Further Experiments in Artificial Intelligence

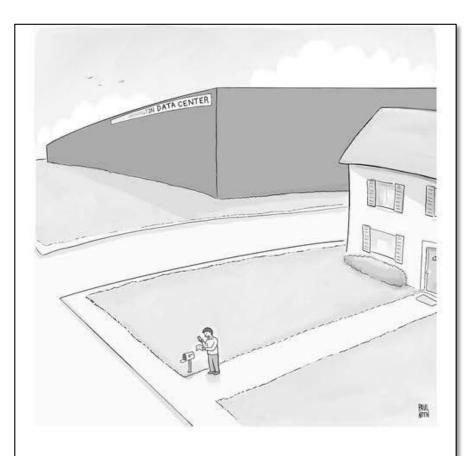
Session #2 – Focus on Google Gemini



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The footprint of Meta's Hyperion data center site, planned for Richland Parish, Louisiana, overlaid on a map of Manhattan. The massive data center would require 2 GW of power. Credit:NRDC



"ChatGPT, why is my electric bill so high?"

Differences in Perceiving (Producing) Written vs. Spoken Communication

1. Processing Speed

Spoken communication is usually processed more quickly because it's happening in real time. Written communication allows for more time to process, re-read, and reflect. This can lead to a deeper understanding but also delays in initial comprehension.

2.Context and Nuance

Spoken language carries contextual clues like tone, pitch, volume, and pace. These vocal elements help listeners interpret meaning, intent, and emotion. Written language lacks these auditory signals and must use punctuation, structure, and word choice to convey subtleties.

3. Retention and Recall

Written material is easier to store, retrieve, and reference. It supports long-term memory retention because it can be reviewed repeatedly. Spoken words, unless recorded, rely on immediate memory and are more susceptible to being forgotten or misinterpreted.

4. Creativity and Expression

Spoken communication allows for improvisation, natural rhythm, and conversational spontaneity. Written communication, by contrast, often reflects a more deliberate and edited form of expression, making it ideal for precision and complex argumentation.

Token

Prompt

Inference

LLM - MMLM - SLM Hallucinations

Multimodal Algorithm

NLP

AGI Compute

RAG

Models

Frontier Models

(values) Alignment

Workflow

Coding

Backpropagation

Bias (Social Bias vs. technical 'bias' (re: weight & bias in neuron))

Cognitive Load

RLHF (Reinforcement Learning from Human Feedback)

Enthusiastic Affirmation

Effective Altruism (EA)

Theory of Mind (ToM)

Context – Attention

Persistent Memory (scenarios – research w/ constant preface, or iterative edit of image)

Contextual framing (context setting, Custom Instructions, Persistent Instructions, Session Parameters)

Suite of Products

Constraints (legal, medical)

Context vs. Symbolism/Algorithmic/if...then

Agent/Agentic

Scale - Hyperscale

Doomer - Boomer

p(doom) - probability of doom scenario

Artifact

Markdown (.md, LaTeX, Lilypond)

Model Collapse

Misinformation vs. Disinformation

Emergent Behavior (unexpected behavior arising in large models)

Augmentation (augment human work, not replace humans)

Vector Database



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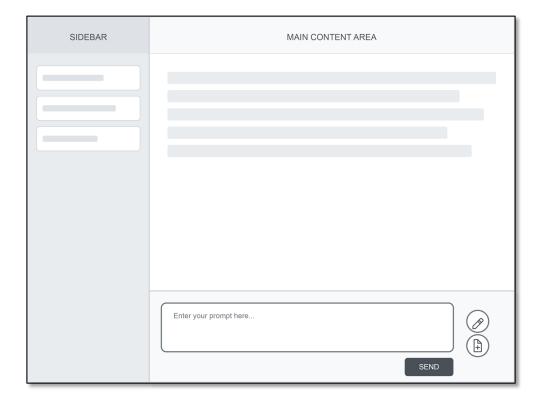
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Prompt Editor – General Definition



Al Editor Capabilities: A Quick Guide

Level 1: The Basics

- •Automatic Text Correction: Fixes typos as you type.
- •Use on Any Device: Access on your computer, tablet, or phone.
- •Copy, Paste, & Save: Easily use the Al's answers elsewhere.
- •Refine Answers Step-by-Step: Make changes through conversation.

Level 2: Managing Your Chats

•Short-Term Memory: Remembers the current conversation.

•Long-Term Archive: A "file cabinet" for all past chats.

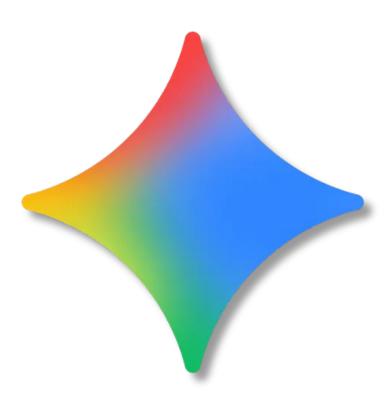
Level 3: Beyond Text (Files & Images)

- Drag & Drop Files: Upload documents for the AI to read.
- •Read Text from Images: Extracts text from photos and scans.
- •Works with Multiple Media: Understands text, images, and sound.
- •Create Images: Generates new pictures from your words.
- •Edit Images: Makes changes to pictures using simple commands.

