



Companion – AAN Feedback Analysis

April 30, 2024



Agenda



User feedback Consolidation



Causal Analysis on constructive feedback



Proposed solution

Constructive Feedback from Testing at the ANN Conference



ANN Feedback

With current capabilities, users see more potential benefit for Companion to help them sift through a large amount of information – e.g., full papers or **comparing insights from multiple congresses**.

In our testing with raw notes, Companion often generated insights that were too vague, **too specific, or duplicative of existing knowledge**, and which weren't at the level expected for a share out presentation.

It's critical to leave control in the hands of the users to use AI as a tool to improve the process, rather than forcing users to rely on something new and unfamiliar.

The process for taking notes at the event and uploading to Companion added **much more friction than anticipated** to existing processes.

Many users have little experience with AI tools, and don't know what they can expect from outputs or how **to guide the tool towards what they're looking for**.

"Is it going to make us a PowerPoint?" Unclear expectations or examples of outputs may cause users to expect the tool to replicate what they have made before.

"Taking insights in that form and then **analyzing 100 of them**, it can probably look for trends."

Companion seems pretty effective at providing a few key takeaways from individual posters/sessions. However, it can only do this for a **limited number of posters/sessions at once – roughly 5**, in my testing. When I've tried to get takeaways from e.g. ~20 sessions, it only returns 5, seemingly at random

Right now, when starting a new conversation, you have to **re-upload the file** and wait for it to process; this makes iteration a bit challenging

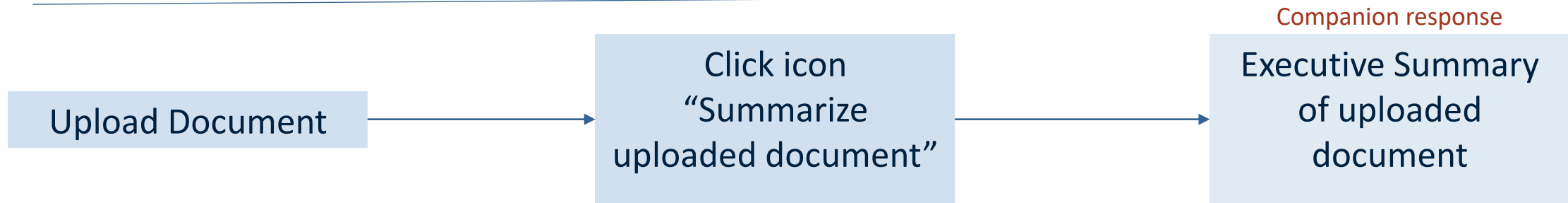
This is not what we would put in our highlights. This is **not robust enough**, and it is too specific in other areas.

Struggled to get Companion to output an overall synthesis / takeaways that span across multiple topics

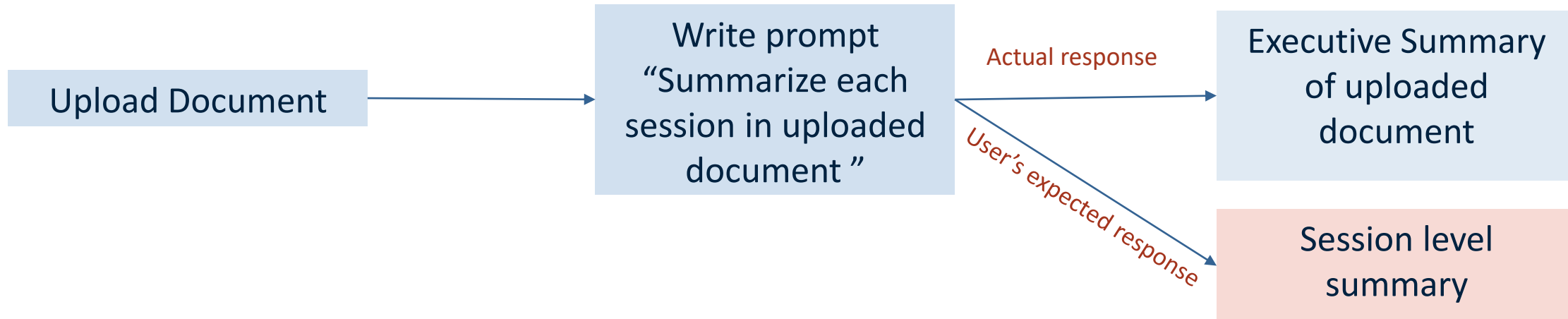
The system doesn't know what we already know

