

Introduction

Debugging is the practice of systematically examining code to trace and resolve issues the trace and resolve is trace and resolve is the trace and resolve is the trace and resolve is trace and resolve is the trace and resolve is trace as the trace and resolve is trace as the tr may lead to unexpected behaviors, crashes, or incorrect results. Debugging aids, such as print statements, play a fundamental role in diagnosing and understanding program behavior. However, manually inserting these print statements throughout the codebase ca be laborious, time consuming, and error-pro impacting developer productivity. To addres these difficulties, AutoPrint was developed a an innovative debugging tool for the Java programming language.

Methodology

User studies were conducted through the use of a post-survey after they utilized the tool in their debugging process and provided qualitative feedback. Participants were provided with sample code along with AutoPrint to evaluate the tool's performance a real-world scenario.

- AutoPrint was utilized for 45 minutes and participants used the final 15 minutes to complete the post-survey.
- Participants consisted of undergraduates (to 6 years), masters, and doctoral students ranging from 2-10 years of general programming experience.

Enhancing Debugging Efficiency: User Perspectives on AutoPrint, an Automated Print Statement Tool

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The debugging process in software development is relatively time consuming as developers have to manually type print statements and the use debugging tools allows for the workload to be reduced by automatizing this process. AutoPrint has presented itself as a satisfactory debugging tool that can cut the time commitment of typing manual print statements down through its ability to automize the process. Suggestions for future work are to expand AutoPrint into other languages, such as Python, for more universal usage and to provide a more coherent setup process.



Figure

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