

API documentation testing with AI user simulation

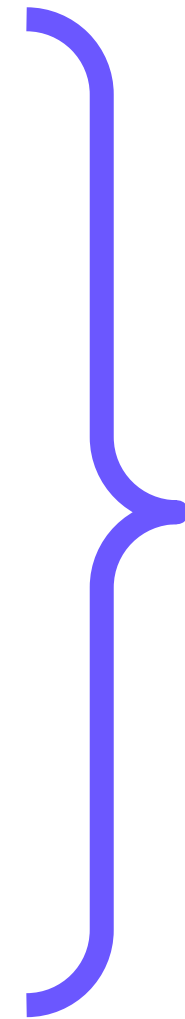
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AI in API docs: current use cases

- Improved search
- Intelligent code snippets
- Chatbots within documentation
- Documentation summarization
- Automated changelogs

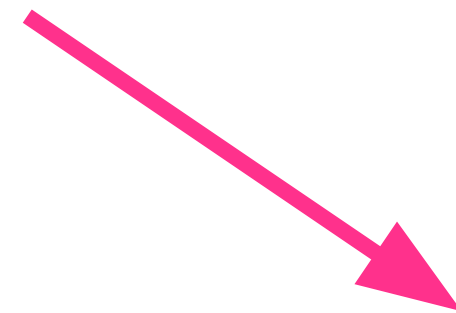


Humans need to give information to the AI.

Barriers to feedback

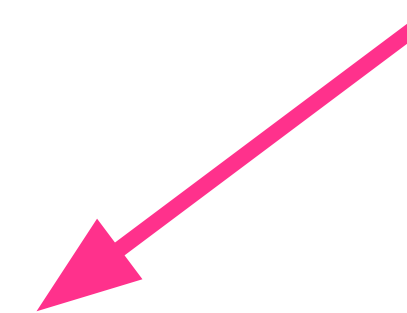
Time constraints

- Stakeholders: *LGTM*
- Users: *Need a solution. Now.*



Expertise

- Experienced users: *Details are unnecessary.*
- Beginners: *My bad.*



Multiplied in an open source ecosystem

AI-driven user simulation as a solution

What?

