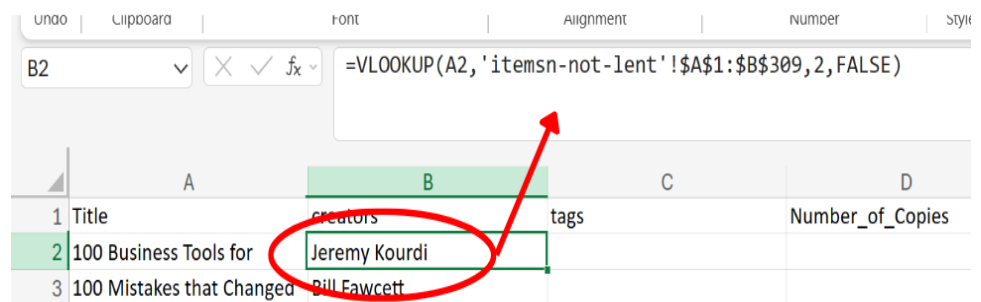
- After entering the table array in the formula, add a comma, then specify the column number you want to extract. Since the **Creator** column in the **item-not-lent** sheet is the **second column**, enter **2**. Then add **FALSE** argument to specify that the lookup must be an exact match.



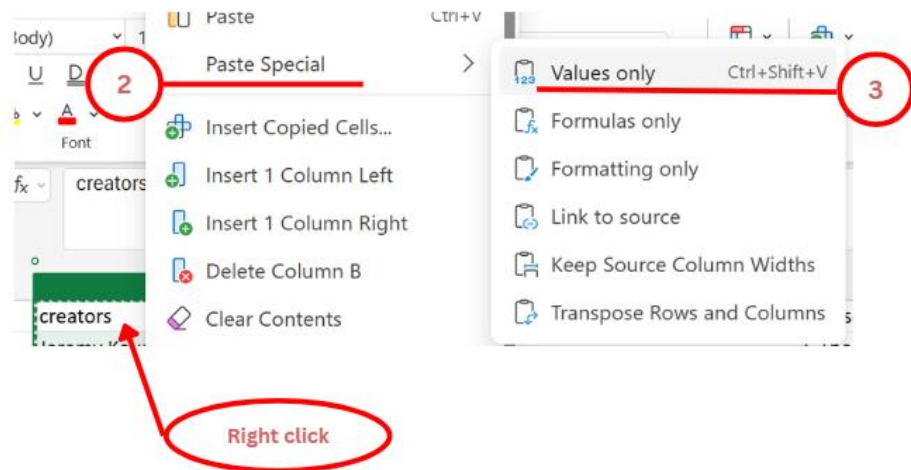
- Apply the formula and ensure it appears as shown in the reference image.

A	B	
Title	creators	tags
100 Business Tools for	Jeremy Kourdi	
100 Mistakes that Changed		
10x Is Easier Than 2x		
12 Rules for Life: An		
1Q84		

- Click and **drag the fill handle** (green box at the lower-right corner of the cell) **downward** to apply the formula to all rows.
- All cell under the column named creators will look like this:



- The formula needs to be removed only retaining the creator name. To remove the formula while keeping only the **Creator** names, **copy** the entire **Creators column**, select the cell containing "**Creators**," then **paste** it as **values only** to replace the VLOOKUP formula.



- Ensure that clicking a cell in the column no longer shows the VLOOKUP formula.

<div> <span>✕</span> <span>✓</span> <span>fx</span> </div> <div>Jeremy Kourdi</div>		
	B	
	creators	tags
ols for	Jeremy Kourdi	
at Changed	Bill Fawcett	
as 3x	Don Sullivan Benjamin	

- **Repeat the same steps** for the **Tags** column.

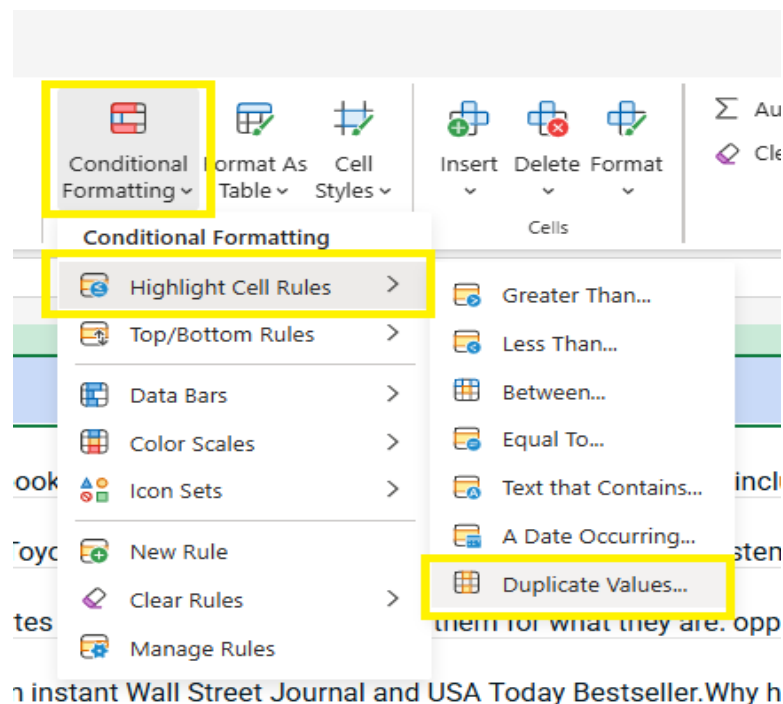
## 2.4 Data Cleaning

- **Cleaning Book Descriptions**

- Some extracted descriptions contained NaN values due to missing data from web scraping.
- These NaN values were replaced with blank entries for consistency.

- **Removing Duplicates**

- Conditional Formatting → Highlight Cell Rules → Duplicate Values were used to identify duplicate records.



- Each duplicate was verified against the library records to confirm accuracy.



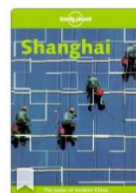
### Philippines Shanghai

2002 (Beijing, Foreign Languages Press)  
EAN / ISBN13: 9787119022215 UPC / ISBN10: 7119022210

Copies: 1 Out: 0 Holds: 0

#### Description

As you immerse yourself in the untold stories and atmospheric photographs of old ar  
Danyan be your guide as she takes you on a fascinating tour: Visit an old Western-sty  
glimpse the old and new buildings on the...



### Philippines Shanghai

Bradley Mayhew  
2000 256 pages (Lonely Planet Publications)  
EAN / ISBN13: 9780864425072 UPC / ISBN10: 0864425074

Copies: 1 Out: 0 Holds: 0

- False duplicates were removed, ensuring no redundant book entries.
- **Updating Dataset Structure**
  - The "ddc" and "lcc" columns were removed as they were not necessary.
  - The "lendings" column was renamed to "number of copies" for clarity.
  - The cleaned file was renamed "book\_information.csv" for easy reference.
- **Refining Lending History (Current-Lent Dataset)**
  - The "current-lent" dataset contained outdated lending history from 2024.
  - All records before January 2025 were removed, keeping only recent transactions.

## 2.5 Data Labeling

- Ensuring data consistency
  - Verified that **book descriptions, tags, and creator details** were correctly assigned.
  - Standardized **tags and creator details** to maintain uniformity in the dataset.

## 2.6 Data Storage & Versioning

- Storage location (Dify Knowledge Base)
- Version control



### 3. Prompt Engineering and Optimization

- **Platform Used:** Dify
- **Model Type:** GPT-based. (GPT-4o)
- **Training Data Sources:** Libib Cloudstaff Bookstaff Dataset
- **Prompt Engineering & Optimization**
  - **Prompt Variations:**
    - Developed and tested a wide range of prompt formats to determine the most effective structures for user engagement.
    - Assessed how different prompt styles impact user understanding and satisfaction, leading to optimized interaction strategies.
  - **Temperature & Sampling:**
    - Adjusted temperature settings to balance response consistency and creativity.
    - Used hybrid search in the knowledge base with a top-k of 3. Hybrid Execute full-text search and vector searches simultaneously, re-rank to select the best match for the user's query. Users can choose to set weights or configure to a Rerank model.
    - Focused on generating contextually relevant answers that cater to diverse user queries and scenarios.
  - **Iterative Refinement:**
    - Continuously analyzed user interactions to enhance response accuracy and relevance
    - Refined system prompts, dataset entries, and retrieval settings based on feedback.
    - Improved user experience by adjusting responses to match common queries and expectations.
  - **Dataset Enhancement:**
    - Regularly expanded and updated the dataset to include the latest information and resources.
    - Ensured data accuracy and comprehensiveness to support reliable and informed responses, thereby improving the overall user experience.
- **Knowledge Base Optimization:**



- **Structured Data Retrieval:** Ensured metadata completeness for books (Titles, Authors, Availability, Copies).
- **Library-Specific Adaptations:** Adjusted system prompts prioritizing Book staff dataset results over general AI knowledge.
- **Real-Time Updates:** Improved dataset entries based on frequent queries to enhance retrieval accuracy.

#### 4. Integration Details

- APIs & endpoints used (To be added)

##### 4.1 Planned APIs

- **Bookstop Recommendation API** - Suggests books based on user preferences and reading history.
- **Bookstop Book Availability API** - Checks real-time stock and availability of library books.
- **Bookstop Search API** - Finds books using title, author, or ISBN queries.
- **Google Books API** – Used for fetching additional book details beyond our library system.
- **Firebase Authentication** – Secure user authentication for library members
- **Twilio API** – Send SMS reminders for due dates.

The goal of this API integration is to improve data processing efficiency and streamline workflow automation. While the API integration has not been implemented yet, this document outlines the necessary steps for manual data cleanup, formatting, and knowledge base (KB) preparation to ensure a smooth transition once the integration is in place

#### 5. Maintenance & Monitoring

- Logging & debugging process





- Please refer to [Service Level](#) Section

## 6. User Acceptance Testing (UAT) & QA

To ensure the chatbot meets user expectations and functions correctly, we have designed a set of test scenarios based on its core features.

