

An Investigation of Online Developer Discussion About Generative AI Programming Assistants

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Motivation

70% of developers use or plan to use AI programming assistants according to 2023 Stack Overflow Developer Survey.

Prior work has shown that AI assistants often produce insecure code and developers were unable to identify these insecurities in a lab setting.

Research Questions

RQ 1: How are people using generative AI programming assistants?

RQ 2: What are the concerns and perceptions surrounding these agents?

Methodology

Reviewed discussions on the following subreddits regarding the use of AI assistants for programming support:

- r/compsci
- r/Technology
- r/programming
- r/ChatGPTCoding
- r/learnprogramming

Dataset

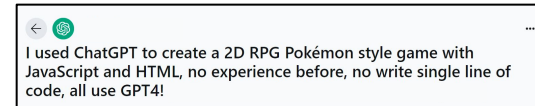
Performed keyword searches for relevant terms (e.g., “AI”, “development”, “writing code”). Reviewed each result and filtered for relevant posts discussing the use of AI assistants for programming. Identified common terms unique to relevant posts and repeated our reddit search with these additional terms.

In total, our searches yielded 398 posts and 366 comments. Of these, 68 posts and 122 comments were marked relevant after manual review.

Results

Code	#Posts	#Comments
<i>How AI is used</i>		
Write new code	28	18
Improve code efficiency	3	7
Explain or document code	6	4
Debug code	5	0
Translate programming languages	1	0
<i>Perceptions of AI</i>		
Concerns about job loss via AI	9	33
AI generates poor code	3	19
AI will make programming easier	8	6
AI companies hide data	2	3
Overconfidence in AI code security	2	1
Legal concerns with AI code	0	1

Using AI to generate new code to be added to a developers’ project was the most common topic



Very few redditors discussed security, but many stressed the importance of reviewing AI code