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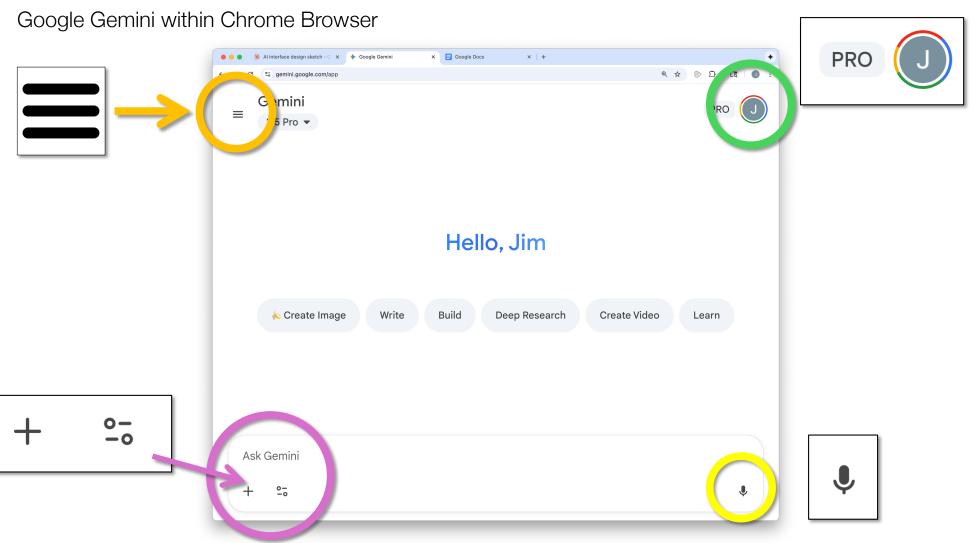
Level 4: Advanced Control

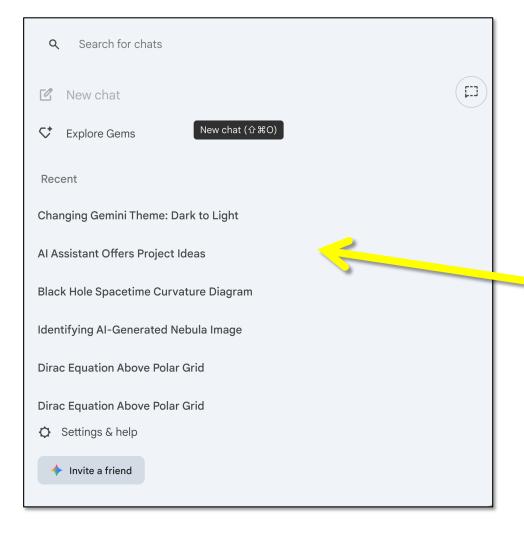
- •Use Al in Other Apps: Works inside your email, Word, etc.
- •Set the Al's Personality: Control the tone of the responses.
- •Give Permanent "Ground Rules": Instructions that apply to every chat.
- Provide Feedback: "Thumbs up/down" to help the Al improve.
- Check the Sources: See where the AI got its information.



