ABSTRACT

As managing software evolution becomes more important, many methods of development support using editing operations have been proposed. However, it is still difficult to extract truly valuable information, since massiveness of recorded operations grows with the development period. In this paper, we propose a mechanism for extracting useful information on stagnation of development from huge operation history. We have implemented this mechanism as a tool, which is called OperationReplayer. The tool allows a developer to investigate detected candidates of stagnation periods and replay operations belonging to the candidate through its graphical user interface. Through exploratory case studies using the tool, we found several problematic operations that adversely affect of the developer's development process.

INDEX TERMS

- IEEE terms
  - Computer architecture, Computer science, Conference management, Data mining, Graphical user interfaces, History, Programming, Software development management, Software engineering, Writing

- INSPEC
  - Controlled Indexing
    - graphical user interfaces, information retrieval, software development management, software process improvement
  - Non Controlled Indexing
    - OperationReplayer, development process improvement, editing operations replaying, graphical user interface, operation history, software development support, software evolution management, stagnation periods, useful information extraction

- Author Keywords
  - change-aware, development process improvement, integrated development environment, operation history, software evolution

REFERENCES


