



Gerrit Code Review

Harnessing the power of AI

Luca Milanesio
GerritForge CEO
Gerrit Maintainer & Release Manager

 OpenInfra
SUMMIT > EUROPE'25



GerritForge

Engineering
Git and Gerrit
for Enterprise Velocity

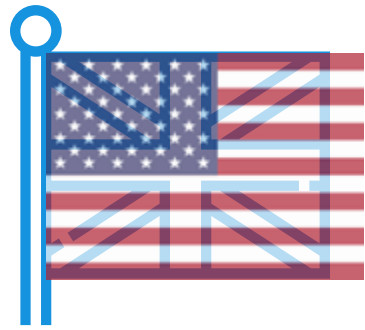


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About GerritForge Inc.

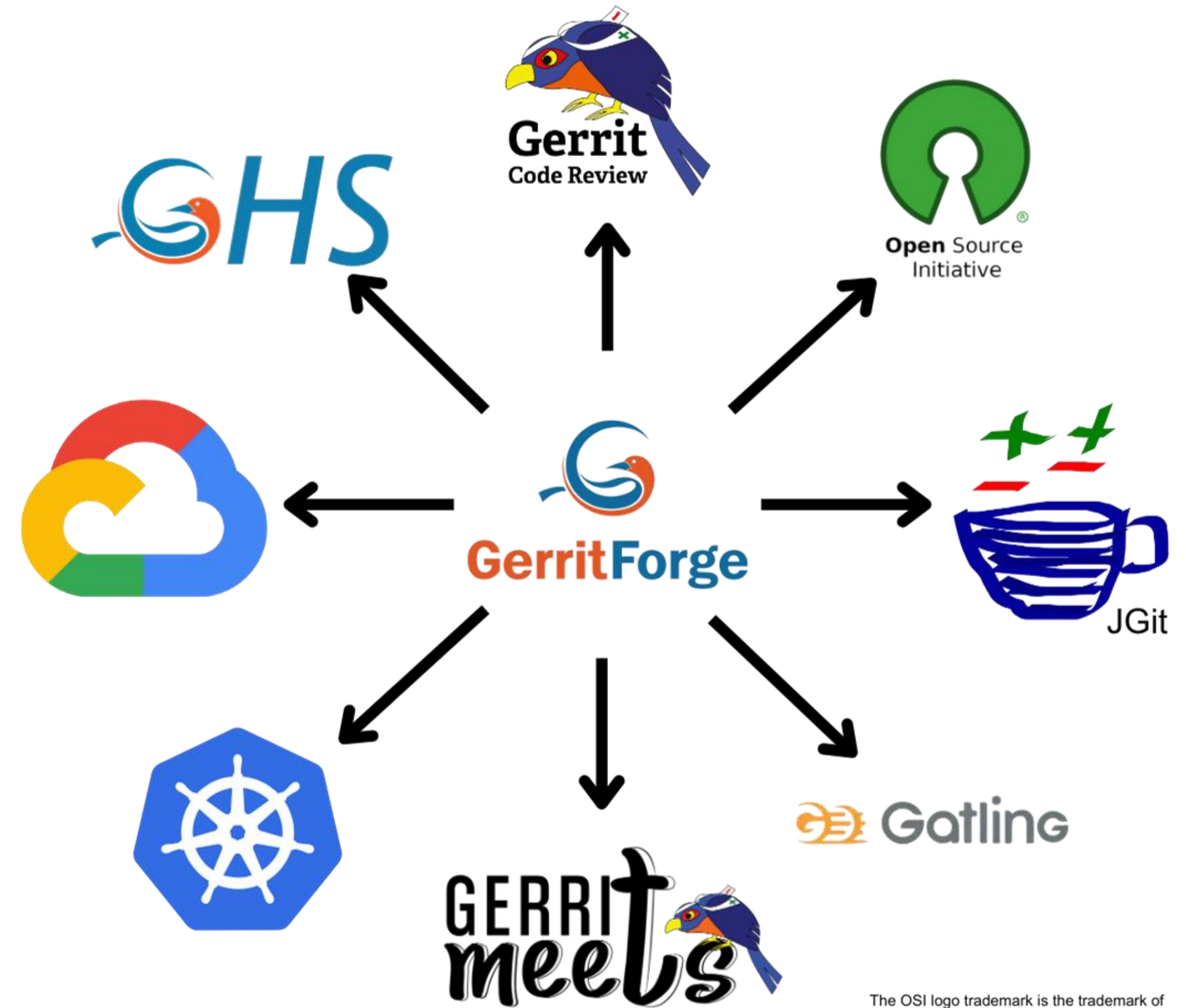


US Corporation
Coming from UK
and EU heritage



HQ in Sunnyvale CA
since 2019

Committed to Open Source
and to
Git and Gerrit Code Review
since 2009



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Gerrit Agenda

- History of AI support in Gerrit
- Issues with the current plugin-based approach
- Google approach to AI