### 6. 1 Testing Approach:

- Users should follow a structured prompt format to interact with the chatbot.
- The chatbot's responses should be evaluated for **accuracy, clarity, and completeness**.

**Sample Test Scenarios & Prompt Structure:**  
**Positive Prompts Testing & Expected Behavior (Passed or Failed):**

Feature	Example User Prompt	Expected Outcome	Status
Book Search	"Can you find <i>The Hobbit</i> ?"	The chatbot returns book details, including title, author, and availability.	Passed
Book Availability Check	"Is 1984 available?"	The chatbot confirms availability and shows copies left.	Passed
Book Recommendations	"Suggest book that is similar to 1Q84"	The chatbot provides a list of relevant book suggestions.	Passed
Borrowing & Returning	"How do I borrow a book?"  "How do I return a book?"	The chatbot explains the borrowing or returning process and guidelines.	Passed
Greetings	"Hello Bookstop"  I'm Gogod, how about you?	The Chatbot must respond to a greeting to the end-user.  After the chatbot responds, it will ask a follow-up question,	Passed

		which the user will then answer.	
<b>BookTalk (Engagement Feature)</b>	"I love the plot of 1Q84" "I love the author Haruki"	The chatbot describes the plot by engaging in a conversation, providing insights about the Query	Passed
<b>Handling Vague Queries</b>	"Can you recommend mystery books?"  "Is (book title) available?"	The chatbot must list mystery books.  The chatbot must provide the availability of the books listing the number of copies available now.	Passed
<b>Unrelated Topics</b>	"What is the Medication for flu?"	The chatbot must respond in polite way and make a way to make the user ask related with the library.	Passed
<b>Repeating a Query</b>	"Is 1Q84 available?" (Asked multiple times)	The chatbot <b>acknowledges</b> the repetition and asks if the user needs more details or assistance.	Passed
<b>Multiple Book Requests</b>	"Can you check if <i>The Hobbit</i> and <i>1Q84</i> are available?"	The chatbot processes <b>both books</b> and displays availability for each.	Passed
<b>Incorrect Spelling</b>	"Do you have <i>Harrey Potter</i> ?"	The chatbot applies <b>fuzzy matching</b> and suggests <b>"Did you mean <i>Harry Potter</i>?"</b>	Passed
<b>System Downtime Handling</b>	"Why is the bot not responding?"	If the chatbot is down, it provides a <b>friendly error message</b> and suggests alternative support channels.	Failed

### Prompt Testing and Output example:

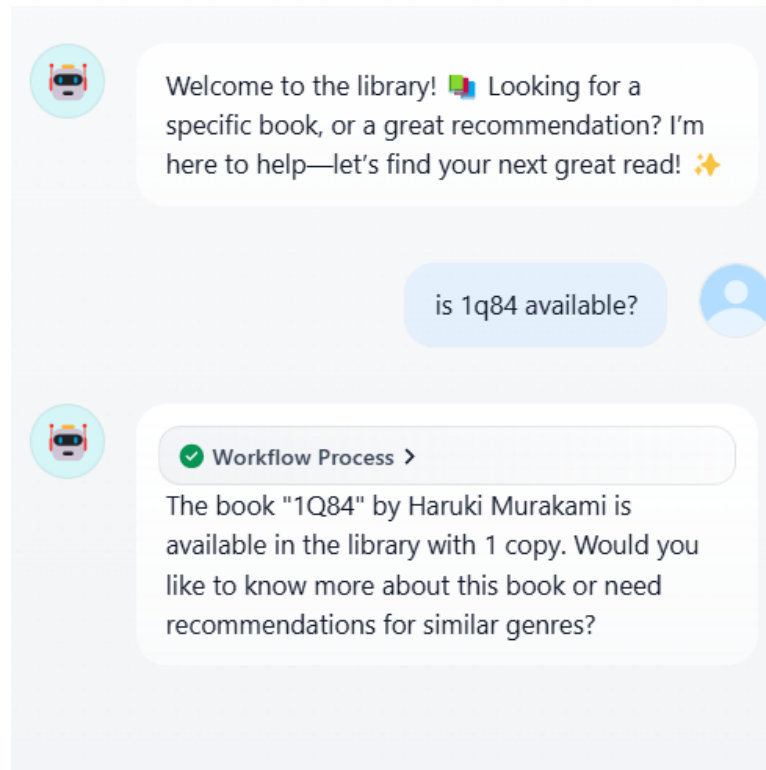


Figure 10. availability prompt

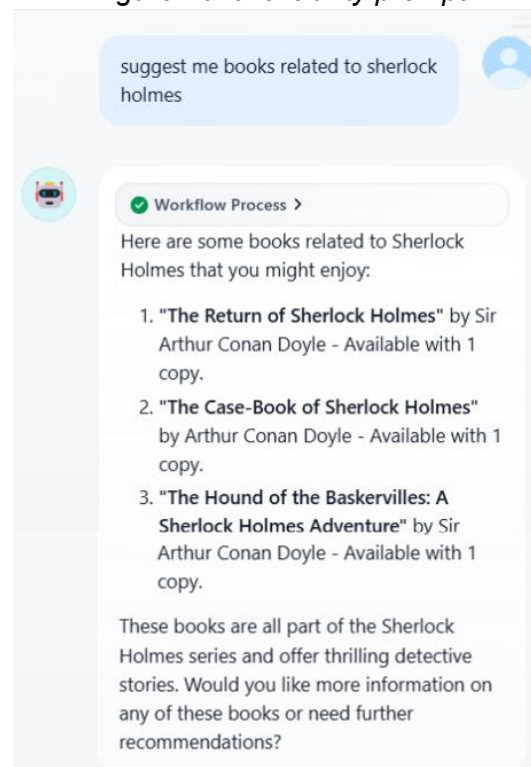


Figure 11. Book Recommendations

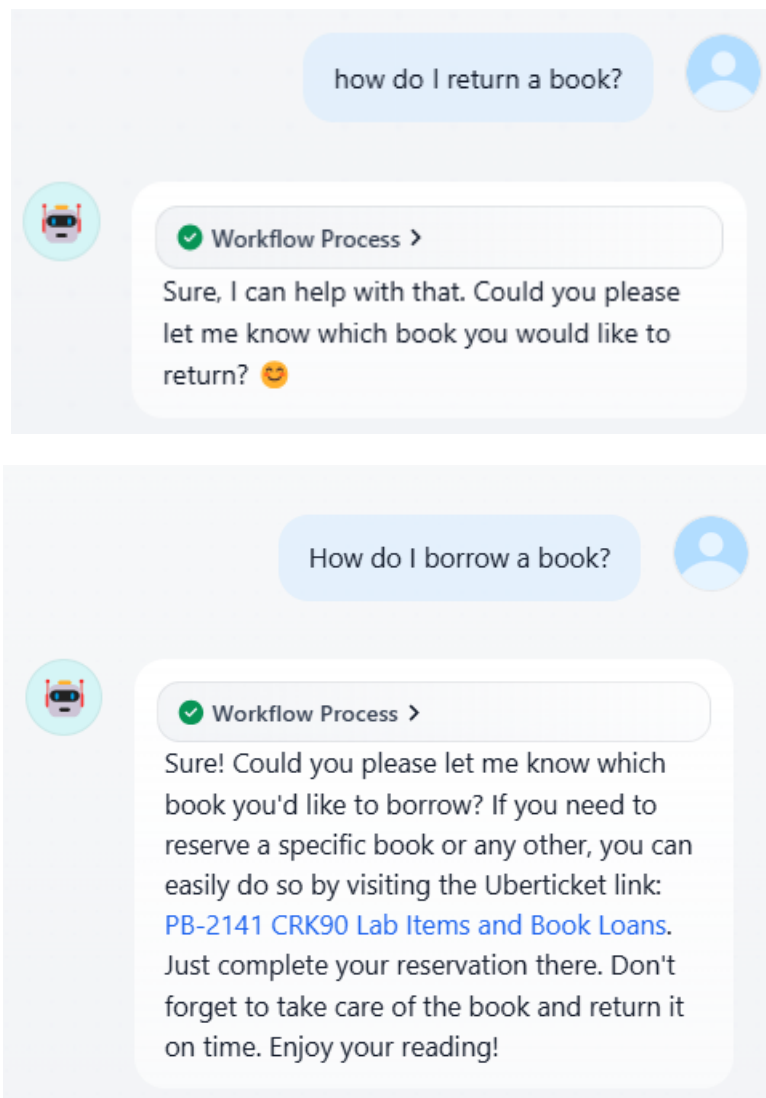


Figure 12. Borrow and Return

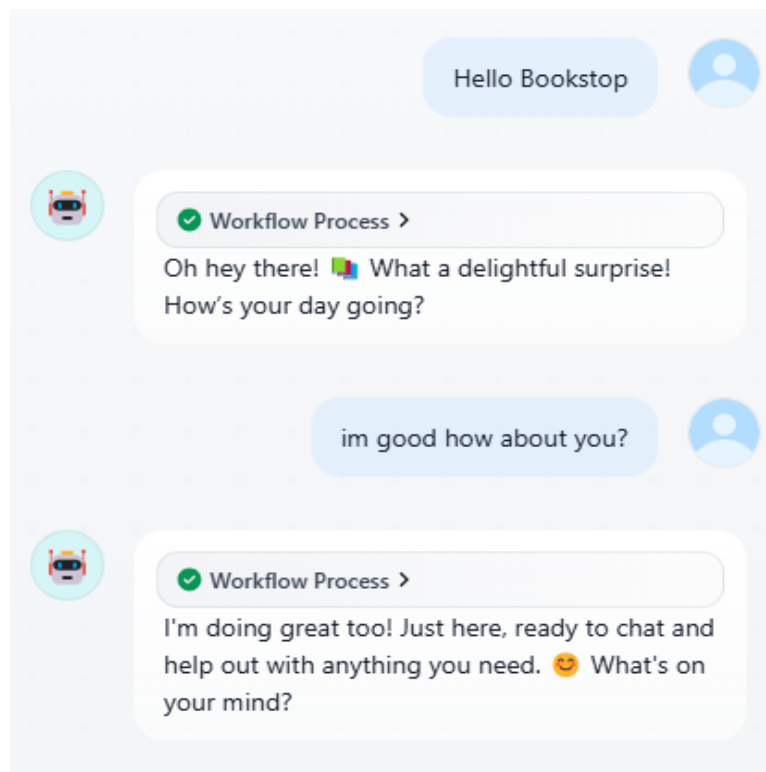


Figure 13. Greetings.