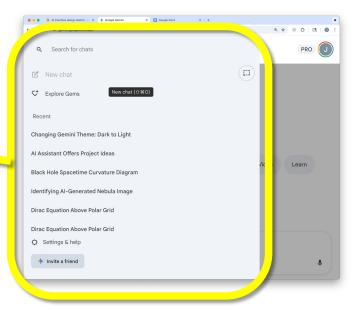






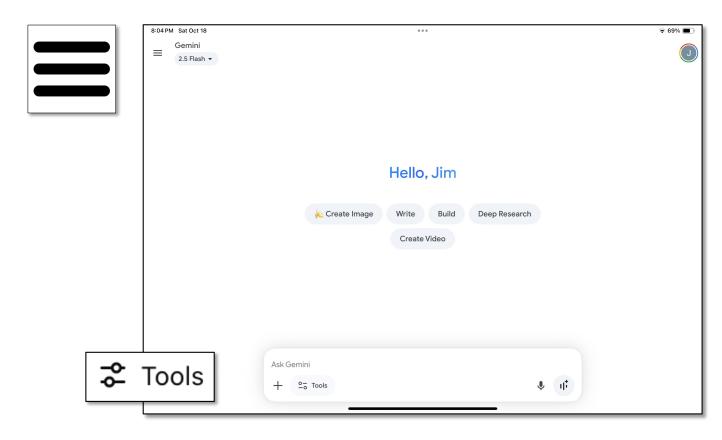


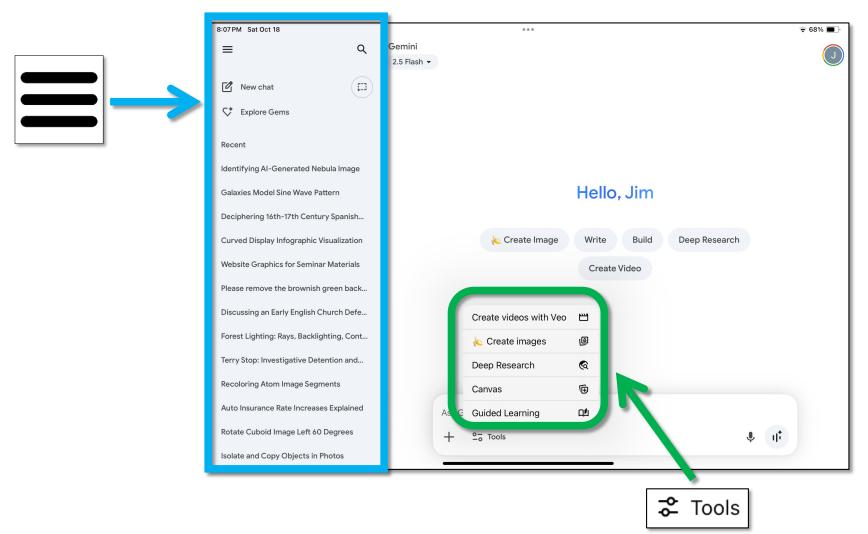






Google Gemini on Apple iPad

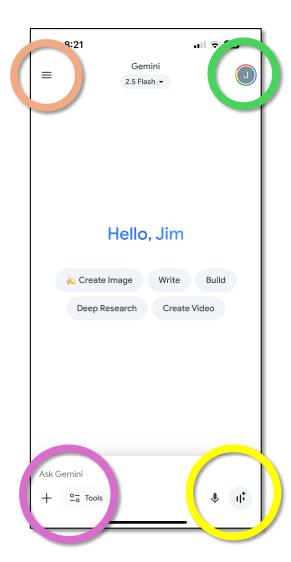


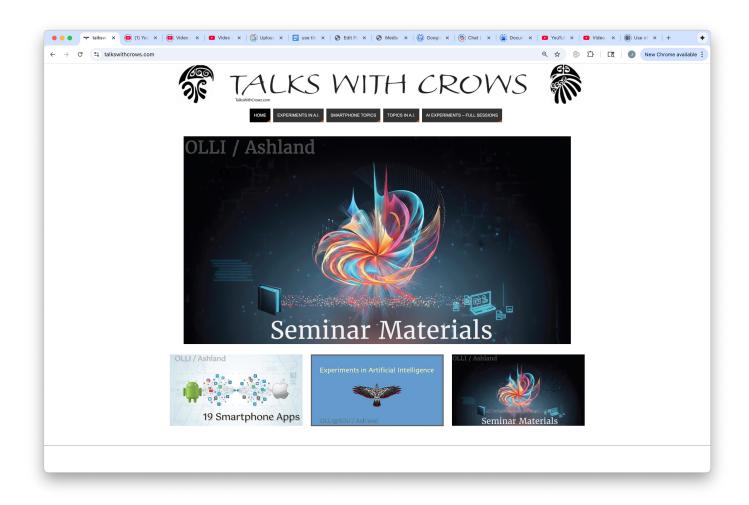


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Gemini on iPhone







Google Docs

"Help Me Write"

https://support.google.com/docs/answer/13447104?hl=en

https://www.tomsguide.com/ai/google-gemini/google-gemini-everything-you-need-to-know



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Google Labs

"Trusted Tester Program"

Potential for Free "Help Me Write" / Otherwise \$20/mo.

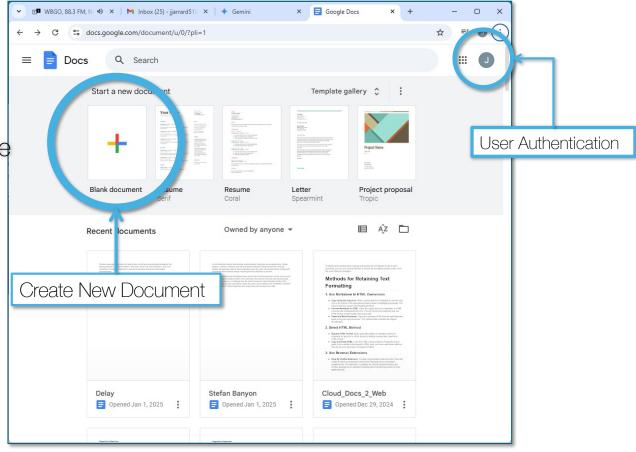


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docs.google.com

The Google suite of software products (docs, gmail, slides) are used extensively by small and virtual organizations



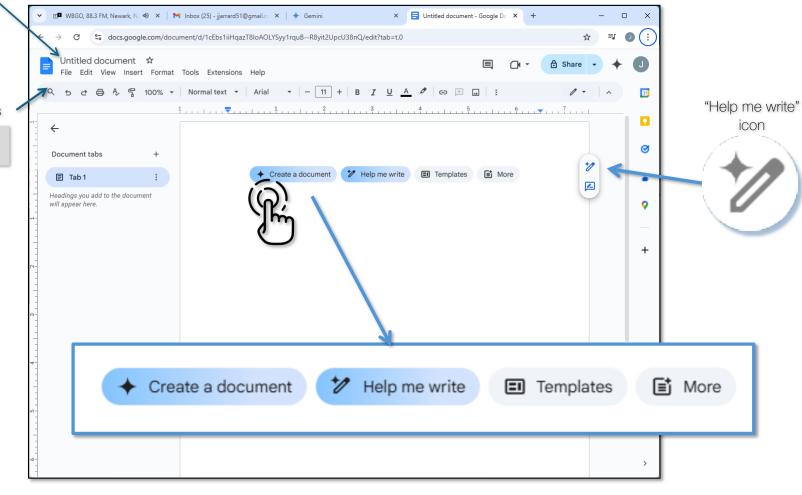




Document Title & Filename

Word Processing Menus

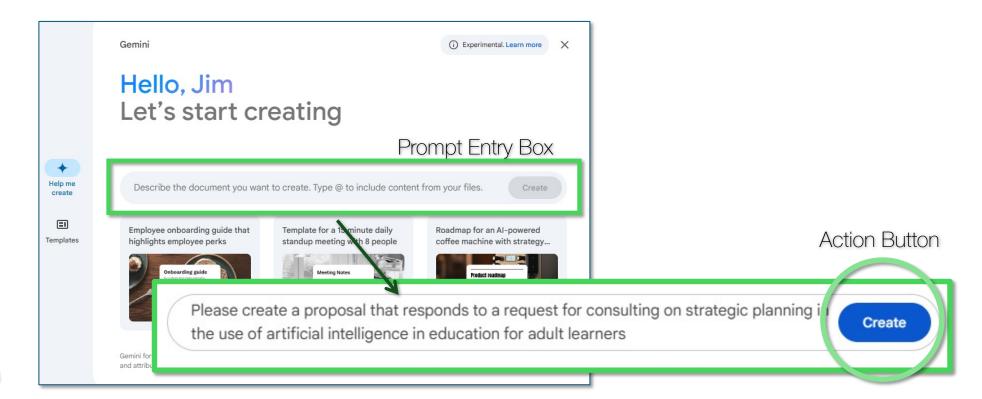
Slide #11 details items & actions within menus