- AI interfaces in Gerrit v3.13
- Initial changes for review Gerrit
- New MCP support for Gerrit
- Q&A



Timeline – 1st ChatGPT plugin

*OpenAI launched ChatGPT on 30th November, 2022
an advanced AI chatbot that could connect with users like a real human.*



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Using GPT for Code Review on Gerrit

In this short lightning talk, I will share my experience of using the GPT large language model for code reviews on Gerrit.

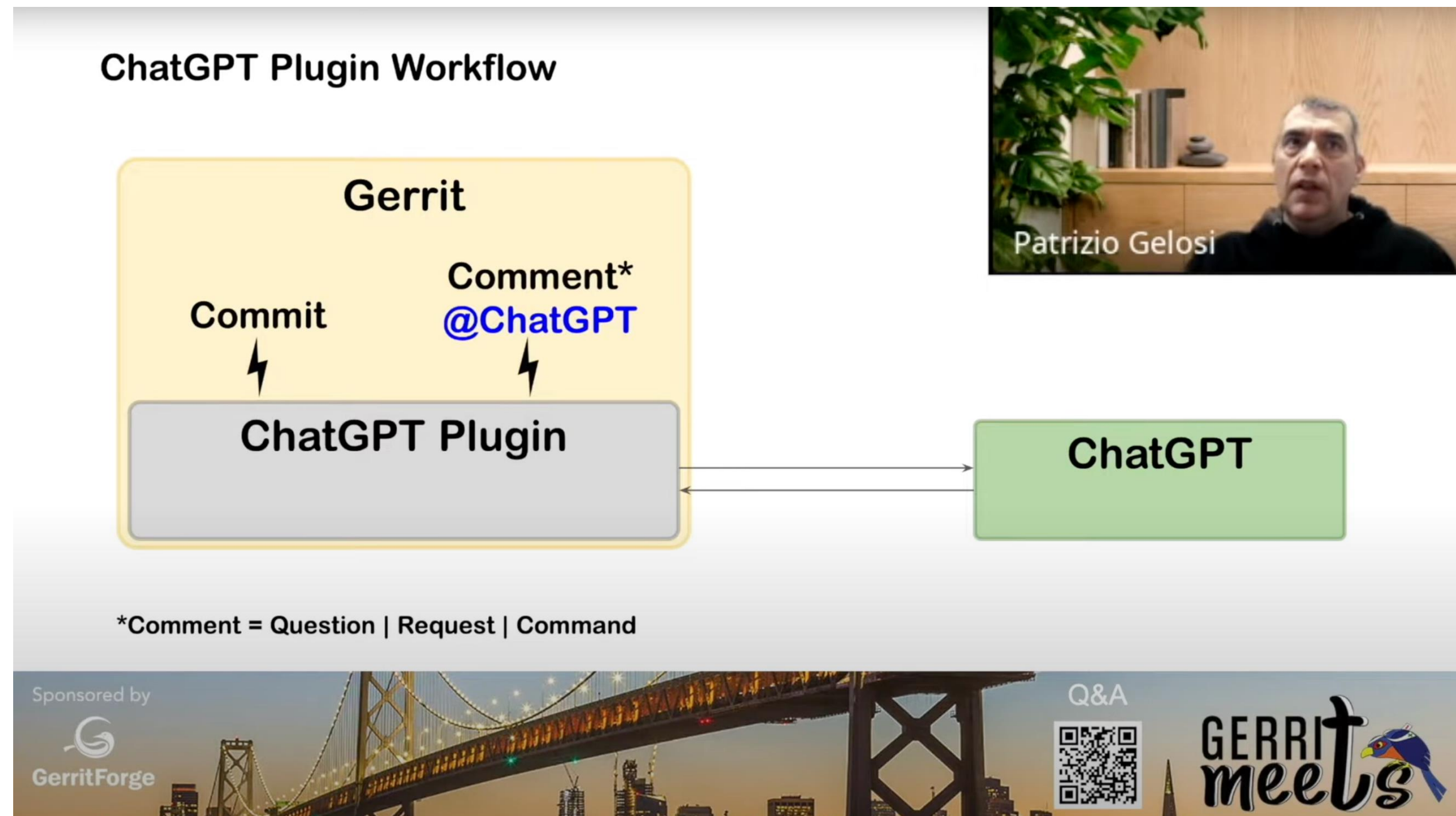
This includes the effects of using GPT for reviewing code, the impact of different prompts on the review outcome, and how to integrate static analysis tools with GPT into the Gerrit workflow.