Let's understand the Issue with the help of summary scenarios

Current Companion Summary workflow



User's Activity workflow





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Conclusive Insights from Feedback Analysis: Understanding Causation



Non-Technical Insights



User Expectation Mismatch:

Users expect different outcomes from Companion than what it delivers.



Gap in Understanding the needs of Medical Affairs:

Lack of clarity on the requirements and expectations of Medical Affairs.



Inadequate training and guidance:

Users need better guidance on how to effectively use Companion.



Need to Revamp the feature prioritization Process:

Prioritizing features based on their value to end users.



Lack of understanding on correct Companion Responses:

Need to define the correct response criteria for Companion, including illustrative examples.

Technical Insights



Scope of improving Response Quality



Token limit Impact



Multi-tasking Capability



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Proposed Solution



Engagement with the Med Affairs Team

- Arrange a session to clarify their expectations from Companion post-initial use.
- Request examples of ideal responses for Q&A and document summaries, detailing specific requirements.
- Identify scenarios where Companion proves most beneficial.



Improve Feature Prioritization Process

- Prioritize features based on their value to end users.
- Highlight high-impact features such as architectural changes and GPT-4-Turbo.
- Note low-impact features like PDF parser replacement, migration, and Okta integration.



Defining user requirements by use case and categories

- Recognize the various needs of the Med Affairs team in Q&A and summary generation.
- Summarize Use Cases:
For e.g., General document summaries, Executive summaries, Summarizing documents w.r.t a focus area, Conference summaries
- Q&A Use Cases:
For e.g., General Q&A, Summarizing topics from the knowledgebase, Identifying trends

Technical Solution from ANN and Previous Analysis



Proposed Solution



LLM Model Comparison and Model Upgrade plan

- Comprehensive Model Comparison: A detailed comparison of gpt-3.5-turbo, gpt-4-turbo, gpt-4, and gpt-4-32k models.
- Latency and Cost Optimization Plan: Strategies for optimizing latency and cost during the model upgrade process.

Component Enhancement



Chat suggestions for Iterative Process Improvement

- Follow-up Question Suggestions: Companion suggests follow-up questions to enhance user experience and foster an educational, iterative process.

Feature Enhancement



Incorporating Images in Responses

- Image Parsing and Tagging: Parsing images from PDFs and tagging them to the appropriate context/chunk.
- Displaying Relevant Images: Displaying images when the context is referenced in the response.



Sample ANN Summaries with new Architecture



ANN Summary 3.5-turbo.pdf

AAN Conference 2024 – Myasthenia Gravis-Focused Sessions

Session 1: NMJ Disorders

Abstract: NMJ Disorders: MG, Ocular, and MUSK Myasthenia

- BEAT-MG did not show steroid sparing effect; RINOMAX trial did due to early patient recruitment.
- MINT trial offers hope as another option for MG treatment.
- Ocular MG patients lack access to approved therapies due to exclusion from trials based on MGFA scores.
- MUSK MG patients respond well to B-cell depletion therapies like rituximab.
- Memory B-cells play a role in antibody production in MUSK MG.
- Complement inhibitors eculizumab and raviluzumab show improvement in MG-ADL scores.

Session 2: B Cells in gMG Pathogenesis

Abstract: The Role of B Cells in gMG Pathogenesis

- Discussion on CD20 vs. CD19 expression in treating AChR+ versus MuSK+ gMG.
- BEAT-MG study showed no significant differences in steroid sparing.
- RINOMAX study showed positive outcomes for AChR+ gMG patients.
- Comparative efficacy in AChR+ versus MuSK+ gMG discussed.