Figure 14. Book Talk

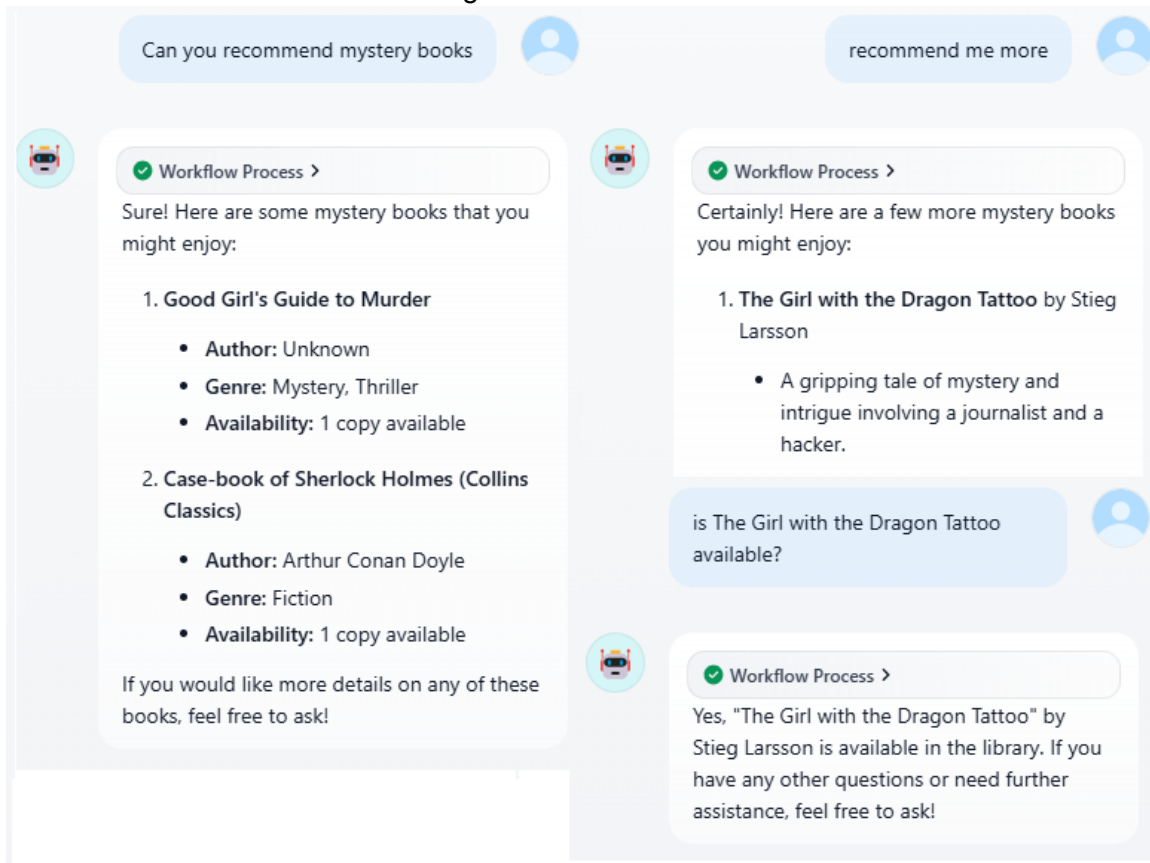
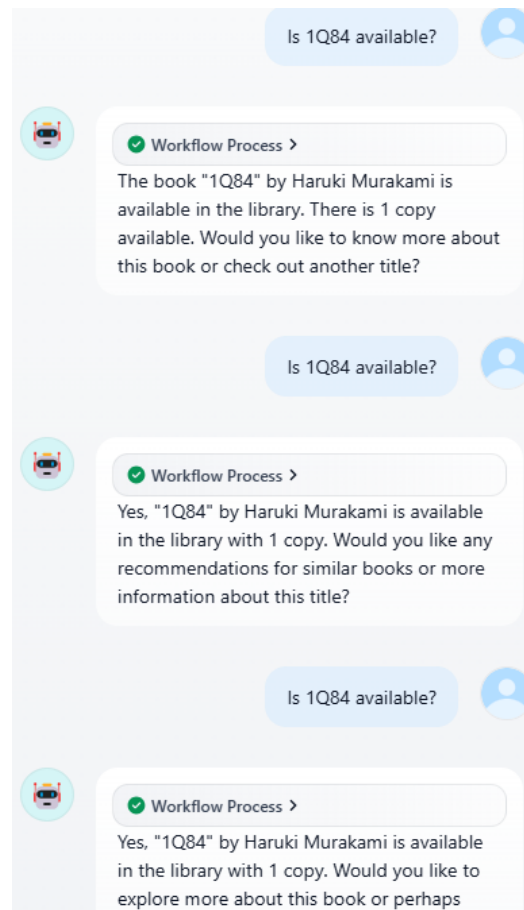


Figure 15. Handling Vague Queries



*Figure 16. Unrelated Topics*



*Figure 17. Repeating a Query*

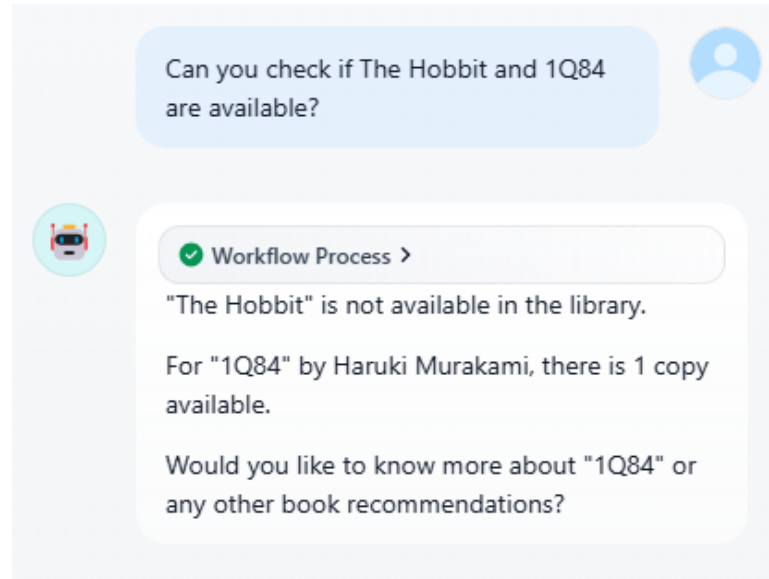


Figure 18. Multiple Book Requests

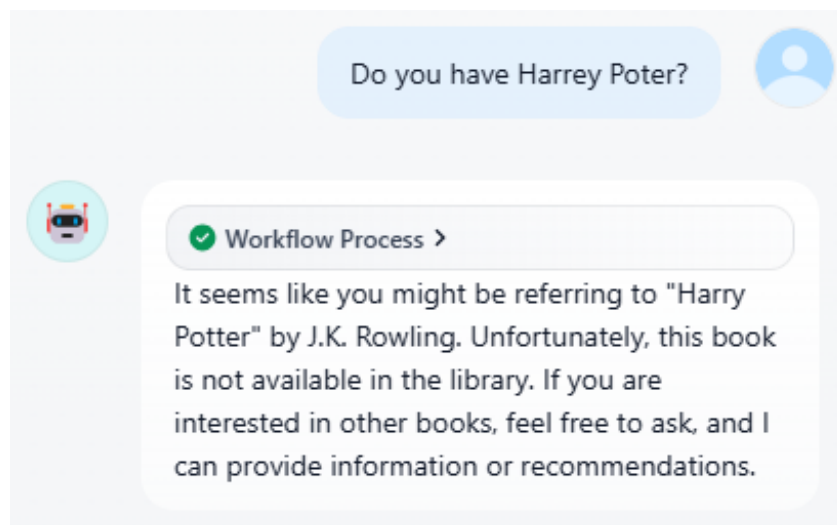


Figure 19. Incorrect Spelling

### Edge Cases & Expected Behavior

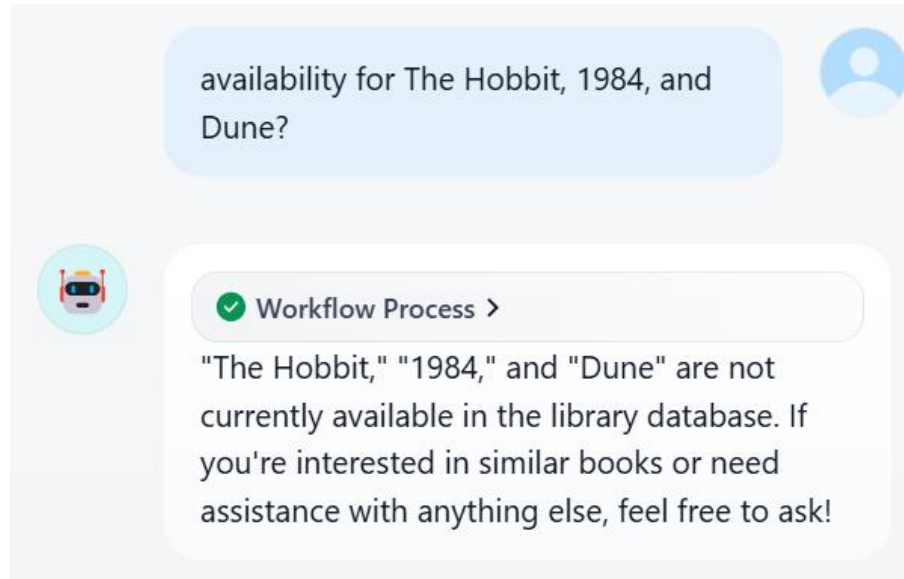
To ensure the chatbot handles **unexpected scenarios gracefully**, we have outlined **edge cases and negative test cases** covering **errors, incorrect inputs, and system limitations**.