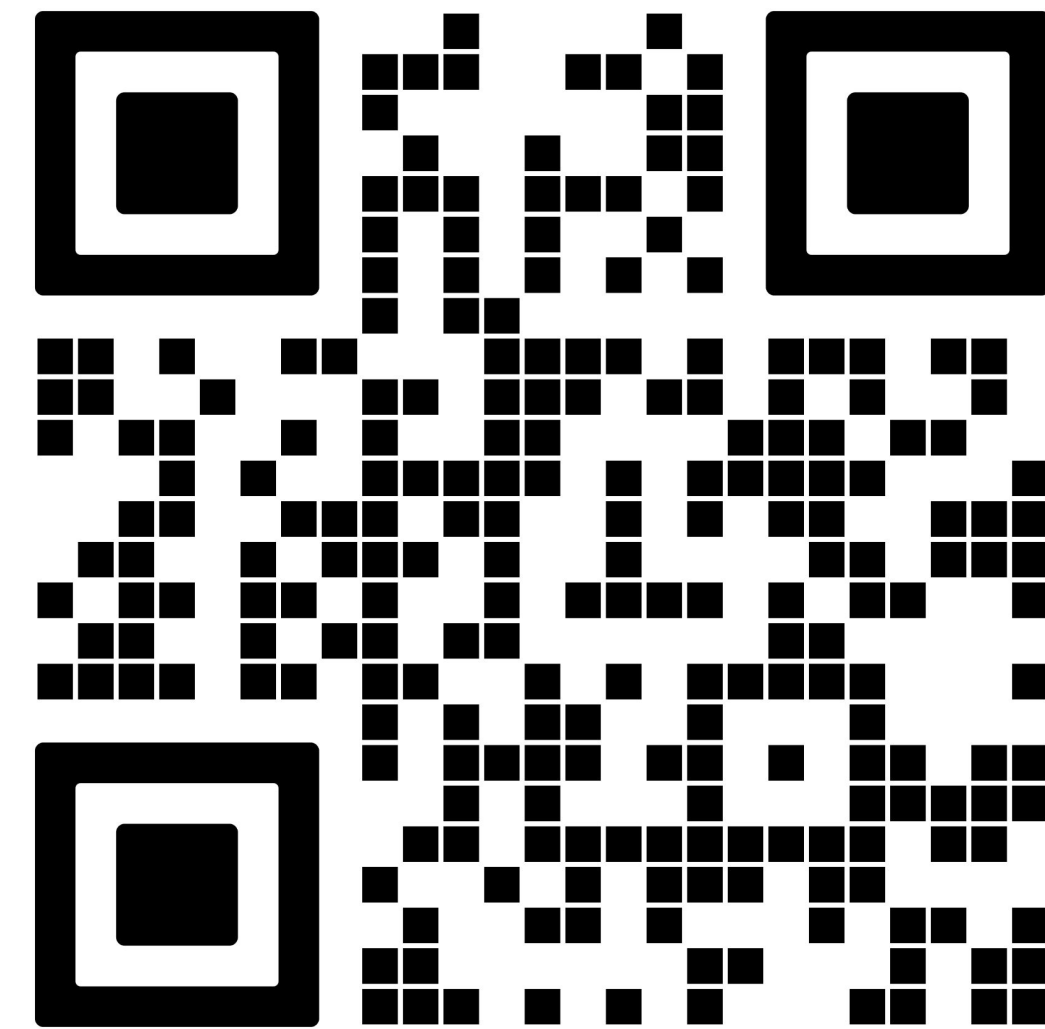
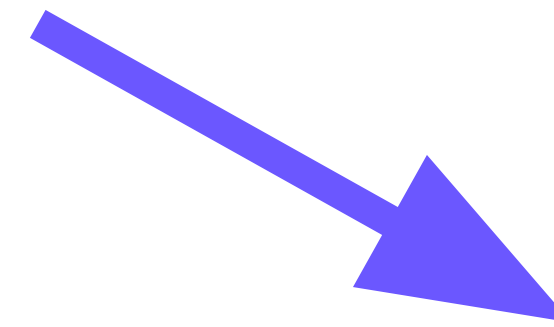
- Test documentation for gaps from multiple perspectives.
- Identify edge cases and unanswered questions without relying solely on human reviewers.
- Reduce the cognitive load on writers and stakeholders.

Why?

- Role-specific context.
- Scenario-based questions.
- Reduced bias.

Workflow

1. Input: OpenAPI specification
2. Extraction of information
3. Question generation
4. Gap identification
5. Output: List of questions



Try it out!

Prompt anatomy

- **Role:** Act as a developer who uses the API documentation to understand how to implement, interact with, and integrate the API into their own applications or systems.
- **Objective:** Analyze the following OpenAPI 3.0 specification and make a list of potential questions a developer might have. Check these questions against the provided specification again to ensure that they are not already answered.
- **Restrictions or limitations:** Concentrate on practical questions, not impossible or philosophical ones.
- **Output requirements:** Provide as output only a list of questions that are not answered within the specification, considering aspects such as usage, authentication, error handling, and edge cases.

Swagger Petstore gaps

- *Is it possible to delete an entity that doesn't exist?*
- How do you handle duplicate pets (e.g. same name and attributes)?
- Can the ID's of deleted pets be reused?
- Is there a way to bulk add multiple pets in a single request?
- What happens if one of the provided tags does not exist in the system?

+ Missing error codes and error messages

Customization

- Different user personas
- Scenario-based testing
- LLM choice
- ...

Key takeaways

- Documentation quality remains a cornerstone of successful adoption and usability.
- AI can help, but humans must lead.
- The user simulation technique is the most useful for testing documentation.
- This PoC is only a starting point. It's your turn to improve and customize it.

Thank you!

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