Session 3: Improvement with Rozanolixizumab

Abstract: Clinically Meaningful Improvement in Physical Fatigue and Muscle Weakness Fatigability with Rozanolixizumab

- Post-hoc analysis of MycarinG study showed significant improvements with rozanolixizumab.
- Significant percentage of patients achieved improvements in muscle weakness fatigability and physical fatigue.

Session 4: Cost-effectiveness of Efgartigimod

Abstract: Cost-effectiveness Analysis of Efgartigimod Versus IVIg for AChR-Ab+ gMG in Canada

- Efgartigimod showed cost savings and increased quality-adjusted life years compared to IVIg.

Session 5: Eculizumab Versus Rituximab

Abstract: Eculizumab Versus Rituximab for AChR+ gMG

- Real-world comparison showed eculizumab favored over rituximab for AChR+ gMG.
- Long-term remissions seen in patients responding to CD20 depletion.

Session 6: Comorbidity and Steroid Use



ANN Summary 4-turbo.pdf

AAN Conference 2024 - Summary of MG-Focused Sessions

Session 1: NMJ Disorders: MG, Ocular, and MUSK Myasthenia

- **Date:** April 16
- **Presenters:** Srikanth Muppidi, MD, FAAN & Neelam Goyal, MD
- **Key Points:**
 - RINOMAX trial showed a steroid sparing effect in early-stage patients.
 - Hope expressed for positive outcomes from the MINT trial.
 - Ocular MG lacks approved therapies due to exclusion from trials based on MGFA scores.
 - MUSK MG identified in 2001; B-cell depleting therapies found effective in 2017.
 - MUSK MG patients respond well to rituximab, often requiring three cycles.
 - MG-ADL is the preferred scale in the US for patient self-reporting.
 - Complement inhibitors like eculizumab show better outcomes when started early.
 - Challenges include vaccination and antibiotic prophylaxis when using complement inhibitors.
 - FcRn receptor inhibitors, like efgartigimod, approved in 2021 showing favorable long-term tolerability.

Session 2: The Role of B Cells in gMG Pathogenesis

- **Date:** April 13, 2024
- **Presenters:** Kevin O'Connor, Pushpa Narayanaswami, MBBS, MD, FAAN, Richard J. Nowak, MD
- **Key Points:**
 - Discussion on CD20 vs. CD19 expression affecting efficacy of B-cell depletion in AChR+ vs. MuSK+ gMG.
 - BEAT-MG study overview showed no significant differences in steroid sparing or clinical outcomes.
 - RINOMAX study targeted new onset AChR+ gMG patients, showing primary outcomes with less steroid reduction needed.
 - Effective CD20 therapy in MuSK+ gMG presented as best data.
 - Role of thymectomy debated; less beneficial in MuSK+ MG.
 - Insights into long-term remissions in MuSK MG patients who responded to CD20 depletion.

Session 3: Clinically Meaningful Improvement in Physical Fatigue and Muscle Weakness Fatigability with Rozanolixizumab

- **Date:** April 15, 2024
- **Background:** MycarinG study Phase 3 trial investigated rozanolixizumab.
- **Objective:** Post-hoc analysis of MG Symptoms PRO scales in patients treated with rozanolixizumab.
- **Results:**
 - Significant percentage of patients treated showed clinically meaningful improvements at Day 43.
 - Rozanolixizumab-treated patients showed greater improvements in muscle weakness fatigability and physical fatigue compared to placebo.

Document Summary with gpt-3.5-turbo

Document Summary with gpt-4-turbo

Guidelines for Writing Effective Prompts: Dos and Don'ts

✓ Do's

List down some of the insights, takeaways and key findings from the congress.

What is the Treatment journey of TED patients?

Provide more details about previous response

Rewrite the above response in pointers and heading

Summarize previous response in pointers

✗ Don'ts

You are a medical affairs insight generator. Your area of expertise is NMOSD. The attached file contains notes from a recent congress which are focused on NMOSD. Please generate an executive summary that provides some new or insightful takeaways from the attached congress, to be shared as part of a presentation to a wide medical affairs audience. Focus on specific findings that are new or surprising.

Summarize the Uploaded document

Use Icon
"Summarize
uploaded
document"

Compare the first and second document

Summarize each session from the uploaded documents