Long Xie, Superhexa

<https://github.com/xielong/chatgpt-code-review-gerrit-plugin>

Timeline – 2nd ChatGPT plugin (fork)



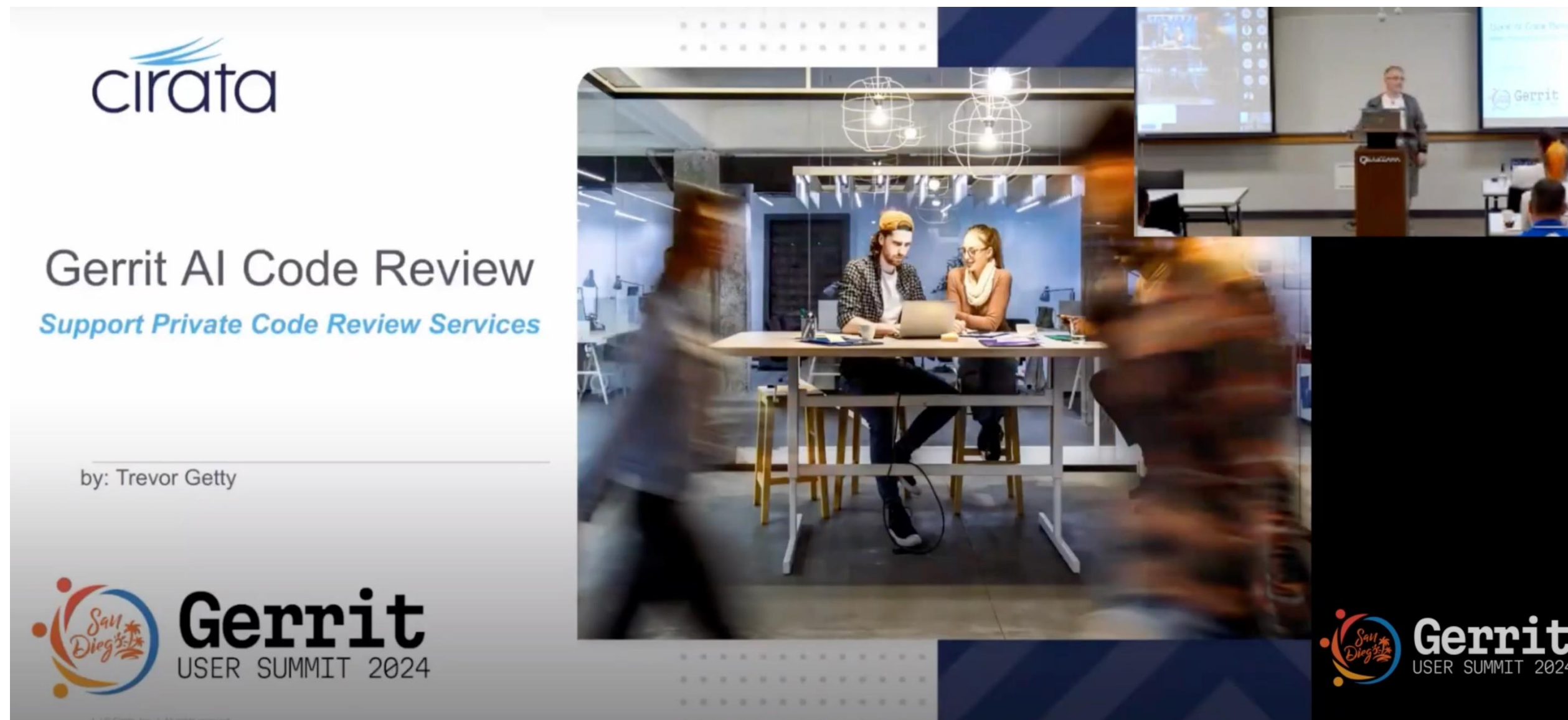
Plugin forked by Amarula Solutions in 2024