The **Prompt Entry Box** appears after selecting the "Help me write" button





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After repeated use in Google Docs or Gmail the **Prompt Entry Box** may appear differently

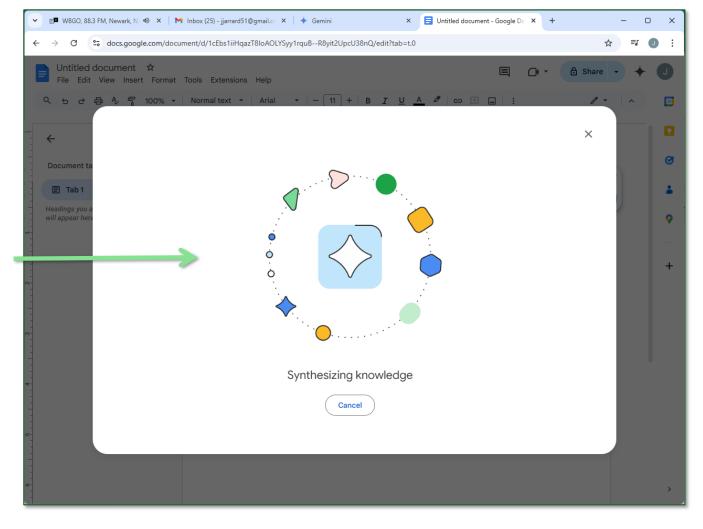




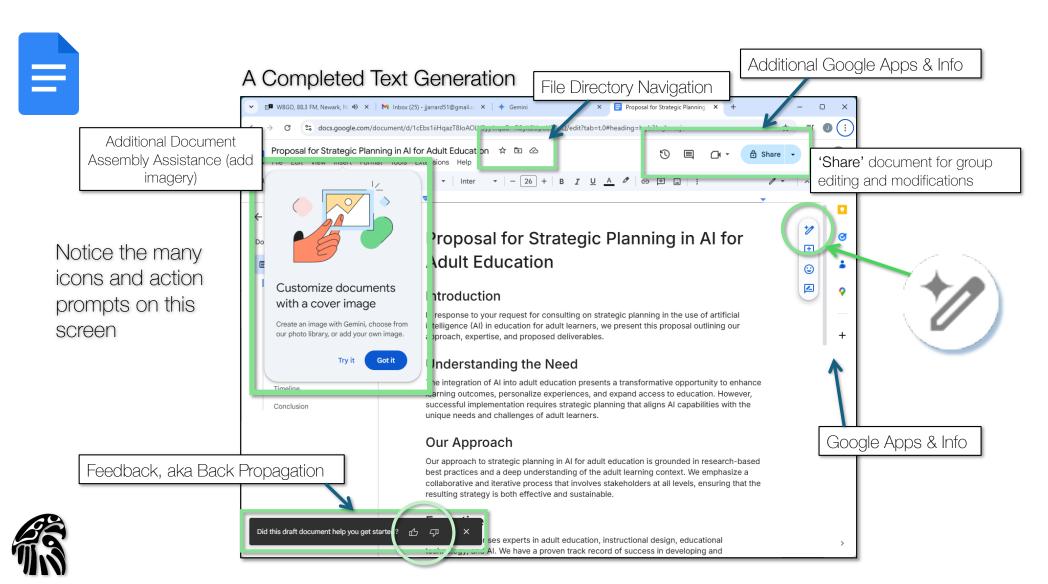
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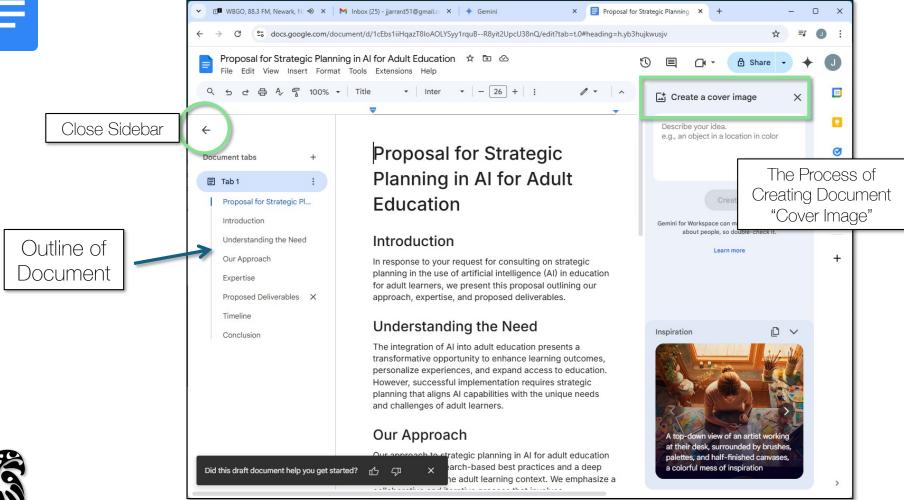
Processing Indicator











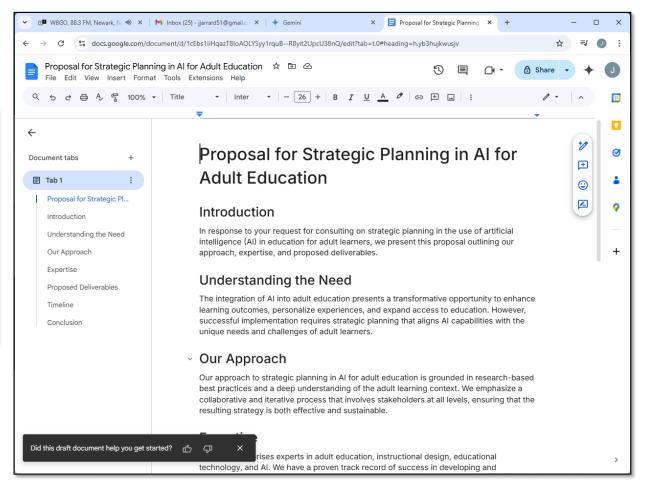
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A Finished Document

Young people can navigate the myriad icons as seen on the previous screens.

