GHOSTEDITOR: VERSIONING CREATIVE CODING SESSIONS

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ABSTRACT

Traditional software engineering is built on fixed requirements, but creative coding is a journey of discovery where the goal emerges through the interaction between the artist, the IDE, and the runtime environment. This exploratory process is often stifled by standard IDEs that force a single-path execution. To address this, we present *GhostEditor*, a novel tool that replaces the rigid programming paradigm with a fluid, snapshot-based timeline. By tracking keystrokes and allowing users to selectively preserve intermediate program states, the GhostEditor enables non-linear exploration without the overhead of traditional version control systems (e.g., Git).

To evaluate our tool, we conducted a small user study with eight participants. In a comparative study against the p5.js Web Editor, our results demonstrate that small changes to the programming experience can significantly improve the exploratory process, in particular through the use of visual version comparison and increased iteration speed. While standard version control tools like Git remain the benchmark for production software, our findings suggest that GhostEditor could offer a flexible alternative for exploratory programming domains (e.g., creative coding and data science). This would empower artists and data scientists alike to cultivate their own bespoke creative versioning styles.

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