New version presented at the GerritMeets - May 2024



<https://github.com/amarula/chatgpt-code-review-gerrit-plugin>

Timeline – 3rd ChatGPT plugin (fork of the fork)



Amarula's ChatGPT plugin fork, forked again by Cirata and renamed ai-code-review in 2024

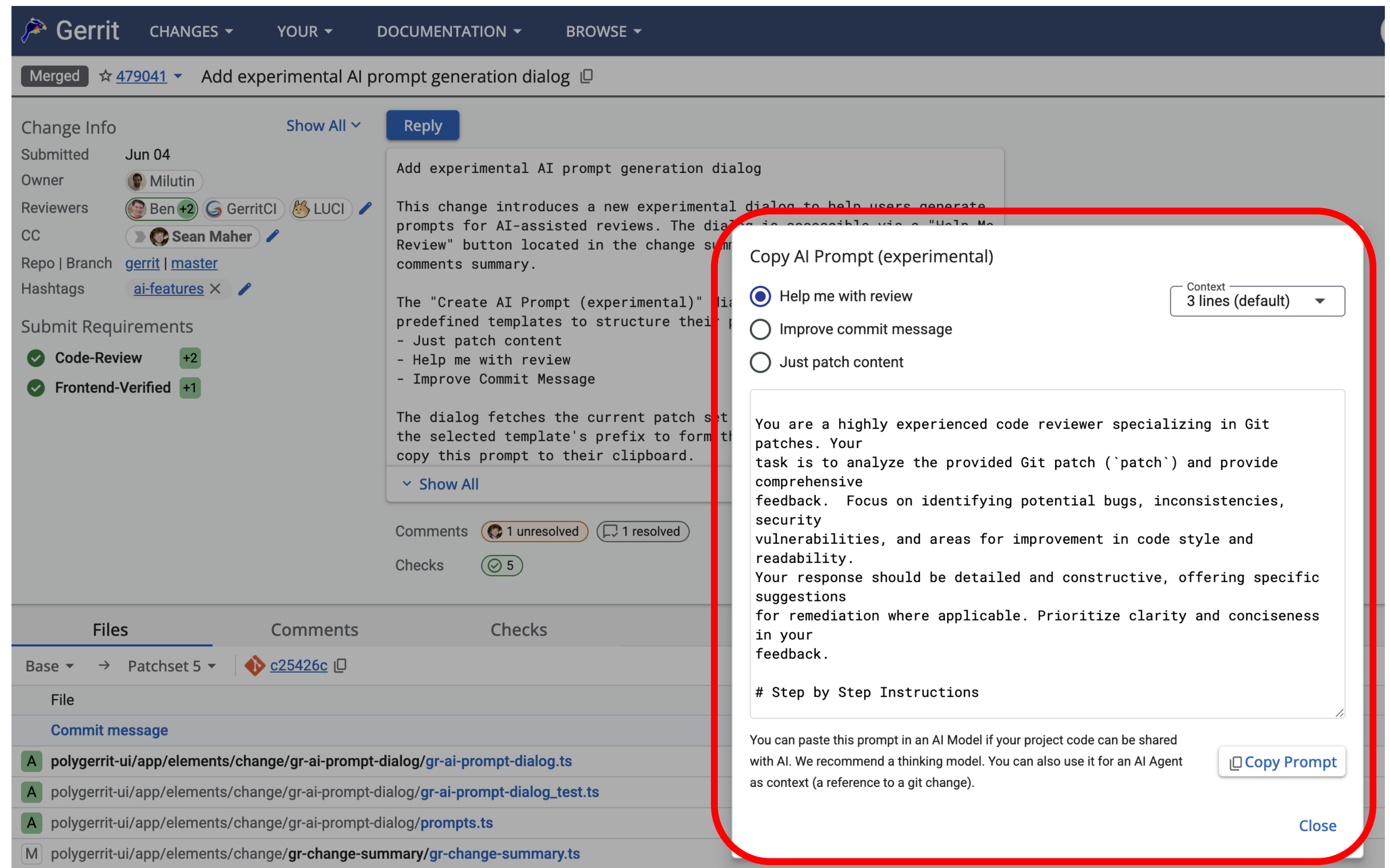
Llama support demo-ed in November 2024 at the Gerrit User Summit @Qualcomm