They can isolate out what might be distractions to more mature learners



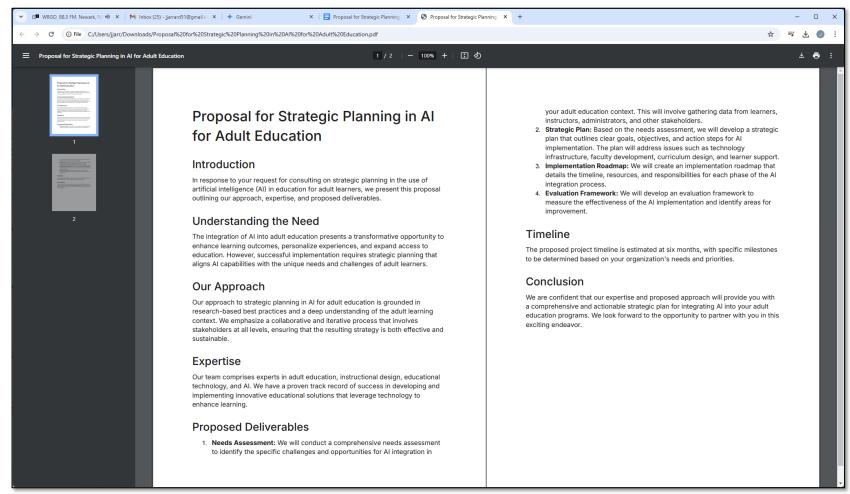
33



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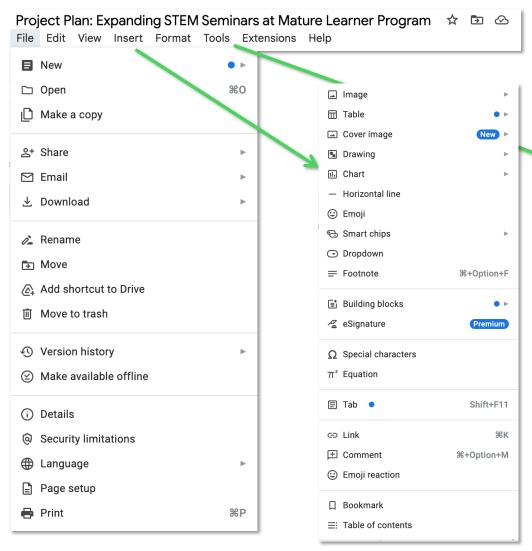
A "Downloaded" Document - Opened - Viewed in Two-Page Format



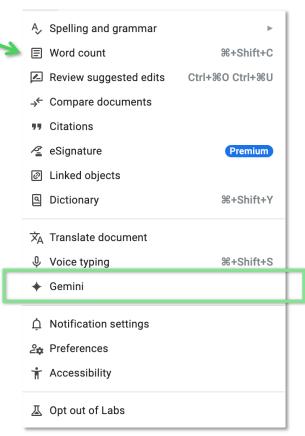


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Additional Google "Docs" Menu Items



35



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Gmail

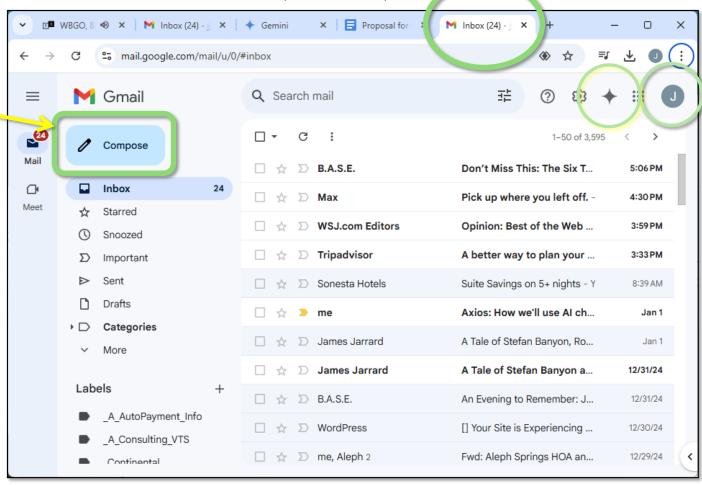
"Help Me Write"



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Compose a New Message Standard Gmail Screen (in a browser)





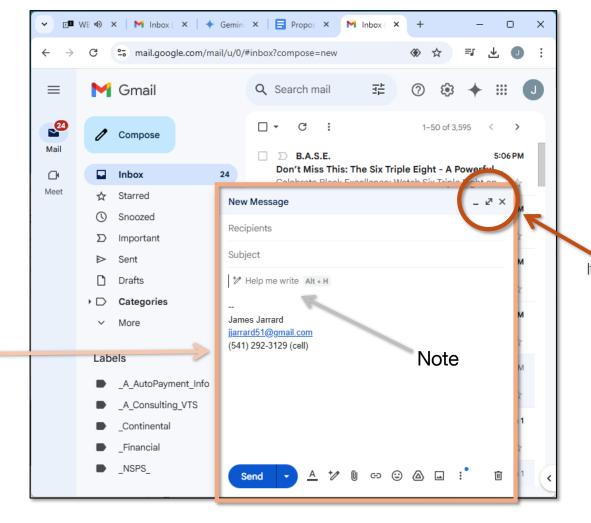
37

User

Authentication



When selecting 'Compose' in Gmail a small window opens in lower right of browser.