Edge Case	Example User Input	Expected Chatbot Behavior	Status
Multiple Book Requests	"Check availability for <i>The Hobbit</i> , 1984, and <i>Dune</i> ."	The chatbot checks <b>all book titles</b> and provides <b>availability status for each</b> .	Passed

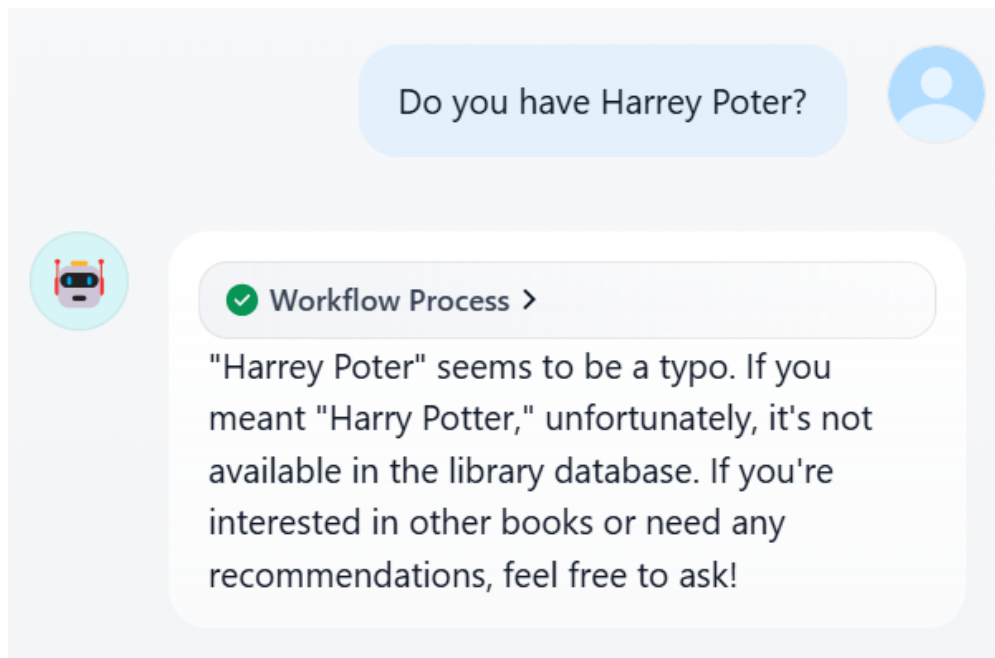


<b>Misspelled Book Titles</b>	"Do you have <i>Harrey Potter</i> ?"	The chatbot applies <b>fuzzy matching</b> and asks, " <i>Did you mean <b>Harry Potter</b>?</i> " before proceeding.	Passed
<b>Misspelled Author Names</b>	"Find books by <i>Jhown Grisham</i> ."	The chatbot corrects the name and responds, " <i>Did you mean <b>John Grisham</b>?</i> "	Passed
<b>Incomplete Book Title</b>	"Do you have <i>The Lord</i> ?"	The chatbot suggests " <b>Did you mean <i>The Lord of the Rings</i>?</b> " and lists similar matches.	Failed
<b>Ambiguous Requests</b>	"I want to read something good."	The chatbot response and suggest a book that the user might enjoy"	Passed
<b>Very Long Queries</b>	"I'm looking for a book that's about space travel, has a strong female protagonist, and was written after 2000."	The chatbot <b>processes the request</b> , identifies relevant books, or asks for <b>further refinement</b> .	Passed
<b>Multiple Follow-Ups Without Context</b>	"Is <i>1Q84</i> available?" → "What about <i>Dune</i> ?" → "And <i>The Hobbit</i> ?"	The chatbot <b>remembers context</b> and responds naturally: " <i>Here are the availability details for all three books...</i> "	Passed
<b>Checking for Nonexistent Books</b>	"Do you have <i>The Lost Book of Atlantis</i> ?"	The chatbot replies, " <i>I couldn't find that book in our library collection. Would you like recommendations?</i> "	Passed
<b>Checking Availability for Out-of-Stock Books</b>	"Is <i>1Q84</i> available?" (When all copies are borrowed)	The chatbot informs the user, " <i>All copies are currently borrowed. Would you like to be notified when it's available?</i> "	Passed

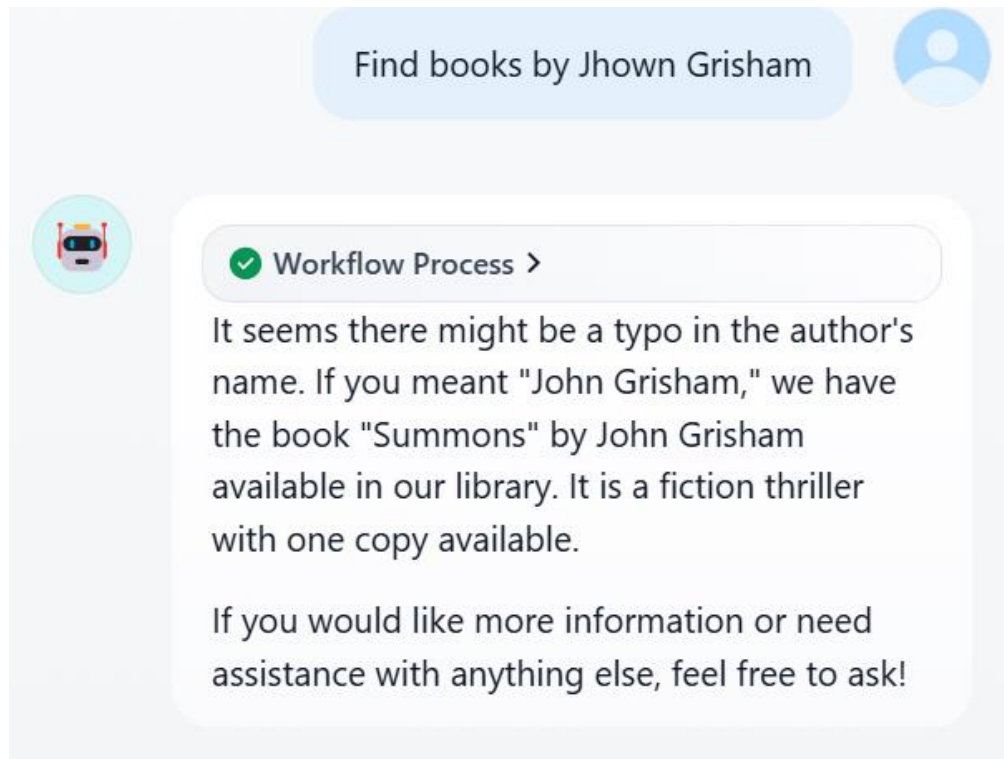
**Prompt Testing Example:**



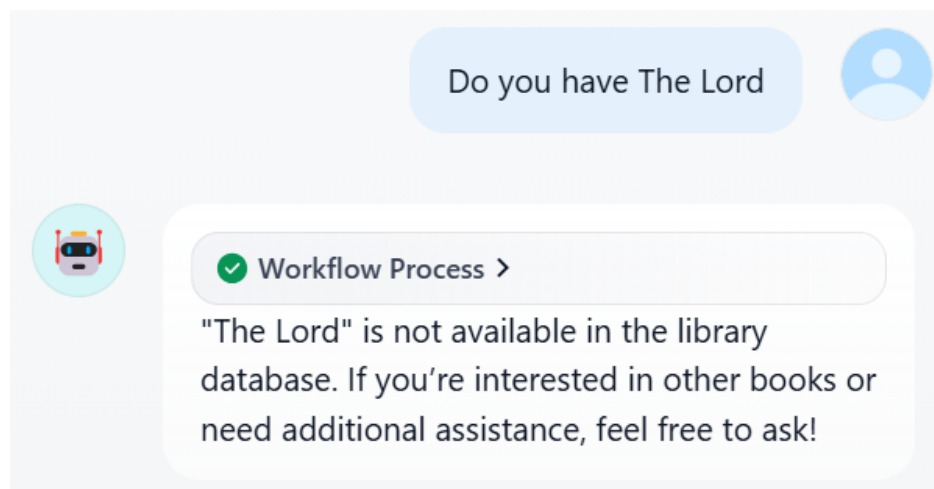
*Figure 20. Multiple Book Requests*



*Figure 21. Misspelled Book Titles*




*Figure 22. Misspelled Author Names*




*Figure 23. Incomplete Book Title*



Figure 24. Ambiguous Requests



I'm looking for a book that's about space travel, has a strong female protagonist, and was written after 2000.