<https://gerrit.googlesource.com/plugins/ai-code-review>



Timeline – Prompt generation in Gerrit v3.13

Google merges AI prompt support in Gerrit core
June 2025



The screenshot shows the Gerrit web interface for a change titled "Add experimental AI prompt generation dialog". The change is merged and has a star rating of 479041. The change info section shows it was submitted on Jun 04 by Milutin, with reviewers Ben (+2), GerritCI, and LUCI. The change is associated with the Gerrit repository and the master branch. The submit requirements section shows that the change has passed Code-Review (+2) and Frontend-Verified (+1).

The change description includes the following text:

Add experimental AI prompt generation dialog

This change introduces a new experimental dialog to help users generate prompts for AI-assisted reviews. The dialog is accessible via a "Help Me Review" button located in the change summary comments summary.

The "Create AI Prompt (experimental)" dialog provides predefined templates to structure their prompts:

- Just patch content
- Help me with review
- Improve Commit Message

The dialog fetches the current patch set and the selected template's prefix to format and copy this prompt to their clipboard.

The modal dialog titled "Copy AI Prompt (experimental)" is open, showing the following options:

- ☒ Help me with review
- ☐ Improve commit message
- ☐ Just patch content

The modal also includes a "Context" dropdown menu set to "3 lines (default)".

The prompt text displayed in the modal is:

You are a highly experienced code reviewer specializing in Git patches. Your task is to analyze the provided Git patch (`patch`) and provide comprehensive feedback. Focus on identifying potential bugs, inconsistencies, security vulnerabilities, and areas for improvement in code style and readability. Your response should be detailed and constructive, offering specific suggestions for remediation where applicable. Prioritize clarity and conciseness in your feedback.

Step by Step Instructions

You can paste this prompt in an AI Model if your project code can be shared with AI. We recommend a thinking model. You can also use it for an AI Agent as context (a reference to a git change).

The modal includes a "Copy Prompt" button and a "Close" button.



/ ChatGTP Code Review plugins issues

- Confusion on the repo-discuss of “what to pick”
All 3 plugins are similar but different
- AI-generated reviews posted as regular comments
- Complex syntax to remember to invoke the AI engine
- Difficult debugging to “get the prompt right”

See them in practice on GerritForgeTV – AI playlist

<https://www.youtube.com/playlist?list=PLySCWiWz9cNtZw8HXRInoeAB9tl0SvLBs>



/ ChatGTP Code Review plugins consequences

- Difficult to get proper support, people refer to different plugins forks without a common fix or solution
- Flooding of AI-generated comments that are polluting the change /meta
(At most 1/3rd are useful; most are trivial or not relevant.)
- Increase in the repository size and number of objects, due to the increase in the AI-generated metadata

Approach at Google

- Robot comments were deprecated years ago: AI should NOT generate comments, but rather suggested fixes through Checks API
- Wiring with AI happens on the Gerrit UI, not on the backend
- Interaction with the reviewer will then **generate comments** on the Change /meta





Support in Gerrit v3.13 - Core

Step-1

[Reply](#)

Add experimental AI prompt generation dialog

This change introduces a new experimental dialog to help users generate prompts for AI-assisted reviews. The dialog is accessible via a "Help Me Review" button located in the change summary section, next to the comments summary.

The "Create AI Prompt (experimental)" dialog allows users to select from predefined templates to structure their prompt:

- Just patch content
- Help me with review
- Improve Commit Message

The dialog fetches the current patch set content and combines it with the selected template's prefix to form the final prompt. Users can then copy this prompt to their clipboard.