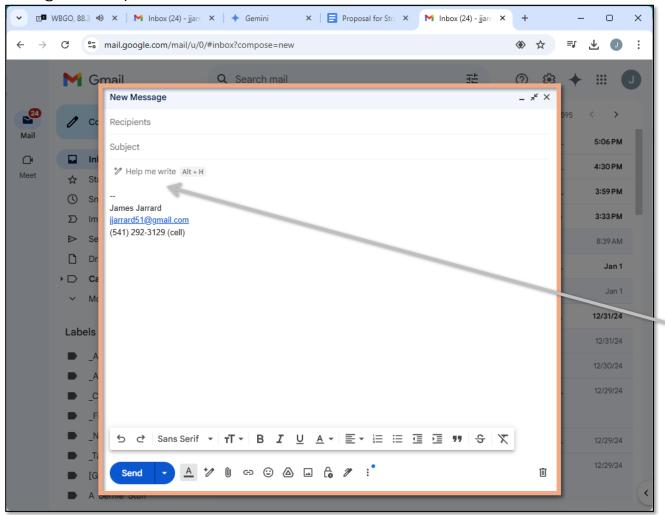


It is possible to enlarge the 'Compose' window





Large 'Compose' Window



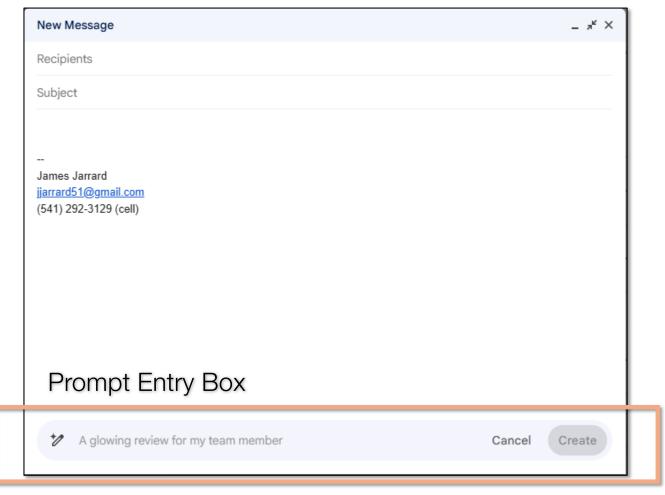
Note



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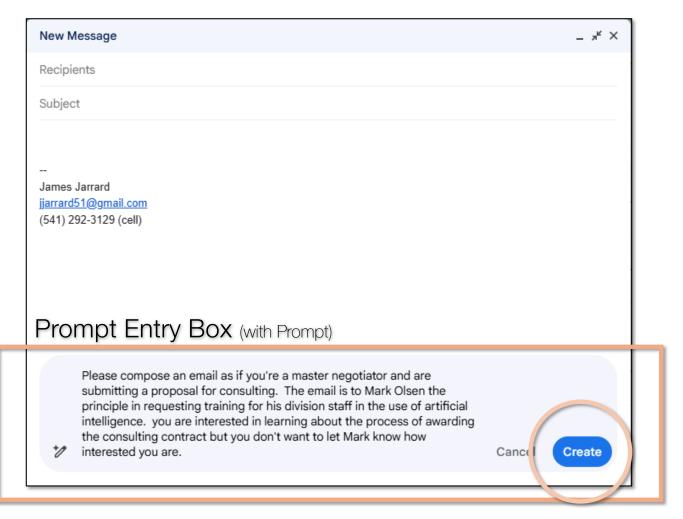
Isolated 'Compose' Window





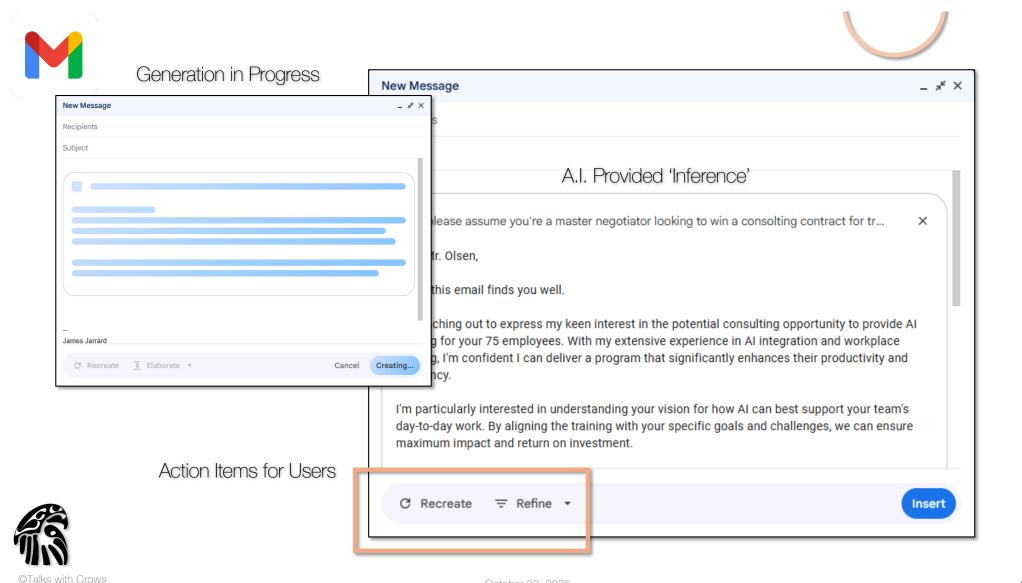
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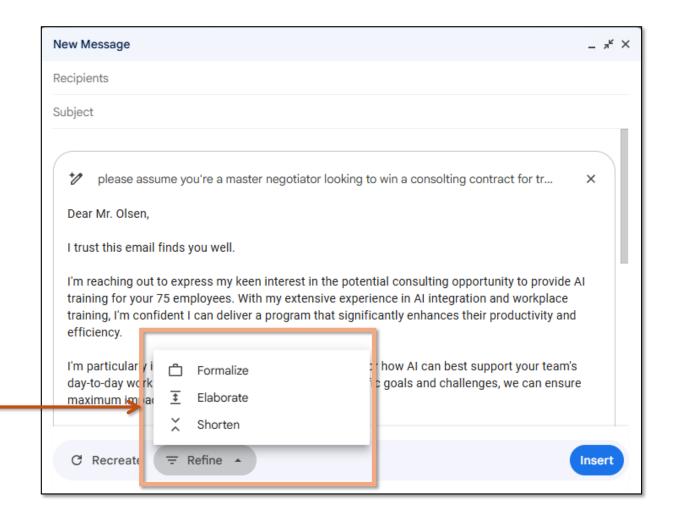