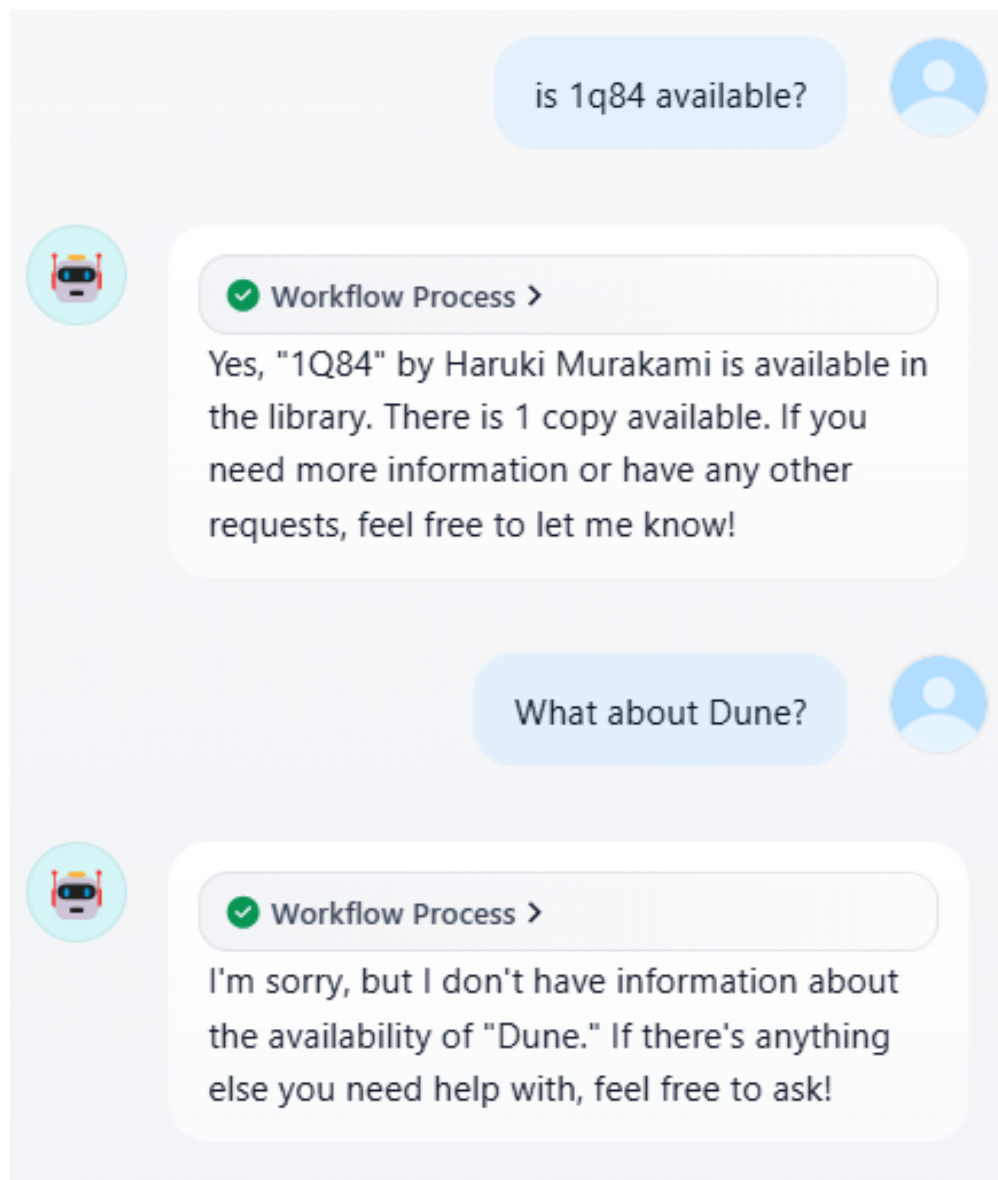
✓ Workflow Process >

I recommend "Thousand Pieces of You" by Claudia Gray. It features a strong female protagonist, Marguerite Caine, who embarks on a journey through multiple dimensions, which includes elements of space travel.

- **Title:** Thousand Pieces of You (Firebird)
- **Genre:** Fiction, Romance
- **Availability:** 1 copy
- **Description:** Marguerite must chase her father's killer through multiple dimensions using the Firebird, an invention that allows users to jump into different universes.

If you're interested in this book or need further recommendations, feel free to ask!

Figure 25. Very Long Query



*Figure 26. Multiple Follow-Ups Without Context*

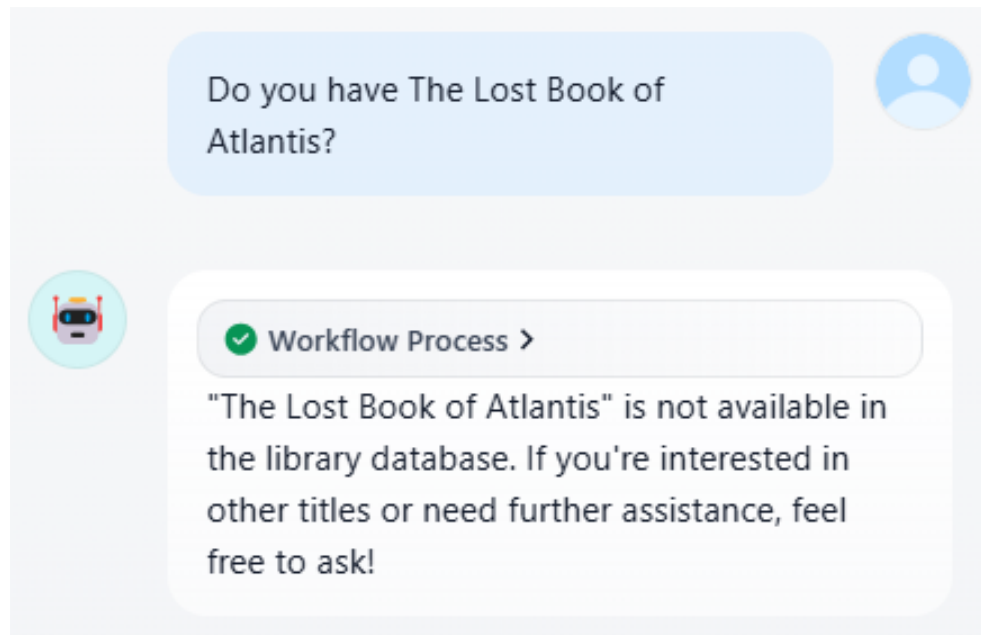


Figure 27. Checking for Nonexistent Books

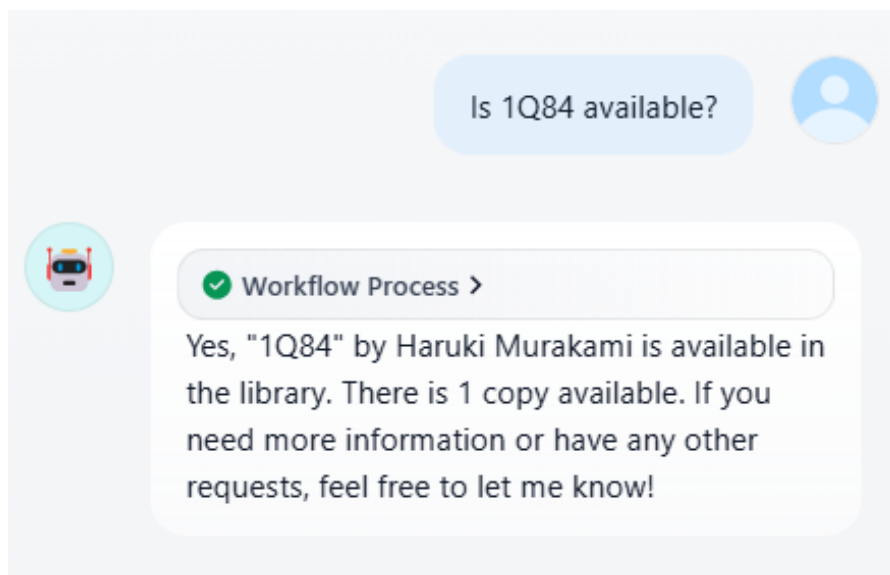


Figure 28. Checking Availability for Out-of-Stock Books

### Ambiguous Testing & Expected Behavior

Ambiguous Test Case	Example User Input	Expected Chatbot Behavior	Status
Asking Non-Library Questions	"What's the weather today?"	The chatbot responds: <i>"I can only help with library-related inquiries!"</i>	Passed

<b>Requesting Digital Books</b>	"Can I get a PDF of <i>The Hobbit</i> ?"	The chatbot clarifies: <i>"We only offer physical books for borrowing."</i>	Passed
<b>Unrelated Technical Support</b>	"My laptop isn't working."	The chatbot responds: <i>"I specialize in library-related queries!"</i>	Passed
<b>Spammy or Random Input</b>	"asdkjfhaskjdfh"	The chatbot asks: <i>"I'm not sure I understand. Could you rephrase your request?"</i>	Passed
<b>Profanity or Inappropriate Language</b>	"This library is [expletive] slow!"	The chatbot replies: <i>"Let's keep our conversation respectful. How can I assist you?"</i>	Passed
<b>Multiple Requests in One Message with Conflicting Info</b>	"Find me <i>Dune</i> and a romance book, but I also want horror suggestions."	The chatbot processes both genres separately and asks: <i>"Would you like romance or horror recommendations first?"</i>	Failed
<b>Asking for an Impossible Timeframe</b>	"Can I get <i>Dune</i> today?" (But no copies are available)	The chatbot responds: <i>"All copies are currently borrowed. Would you like to be notified when it's available?"</i>	Passed
<b>Asking for Books Without Checking Availability</b>	"I want to borrow <i>Dune</i> now." (Without checking if it's available)	The chatbot first checks <b>availability</b> before proceeding.	Passed