[Show All](#)

Comments 1 unresolved 1 resolved

Checks 5

Create AI Review Prompt

Step-2

Copy AI Prompt (experimental)

- ☒ Help me with review
- ☐ Improve commit message
- ☐ Just patch content

Context
3 lines (default) ▼

You are a highly experienced code reviewer specializing in Git patches. Your task is to analyze the provided Git patch (`patch`) and provide comprehensive feedback. Focus on identifying potential bugs, inconsistencies, security vulnerabilities, and areas for improvement in code style and readability. Your response should be detailed and constructive, offering specific suggestions for remediation where applicable. Prioritize clarity and conciseness in your feedback.

Step by Step Instructions

You can paste this prompt in an AI Model if your project code can be shared with AI. We recommend a thinking model. You can also use it for an AI Agent as context (a reference to a git change).

[Copy Prompt](#)

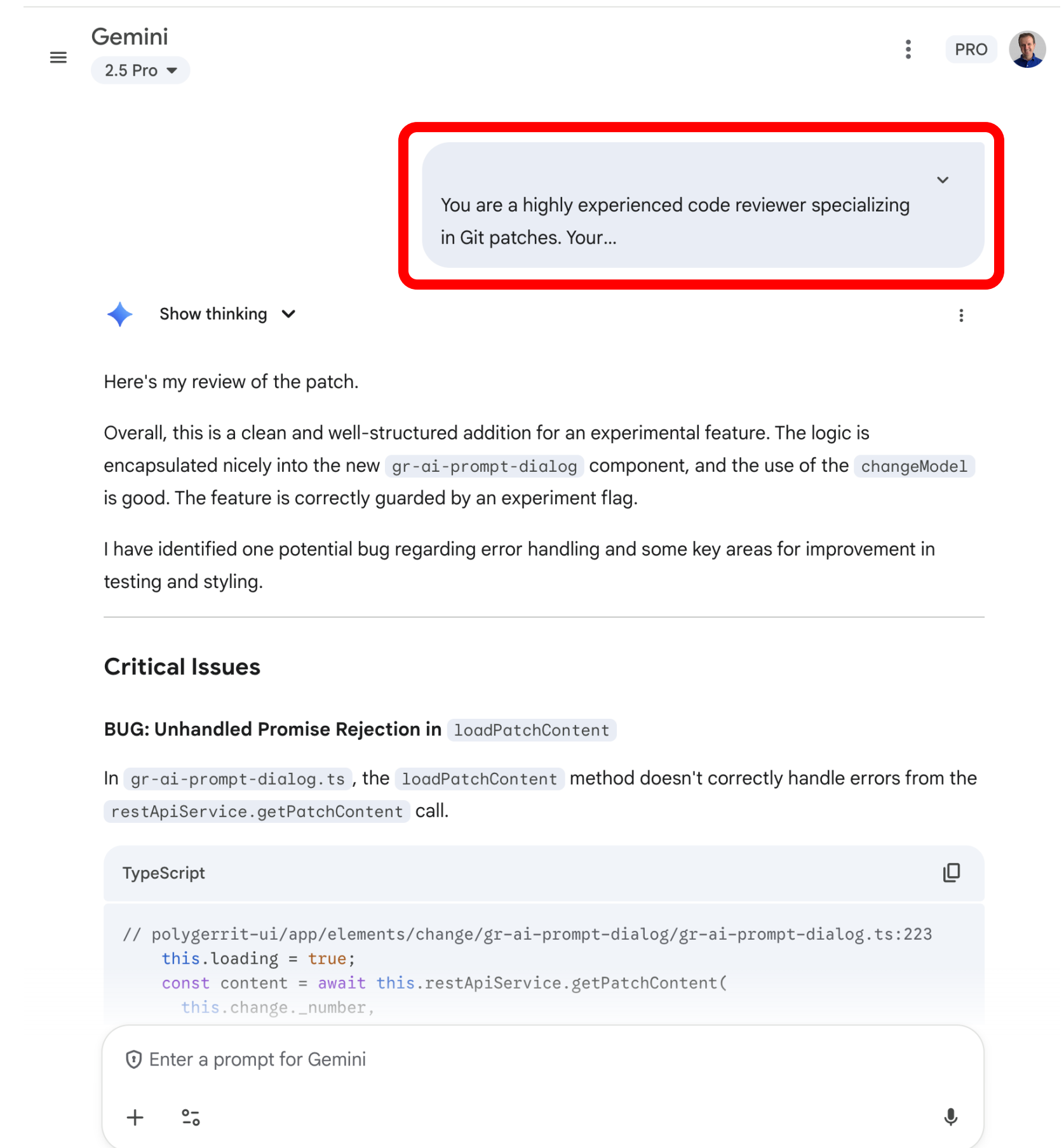


Support in Gerrit v3.13 - Core

Paste into the AI chat and get the desired feedback on the change.

