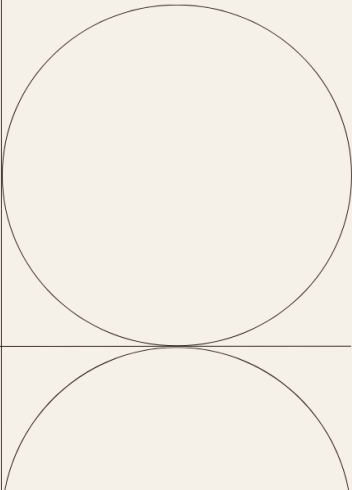


# Hamster Helper: Documentation



## Overview

<i>Project Name</i>	Hamster Helper
<i>Project Overview</i>	Hamster Helper is a VS Code extension that uses AI to scan code for security vulnerabilities in real time. It categorizes issues by severity (Critical, High, Medium, Low) and displays them in a sidebar. Features include auto-scanning on typing/pasting, customizable colors, light mode, and a "GenZ mode" with status-based images.
<i>Project members</i>	<ul style="list-style-type: none"><li>• Diego Uribe</li><li>• Caroline Varner</li><li>• Juan Ferreira</li><li>• Fae Hughes</li></ul>
<i>Project Dates</i>	Start Date: Nov 17, 2025 End Date: Nov 20, 2025

<i>Background</i>	Hamster Helper began as an idea for the 2025 AI Hackathon sponsored by Assurant.
<i>Objectives</i>	<ul style="list-style-type: none"> <li>• Detect and advise against common code-level security flaws.</li> <li>• Work alongside current AI companions to improve their safety.</li> <li>• Prevent exploitative code from being published, putting companies at risk</li> </ul>
<i>Target Audience</i>	<ol style="list-style-type: none"> <li>1. Junior level software developers relying on AI tools to build products.</li> <li>2. Students wanting to learn the necessary security steps when building any type of project.</li> <li>3. High-level developers who don't rely on AI, but want additional security insight in real-time.</li> </ol>

## Project Specifics

<i>Project Scope</i>	This project was designed and developed in 4 business days.
<i>Project Constraints</i>	<ul style="list-style-type: none"> <li>• Team size: 4 people.</li> <li>• Project Duration: 4 business days.</li> <li>• Project platform: VSCode Extension builder</li> </ul>
<i>Deliverables</i>	<ul style="list-style-type: none"> <li>• Minimum Viable Product (MVP)</li> <li>• Extra functionality and Customization (Config, Settings,</li> </ul>

	GenZ mode) <ul style="list-style-type: none"> <li>• Project Documentation</li> <li>• Github Repository w/ README</li> </ul>
<i>Minimum Viable Product Requirements</i>	<ul style="list-style-type: none"> <li>• Identify and highlight vulnerable code in real time</li> <li>• Integrate smoothly into current development environments</li> <li>• Detect and run automatically based on user activity.</li> </ul>

# Project Timeline

<i>Task or Deliverable</i>	<i>team contributors</i>	<i>Date Completed</i>
Outline project goals and requirements needed for MVP	Everyone	Nov 17, 2025
Build low-level design for the extension's front-end	<ul style="list-style-type: none"> <li>• Caroline Varner</li> <li>• Juan Ferreira</li> </ul>	Nov 17, 2025
Build extension skeleton, with basic input, output, and view.	Everyone	Nov 17, 2025
Implemented Front-End for MVP	<ul style="list-style-type: none"> <li>• Fae Hughes</li> <li>• Caroline Varner</li> </ul>	Nov 18, 2025

Implemented safe storage of API keys through VSCode Secrets API	<ul style="list-style-type: none"> <li>Diego Uribe</li> </ul>	Nov 18, 2025
Implemented basic Back-End functionality,	<ul style="list-style-type: none"> <li>Diego Uribe</li> <li>Juan Ferreira</li> </ul>	Nov 18, 2025
Built hamster agent to detect code vulnerabilites	<ul style="list-style-type: none"> <li>Fae Hughes</li> </ul>	Nov 19, 2025
Improved Back-End security through encapsulation	<ul style="list-style-type: none"> <li>Juan Ferreira</li> </ul>	Nov 19, 2025
Built data extraction algorithm to parse the agent output	<ul style="list-style-type: none"> <li>Diego Uribe</li> </ul>	Nov 19, 2025
Built Settings, Config, and color formatting for extension front end	<ul style="list-style-type: none"> <li>Caroline Varner</li> </ul>	Nov 19, 2025
Finalized MVP	Everyone	Nov 19, 2025
Integrated additional back end security measures	<ul style="list-style-type: none"> <li>Juan Ferreira</li> </ul>	Nov 20, 2025

Added extra configuration options, including “Gen Z Mode”	<ul style="list-style-type: none"> <li>• Fae Hughes</li> <li>• Caroline Varner</li> </ul>	Nov 20, 2025
Added in-document overlays for ease-of-use	<ul style="list-style-type: none"> <li>• Caroline Varner</li> </ul>	Nov 20, 2025
Built project documentation and README	<ul style="list-style-type: none"> <li>• Juan Ferreira</li> <li>• Fae Hughes</li> </ul>	Nov 20, 2025
Built Project Presentation	Everyone	Nov 20, 2025

## Conclusion

<i>Project Outcomes</i>	<ul style="list-style-type: none"> <li>• Reduced published vulnerable code at a user level</li> <li>• Improved security performance for novice programmers</li> <li>• Highlighted often overlooked security flaws, spreading awareness on correct coding practices</li> </ul>
<i>Recommendations for future implementation</i>	<ul style="list-style-type: none"> <li>• Maximizing token usage by only proofreading new lines</li> <li>• Adding security through the use of a locally-hosted LLM</li> <li>• De-pivot from OpenAI by creating a custom model focused solely on vulnerability detection.</li> </ul>
<i>Additional</i>	<ul style="list-style-type: none"> <li>• <a href="#">GitHub Repository</a></li> </ul>

<i>Resources</i>	<ul style="list-style-type: none"><li>• <a href="#">Project Presentation</a></li><li>• Project Documentation (Current)</li></ul>
<i>External Resources</i>	<ul style="list-style-type: none"><li>• <a href="#">OpenAI API Documentation</a></li><li>• <a href="#">VSCode Extension Documentation</a></li><li>• <a href="#">VSCode Extension Tutorial Videos</a></li><li>• <a href="#">OpenAI ChatGPT</a></li></ul>