### Prompt Testing Example:



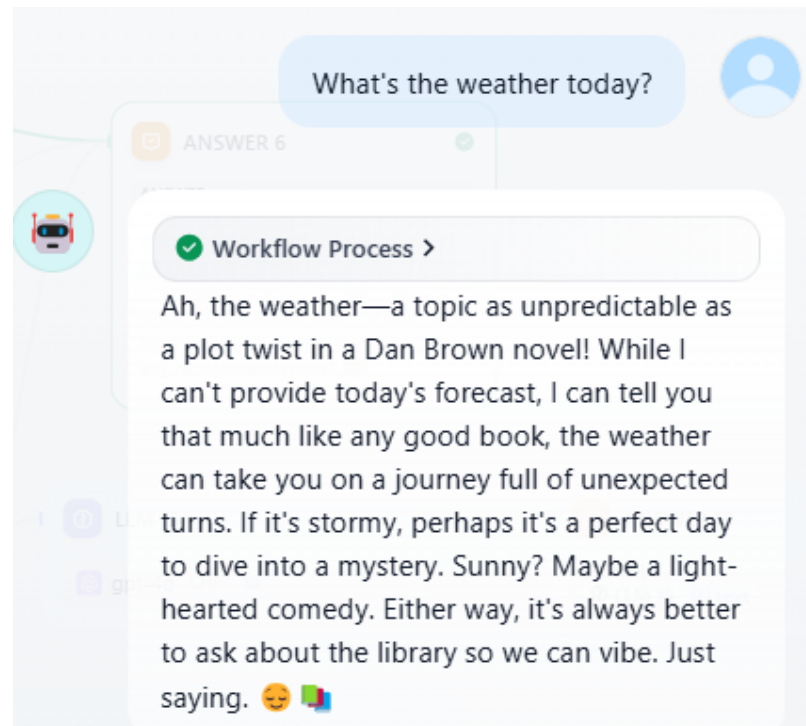


Figure 29. Asking Non-Library Questions

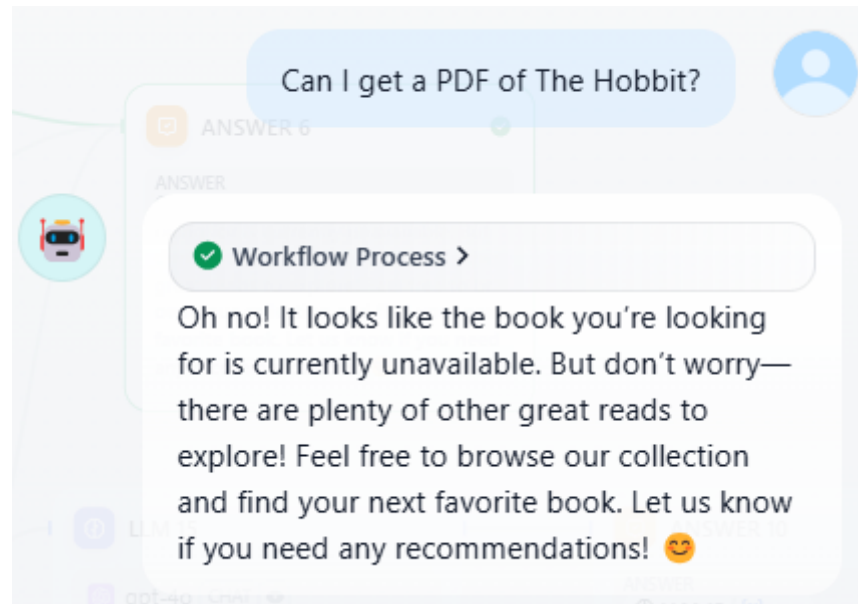


Figure 30. Requesting Digital Books

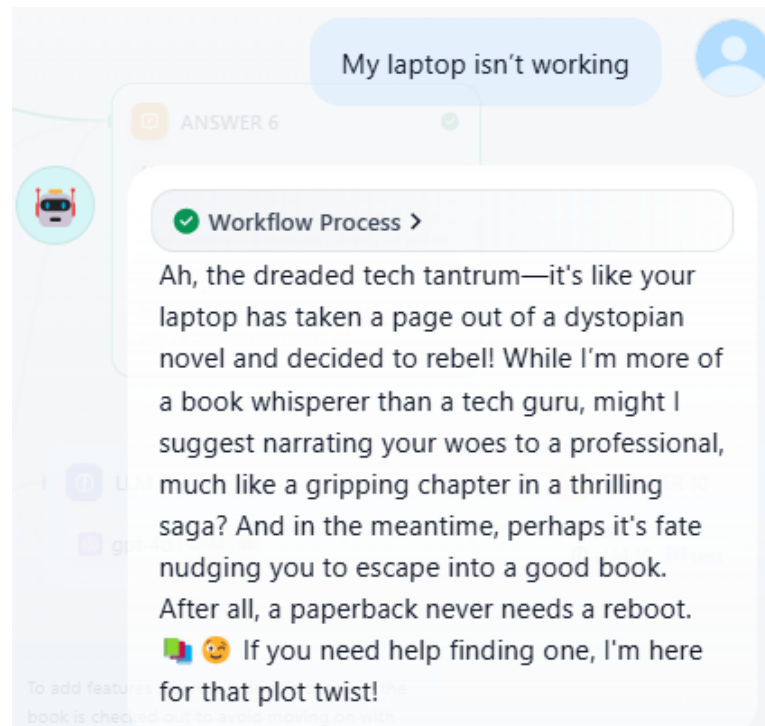


Figure 31. Unrelated Technical Support



Figure 32. Spammy or Random Input

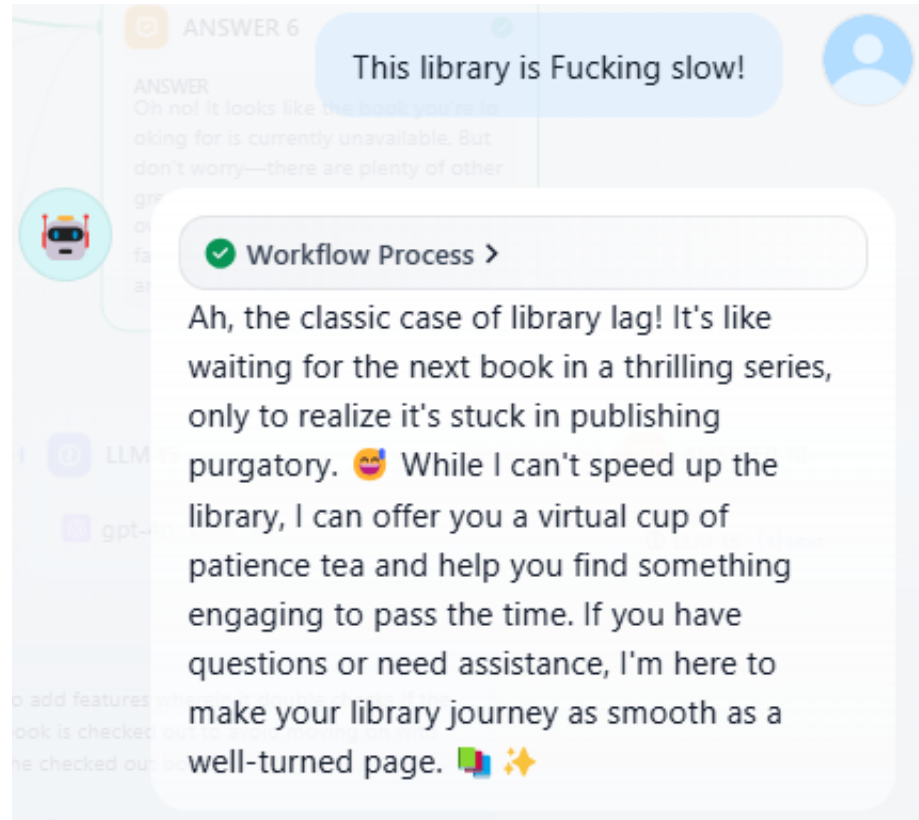


Figure 33. Profanity or Inappropriate Language

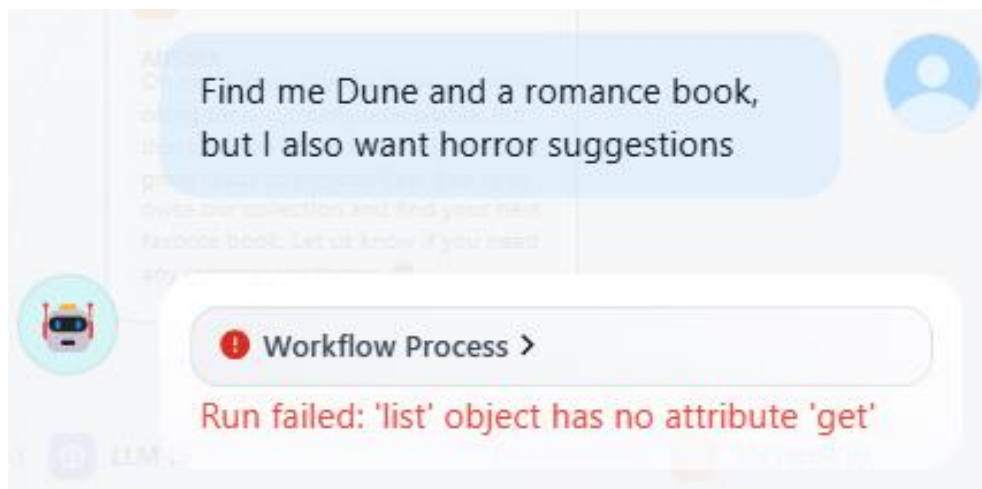


Figure 34. Multiple Requests in One Message with Conflicting Info

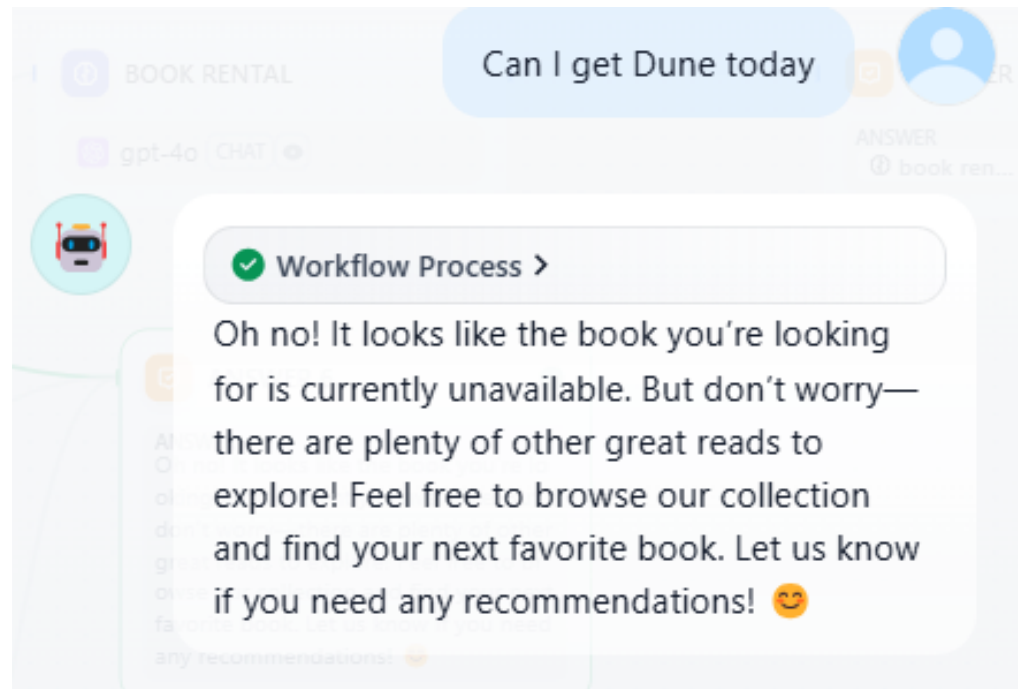


Figure 35. Asking for an Impossible Timeframe

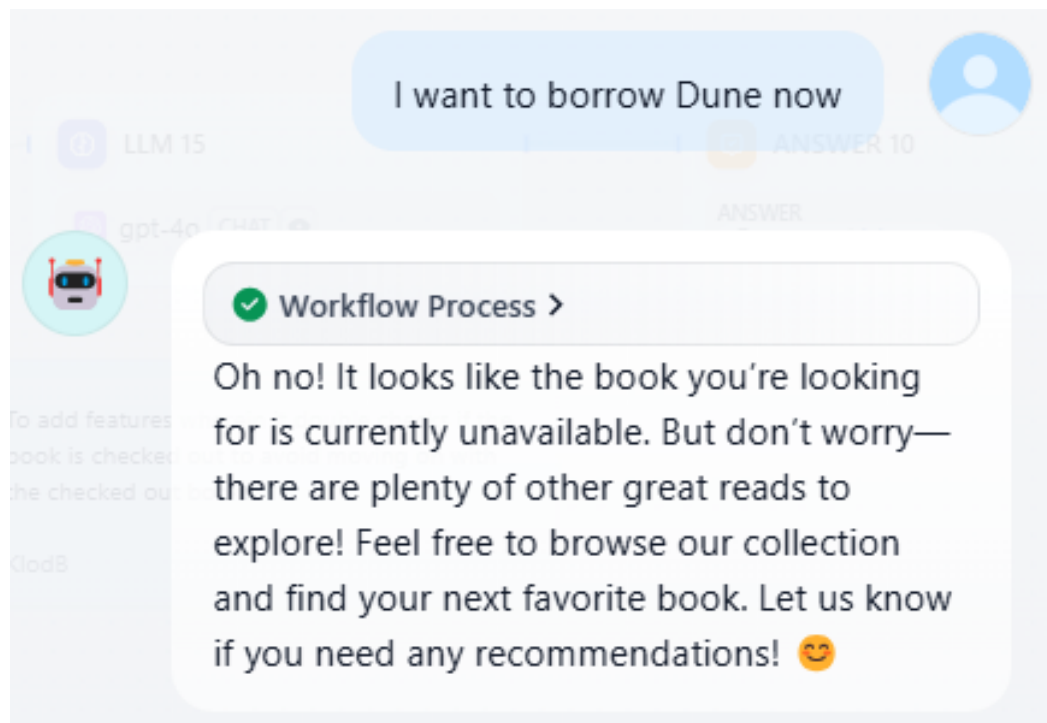


Figure 36. Asking for Books Without Checking Availability



### Future Enhancements:

- Conduct internal testing using the above prompts.
- Gather user feedback and refine chatbot responses accordingly.
- Ensure seamless API integration for real-time book availability and recommendations.
- Chatbot Specific Prompt Improvements:
  - Prompts with incomplete book titles should output the missing words or phrases of a book title.
  - When prompted with multiple queries or request within a single prompt, the chatbot should cater to each request without error.
  - When Libib site is down, the bot should not be able to answer queries and should just display an error message.

### Acceptance Criteria:

- The chatbot should provide **accurate** and **relevant** responses based on user input.
- Responses should be **structured, clear, and easy to understand**.
- The chatbot should **handle variations** of user queries (e.g., different phrasings, synonyms).

## 6. Future Refinement

- API Integration
- Updating of Knowledge Bases

## 7. Credentials & Access

- Repository access: [Access to Cloudstaff Dify Team KBs]
  - API keys: [Securely share relevant keys]
  - Database credentials: [Authorization Codes]
- 

## Data Cleaning Guidelines

### 1. Assess and Filter Relevant Data

- a. Identify the necessary data fields required for your use case.
- b. Remove redundant, irrelevant, or outdated information to streamline processing.



- c. Example: If building a book search system, retain fields like title, author, ISBN, and availability, but remove unnecessary metadata like publisher's contact info if not needed.

## **2. Ensure Consistency Across Datasets**

- a. Standardize formats (e.g., date formats, text capitalization, numerical precision).
- b. Resolve discrepancies in naming conventions, categories, and labels.
- c. Example: Ensure all author names follow a single format (e.g., "J.K. Rowling" instead of "Rowling, J.K." or "jk rowling").

## **3. Optimize Dataset Size for Efficiency**

- a. Evaluate the length and volume of data to balance cost-effectiveness and performance.
- b. Remove duplicate entries and unnecessary records to reduce storage and processing costs.
- c. Example: If storing transaction history for a library system, consider keeping only the last 3 years of borrowing data instead of the entire history.

## **4. Handle Missing or Incomplete Data**

- a. Decide on a strategy for missing values (e.g., imputation, removal, or flagging).
