Method Execution Report

Date: 13-04-2017

Type: FN / NF

System: computeCentroids

Session overall:

This session aims at gathering impression of the *Method Execution Report* from practitioners
The session is relatively short, only a few minutes long. The session is divided into three phases. The first phase is about yourself. The second phase present Method Execution Report, and the third phase is about the evaluation of the report.
Note that all your answers are treated anonymously.

Phase 1: About yourself

- Are you Female or Male ?

  MALE
- How many years of experience do you have in programming?

  8
- How long have you been programming in Java for?

  4 years
- Which Java programming environments (IDE) are you familiar with?

  Eclipse
- Which other programming languages and programming environments do you use?

  Python, Javascript
- While programming, if your application does not behave as you expect, what do you usually do? How do you usually debug an application?

  Following the execution steps in the code; using logs.
- How do you usually do to improve the performance of a particular method?

  Implement improvements in the algorithm (if possible), check if more efficient data structures are available, use profilers to identify bottlenecks.

Phase 2: Description of Method Execution Report

Method Execution Report is a textual and interactive report that summarizes the execution of a particular method for a given software execution. The report provides an overview of the dynamic calls and time consumption.

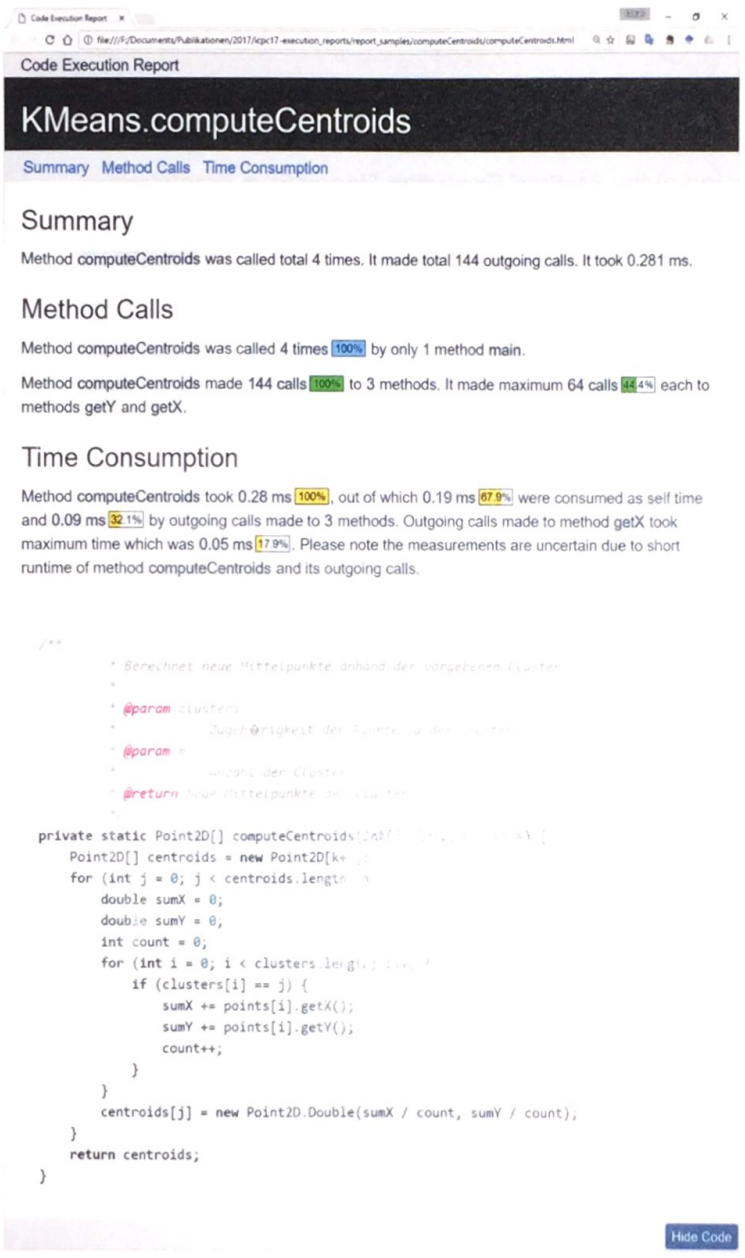

Figure on the left gives an example of the report. The report is structured into three sections, and lists the code of the method.

The summary gives first essential data, including the number of incoming and outgoing calls, and how long the summed executions of the method took.

The second section details the description of the method calls, including the most important caller and callees.

The third part provides further information about the timing.

Phase 3:

TIME BEGIN: 17:58

QUESTION 1:

What do you think about the content of the textual description?

- I find it easy to understand? *(strongly agree, agree, neutral, disagree, strongly disagree)*

Please, justify

It displays information in a familiar way, similar to the Chrome profiler. The use of different highlight colors for the percentages was slightly confusing

- I find it useful? *(strongly agree, agree, neutral, disagree, strongly disagree)*

Please, justify

This tool would be very useful when trying to find a bottleneck in the code. A more complex case scenario would reveal its true potential

QUESTION 2:

What do you think about the interaction and the visual elements offered by the report?

- I find them easy to understand? *(strongly agree, agree, neutral, disagree, strongly disagree)*

Please, justify

The interaction and visual elements are pretty standard, with the only exception being the colors mentioned in Q1

- I find them useful? *(strongly agree, agree, neutral, disagree, strongly disagree)*

Please, justify

They do a pretty good job showing/hiding relevant information

QUESTION 3:

Overall, do you feel that such a report is useful?

(strongly agree, agree, neutral, disagree, strongly disagree)

Please, justify

Same as Q1 answer 2.

QUESTION 4:
In what scenarios and for solving which maintenance tasks would developers use Method Execution Reports?
Please, justify

When the bottleneck method is already identified and a more detailed analysis is needed

QUESTION 5:
What tools would you use instead of Method Execution Reports to retrieve the same information?
Please, justify

Timers and counters embeded in the code.

QUESTION 6:
Do you have any suggestion on how to improve the report? Any critic?
Please, justify

The use of graphs could be helpful for more complex case scenarios.

TIME END: 18:14