

Submission summary

Conference Name

IEEE International Conference on Data Engineering 2019

Track Name

Research Paper First-Round

Paper ID

185

Paper Title

OPT+Graph: Web-Based Program Visualization for Understand Code Graph Execution in CS Education

Abstract

This paper presents a web-based program visualization tool for C/C++ as an approach to understand code graph execution. This tool is based on pythontutor.com (OPT). We examine three fundamental questions in program visualization – how to define understand, how to build an effective visualization tool, and how to detect graph in the C/C++ code execution. The main contribution of this paper is visualization code graph execution. Method of measuring effectiveness that used is evaluation of visualization. The technique used a survey through an online questionnaire with four stages, the first stage is filling personal data of respondents, the second stage is completing the pretest, the third stage is a simulation using OPT and OPT+Graph. The last stage is the respondent completed the post-test. The subjects of this survey are undergraduate and postgraduate informatics students at Bandung Institute of Technology. This research's results are: 1) the visualization approach can be an effective and efficient tool for understand code graph execution in C/C++; 2) usability is one of the important aspects of visualization; and 3) OPT+Graph is free and open source software, available at codeviz.tk/codeviz.

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Primary Subject Area

Data Visualization and Interactive Data Exploration

Secondary Subject Areas

Graphs, RDF, Web Data and Social Networks
Search and Information extraction
Strings, Texts, and Keyword Search

Submission Files

[paperID185-habibieeddien@students.itb.ac.id.pdf](#) (661.3 Kb, 2/6/2018 13.57.15)

Submission Questions Response**1. Student paper**

Yes