- b. Ensure key fields required for operations are complete and accurate.
- c. Example: If some books are missing an ISBN, decide whether to retrieve the missing data or exclude those records.

## **5. Eliminate Errors and Outliers**

- a. Detect and correct anomalies that could distort insights or predictions.
- b. Validate data accuracy using cross-referencing techniques where applicable.
- c. Example: If a dataset shows a book with -5 copies available, flag it as an error and correct the count.

## **6. Maintain Data Integrity and Security**

- a. Follow best practices for handling sensitive information.
- b. Implement version control and backups to prevent data loss.



c. Example: When handling user data, remove personal information if not necessary for the chatbot's operation.

---

## Library API Request Documentation

### Overview

We respectfully submit this request for the implementation of specific API endpoints to facilitate seamless integration with our library chatbot. These APIs will enable users to efficiently search for books, check their availability, and receive tailored book recommendations.

### Justification

The requested APIs are essential for enhancing user experience by providing real-time access to book information. This integration will allow the chatbot to assist users in locating books, determining their availability, and discovering relevant recommendations, thereby improving engagement and accessibility.

### Requested API Endpoints

- **Book Search API**

**Endpoint:**

GET /books/search?q={query}

**Purpose:**

This API will allow users to search for books by title, author, or keywords, ensuring they can efficiently locate desired resources.

**Request Parameters:**

Parameter	Type	Required	Description
q	string	Yes	Search query (title, author, or keyword).

**Example Request:**

GET /books/search?q=harry+potter

**Example Response:**

```
[ { "id": 1, "title": "Harry Potter and the Sorcerer's Stone", "author": "J.K. Rowling",  
  "available": true }, { "id": 2, "title": "Harry Potter and the Chamber of Secrets",  
  "author": "J.K. Rowling", "available": false } ]
```

- **Book Availability API**

**Endpoint:**



**GET /books/{book\_id}**

**Purpose:**

This API will provide real-time availability status of a specific book based on its unique ID, helping users determine if a book is accessible for borrowing.

**Request Parameters:**

Parameter	Type	Required	Description
-----------	------	----------	-------------

book_id	int	yes	The unique ID of the book.
---------	-----	-----	----------------------------

**Example Request:**

**GET /books/1**

**Example Response:**

```
{ "title": "Harry Potter and the Sorcerer's Stone", "available": true,
  "copies_left": 3 }
```

- **Book Recommendation API**

**Endpoint:**

**GET /recommendations?book\_id={book\_id}&tags={tags}**

**Purpose:**

This API provides book recommendations based on similar genres, themes, or user preferences. It now includes tag-based filtering to refine suggestions further.