Up to developer to pick and choose what is relevant, apply then to the Change manually.

Step-4



Support in Gerrit - issues

1. Clunky user-experience: click, copy, paste, switch window, copy & paste back
2. AI prompt generated on the front-end
3. Relying on the user's preference for the AI LLM may raise security and confidentiality issues when used in the Enterprise.





Design proposal for Gerrit – October 2025

- AI support should be in Gerrit core, not in plugins
- Gerrit exposes extension points for calling AI LLMs
- Relying on the user's preference for the AI LLM may raise security and confidentiality issues when used in the Enterprise.
- Gerrit is responsible for integrating the AI LLMs' feedback into the UI

See <https://groups.google.com/g/repo-discuss/c/tXMGAfDhos0/m/PxJEgSt6AgAJ>



Support in Gerrit – Open Changes

- Move AI prompt generation to the backend **(Approved)**
<https://gerrit-review.googlesource.com/c/gerrit/+504802>
- Make the LLM pluggable through extension points **(In-Review)**
<https://gerrit-review.googlesource.com/c/gerrit/+500001>
- AI review BOT integration with the Gerrit UI **(WIP)**
<https://gerrit-review.googlesource.com/c/gerrit/+510583>



Next Big Thing

Gerrit MCP Server

See: <https://gerrit.googlesource.com/gerrit-mcp-server>

An MCP (Model Context Protocol) server for interacting with the Gerrit code review system. This server allows a language model like Gemini to query changes, retrieve details, and manage reviews by executing `curl` commands against the Gerrit REST API.

This server can be run as a persistent **HTTP server** or on-demand via **STDIO**.

Documentation

For detailed information, please see the documents in the `docs/` directory:

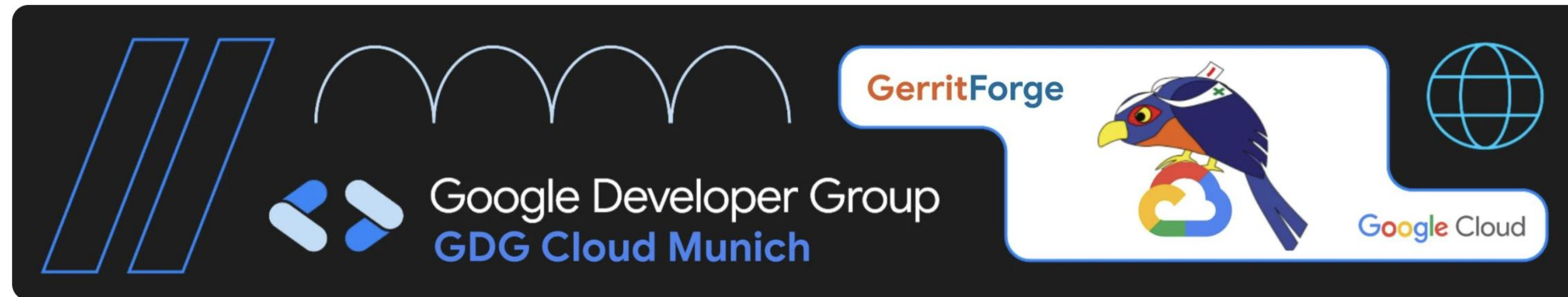
- **Configuration**: A detailed guide to the `gerrit_config.json` file and all authentication methods.
- **Testing Guide**: Instructions on how to run the unit, integration, and E2E tests.
- **Gemini CLI Setup**: How to configure the Gemini CLI to use this server.
- **Best Practices**: Tips for using the server effectively.
- **Contributing**: Guidelines for contributing to the project.





GerritMeets @Google Munich

Nov 19, 6:00 PM – 9:30 PM



Code Reviews in the Age of AI – What's the Current State of the Art?

RSVP

<https://www.meetup.com/gerritmeets/events/310709185>





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Questions?