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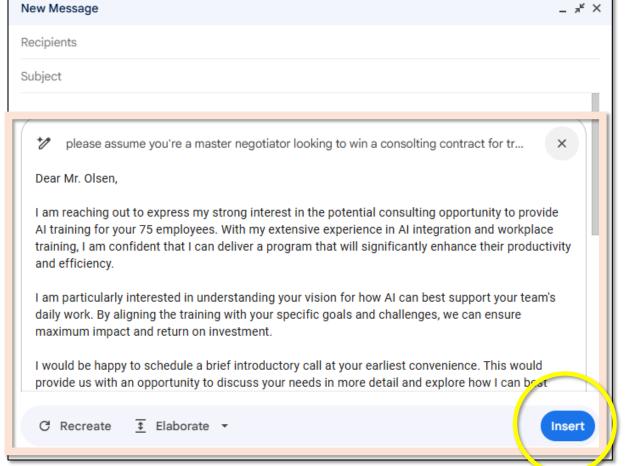


Redefine 'character' of generated text



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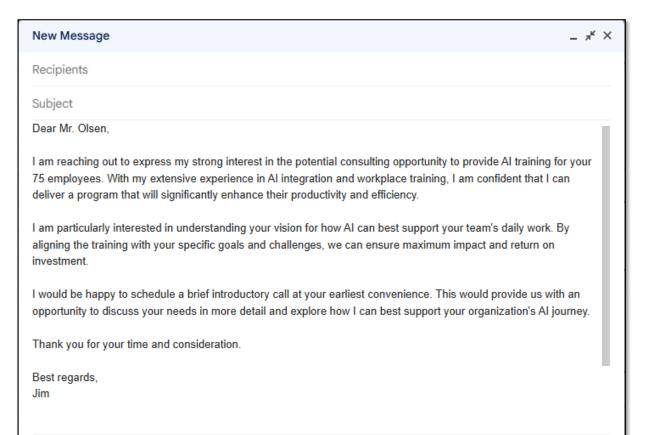


Once the generated text is acceptable to the user, the message must be inserted into the gmail message.



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It is **imperative** that all A.I. generated email messages be read, re-read, and edited before sending.

A.I. generated message often have unusual errors only corrected thru careful reading and editing.

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Text Editing Functions

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It is imperative that any text generated by an A.I. be read and re-read by a competent editor.

A.I.s make many mistakes often in areas where humans tend to overlook.

Please ensure that any text you generate with A.I. is read and modified appropriately.



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Gmail

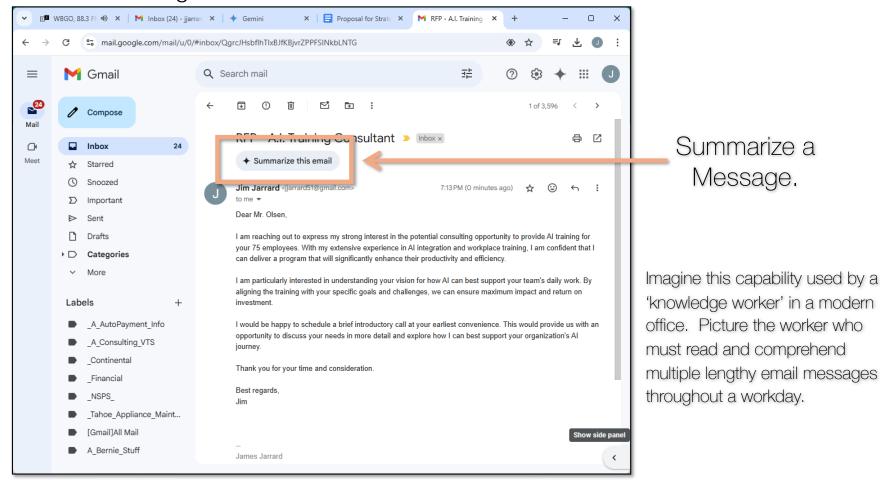
"Help Me Write"