**Request Parameters:**

Parameter	Type	Required	Description
-----------	------	----------	-------------

book_id	int	No	The unique ID of the book to get recommendations for.
---------	-----	----	-------------------------------------------------------

tags	string	No	Comma-separated keywords to filter recommendations (e.g., fantasy,magic,adventure).
------	--------	----	-------------------------------------------------------------------------------------

**Example Request:**

**GET /recommendations?tags=fantasy,magic**

**Example Response:**

```
[ { "title": "Harry Potter and the Sorcerer's Stone", "author": "J.K. Rowling", "tags":
  ["fantasy", "magic", "adventure"] }, { "title": "The Hobbit", "author": "J.R.R.
  Tolkien", "tags": ["fantasy", "adventure"] } ]
```

## **8 Service Level**

### **8.1 Service Details**

- **Service Name:** BookStop Assistant





- **Service Provider:** Cloudstaff
- **Client/Business Unit:** HubStaff
- **Effective Date:** March 1, 2025
- **Review Date:** Quarterly

## 8.2 Service Scope

- The chatbot will be available on [Platform: [Libib | Lloyd Ernst](#)].
- It will handle Types of Queries: FAQs, Book current checkouts, book borrow and return policy, book availability, book author, book titles, book description, book reservations, book recommendation.
- Operating hours: 8:00am – 5:00 pm Monday – Friday.
- Language Support: English, Tagalog

## 8.3 Service Availability

- **Uptime Commitment:** 99.5% availability per month
- **Scheduled Maintenance:** 2pm Every Friday
- **Emergency Downtime Notification:** At least 2 Hours notice

## 8.4 Response & Resolution Times

Issue Type	Examples	Response Time		Resolution Time	
<b>Critical</b>	Bot is down, unable to respond	Within minutes	30	Within hours	4-24
<b>High</b>	Major functionality issue (e.g., book search not working, availability check failing)	Within hours	1	Within hours	24
<b>Medium</b>	Minor functionality issue (e.g., incorrect book details, inconsistent recommendations)	Within hours	4	Within business days	3-5
<b>Low</b>	UI tweaks, content updates, minor phrasing improvements	Within business day/s	1	Within weeks	1-2



## 8.5 Performance Metrics

- **Response Time:** 95% of queries answered within 5 seconds
- **Resolution Rate:** 90% of issues resolved within the first interaction
- **User Satisfaction Score (CSAT):** TBA

## 8.6 Escalation Process

### Level 1: [Support Team] – Initial triage & troubleshooting

#### Scope:

- **Basic issue identification and resolution:** Support team members will address simple issues related to the chatbot's responses, UI bugs, and minor glitches. For example:
  - User-facing issues such as incorrect book data, unresponsiveness, or minor functionality errors (e.g., missing book availability data).
  - Initial investigations for errors like broken links, system failures, or API call issues that may impact core chatbot functions.
- **Escalation:** If the issue cannot be resolved within 30 minutes, escalate to the Technical Team (Level 2). This includes issues like unresponsiveness of the chatbot or functionality failures such as search not returning results.
- **Key Team Members:**
  - @Lou Guerrig (LouMe) Mendoza
  - @Paolo Gabriel (PaoN) Nievera
  - @Carl Adrian (AdrianMe) Mendoza
  - @Kervin Amiel josh (KervinC) Canlas

### Level 2: [Tech Team] – Escalation for deeper assessment

#### Scope:

- **In-depth technical diagnostics:** The Technical Team will focus on troubleshooting more complex problems like:
  - Issues caused by backend integration (such as API failures or data retrieval issues).
  - Issues with data flow, such as missing or outdated book data in the knowledge base.
  - Debugging issues with book recommendation algorithms, including mismatches between user queries and suggestions.
  - In-depth analysis of errors or inconsistencies in book availability and borrowing history.
- **Performance optimization:** They may address issues impacting performance, such as slow response times, inefficient API integrations, or knowledge base retrieval errors.



- **Escalation:** If technical issues persist or if fixes are required at a higher level (e.g., infrastructure or platform-related), the issue will be escalated to Management/Engineering (Level 3).
- **Key Team Members:**
  - @Andrei (AndreiC) Cagungun
  - @Teree Mari (TereeC) Cabanayan

### Level 3: [Support, Management, and Engineering] – Final resolution & fixes

#### Scope:

- **Major troubleshooting and fixes:** This level is reserved for resolving systemic issues, platform-level problems, or deeper bugs that require engineering input. For instance:
  - **Core platform malfunctions:** Issues with the chatbot's core functionality, such as total downtime, major API integration failures, or problems related to platform deployment and scaling.
  - **Back-end infrastructure issues:** The team may work on backend services, database configurations, or API updates to restore chatbot functionality or improve service reliability.
  - **Root cause analysis and system-wide fixes:** Identification of root causes of persistent issues and implementing solutions at the platform level.
  - **System updates and architecture adjustments:** If improvements or adjustments need to be made at an architecture or software level to enhance chatbot performance.
- **Key Team Members:**
  - @Jose Andrei (DrewF) Fajardo
  - @Jerahmeel (JerahmeelT) Tatcho
  - @Sean Calvin (CalvinR) Ramos
  - @Klod Lorenz (KlodB) Bondoc
  - @Mareiya Louise (YelMu) Muñoz
  - @Norman Miguel (NormanM) Magcalas
  - @Paul Trustan (PaulYu) Yumang

### Quality Assurance: [UAT, Testing]

- **Scope:**
  - **Test Scenarios:** The QA team is responsible for validating all chatbot features as per the requirements. This includes:



- **User Acceptance Testing (UAT):** Ensuring the chatbot performs as expected across all user scenarios (e.g., book search, availability check, recommendations, etc.).
- **Functionality testing:** Verifying that all core functions work correctly, including accurate responses to user prompts, correct book information, and handling user errors appropriately.
- **API integration testing:** Ensuring that all APIs function properly (e.g., real-time availability, book recommendations).
- **Bug and defect identification:** Ensuring the bot handles edge cases and identifying any issues not caught in earlier testing phases.
- **Key Team Members:**
  - @Lou Guerrig (LouMe) Mendoza
  - @Paolo Gabriel (PaoN) Nievera
  - @Carl Adrian (AdrianMe) Mendoza
  - @Kervin Amiel josh (KervinC) Canlas

### 8.6.1 Escalation Diagram

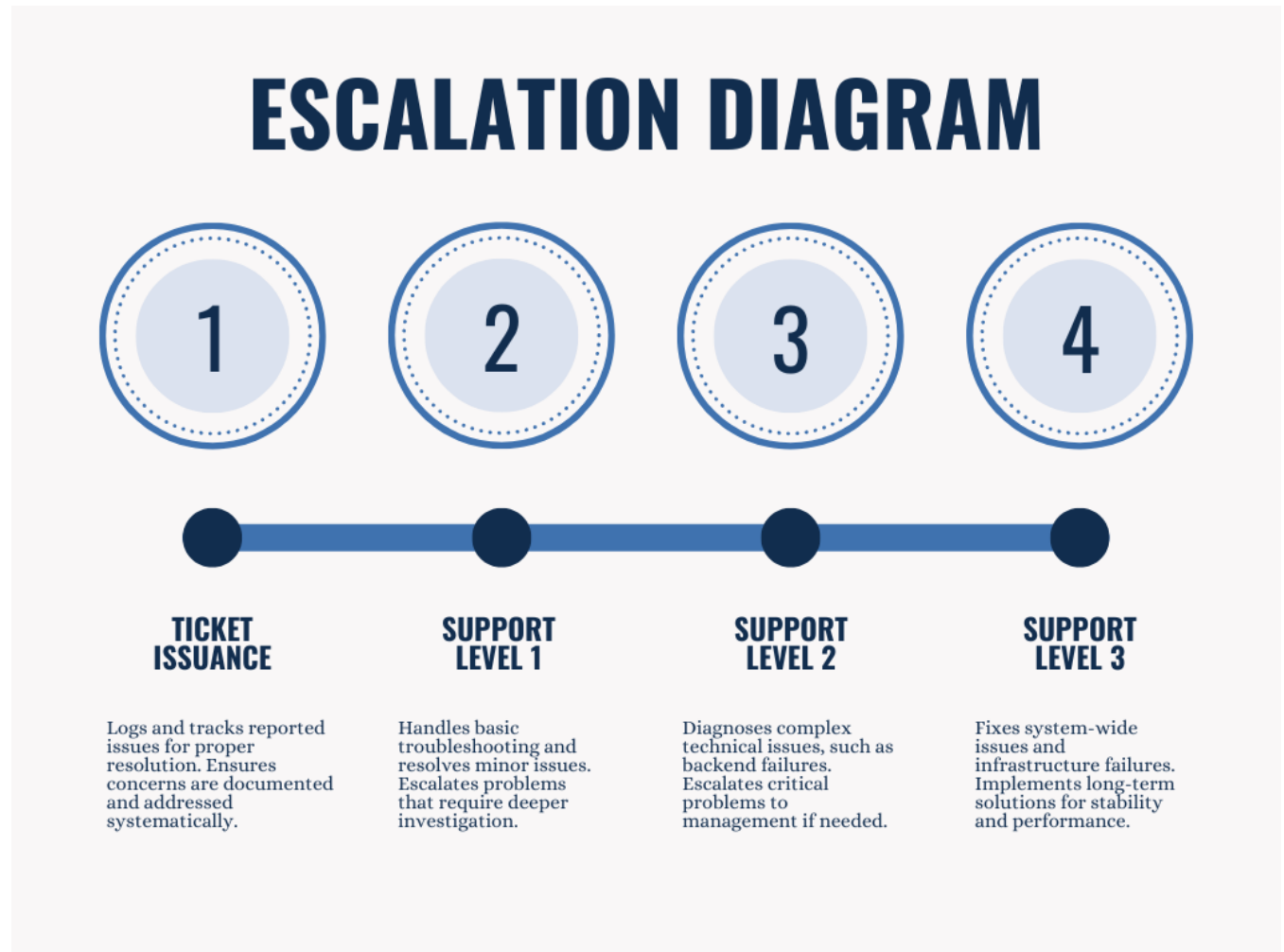


Figure 37. Escalation Diagram

## 9. Support & Maintenance

- **KB Collection:** Updated weekly (until API integration is completed).
- **Regular Updates & Enhancements:** Weekly, Friday 2pm.
- **Bug Fixes & Improvements:** Daily Review monthly. Releases are every Friday at 2pm. We will make an adjustment as the chatbot reaches maturity.
- **Monitoring Tools Used:** To be determined after initial implementation review (suggest quarterly reviews).
- **Queries regarding KB Collection and Cleaning:**
  - @Andrei (AndreiC) Cagungun
  - @Teree Mari (TereeC) Cabanayan
  - @Mareiya Louise (YelMu) Muñoz



- @Klod Lorenz (KlodB) Bondoc
- @Jerahmeel (JerahmeelT) Tatcho
- @Jose Andrei (DrewF) Fajardo

## 10. Limitations & Exclusions

- The chatbot is not responsible for **network failures, third-party API downtime, or human errors.**
- Custom feature requests require 5-10 business days for evaluation.

## 11. Review

- SLA is reviewed quarterly for performance assessment.

**Prepared by:**

**OJT - AI Development Team**

**Noted By:**

Joy Cuison