Responding to an Email Message





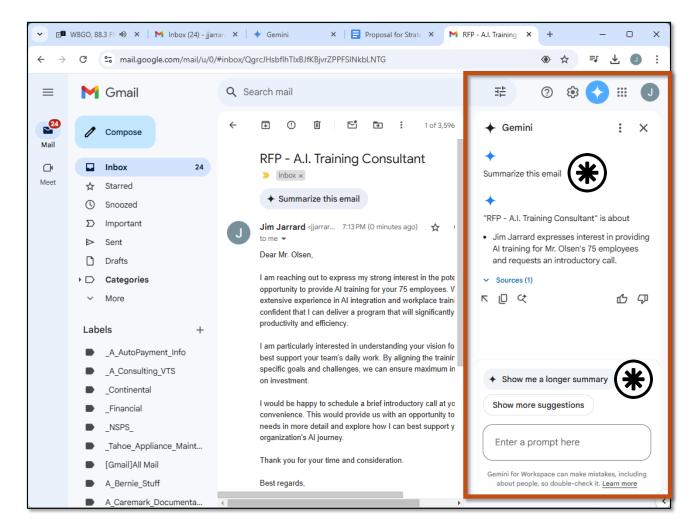
An Email Message Received/Inbox





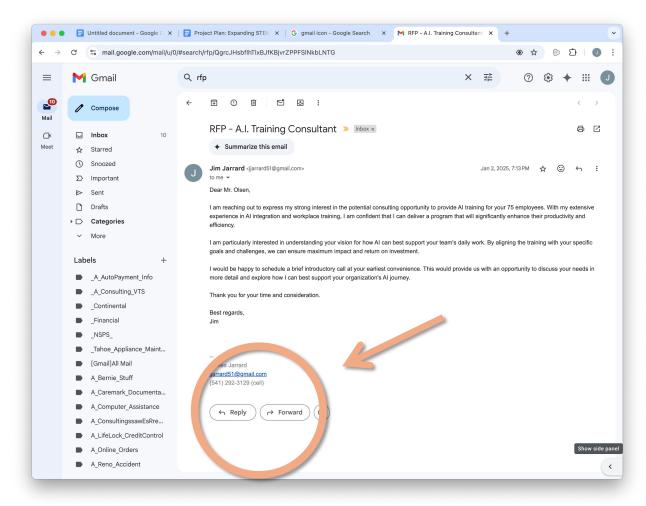
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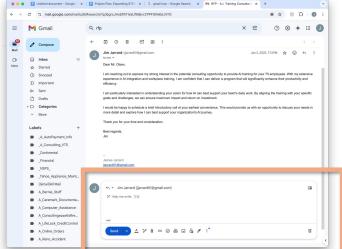






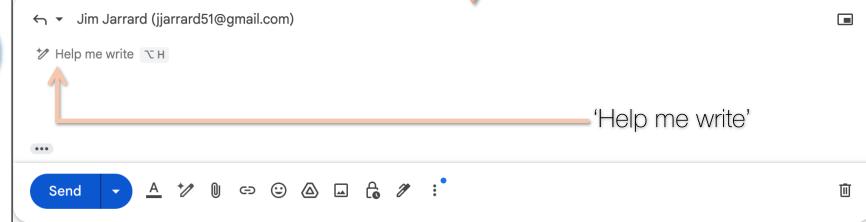
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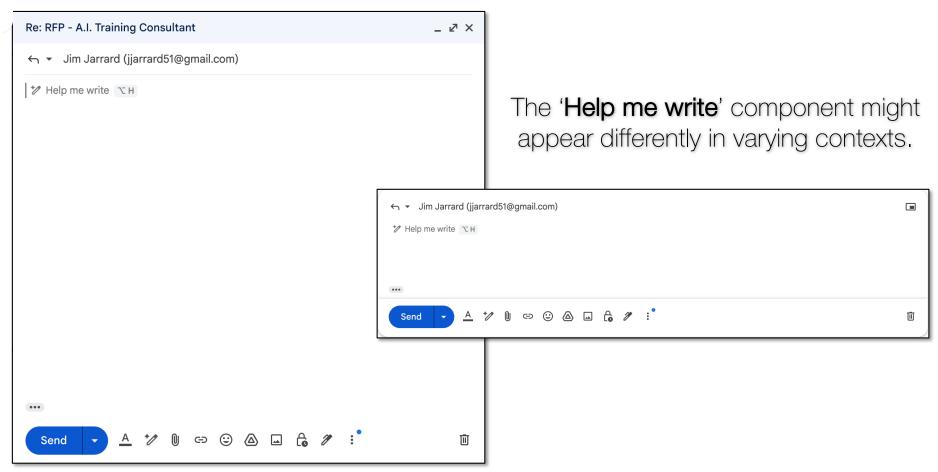
The 'Help me write' function is available when responding to an email message.















Al Interfaces: Beyond the Prompt



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A.I. (Potential) Capabilites

Seen and Unseen

Al Interfaces: Beyond the Prompt

The Foundation (What We Have Today)

Comprehensive Memory: Chat history, saved prompts, and contextual memory.

Rich Multimodality: Understands and generates text, images, audio, and more.

Deep Integration: Works within our existing apps (email, documents, etc.).

Advanced Artifact Control: Edits images, extracts text, and formats output.

1. Agentic & Proactive Capabilities

Goal-Oriented Action: Give the Al a complex goal, not just a single prompt.

Workflow Automation: Let the AI manage multi-step tasks across different applications.

Anticipatory Assistance: The AI offers help before you even ask.

2. Deep Transparency & Explainability

"Show Your Work" Reasoning: Ask "Why?" on any response to see its logic.

Adjustable "Levers": A user-controlled slider for "Creativity vs. Factuality."

Bias & Assumption Disclosure: The AI states the potential biases influencing its answer.

3. Collaborative & Multi-User Features

Shared Al Sessions: A "Google Docs" experience for Al, where teams can prompt together.

Al as a Facilitator: A neutral moderator in a meeting that summarizes, tracks action items, and keeps discussion on topic.

4. Advanced Personalization & Privacy

Adaptive Learning: The AI learns your unique style over time, without explicit instructions.

On-Device Processing: An "Offline Mode" for speed and 100% privacy.

Editable Memory: Directly correct the Al's knowledge. ("My company's CEO is Jane, not John. Remember that.")

End