

Method Execution Report

Date: 13-06-2017

Type: FN / NF

System: Dart Children

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? 5 YEARS
- How long have you been programming in Java for? ~ 1 YEAR
- Which Java programming environments (IDE) are you familiar with? ECLIPSE
- Which other programming languages and programming environments do you use?
PYTHON
- While programming, if your application does not behave as you expect, what do you usually do?
How do you usually debug an application?
 - REVIEW TESTS
 - PYTHON DEBUGGER (pdb)
- How do you usually do to improve the performance of a particular method?
 - CHECKING AN ESTIMATED NUMBER OF 'STEPS' / EXECUTION TIME
 - USING AUXILIARY LIBRARIES TO USE C-LIKE / FORTRAN-LIKE PERFORMANCE (CYTHON / F2PY)

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.

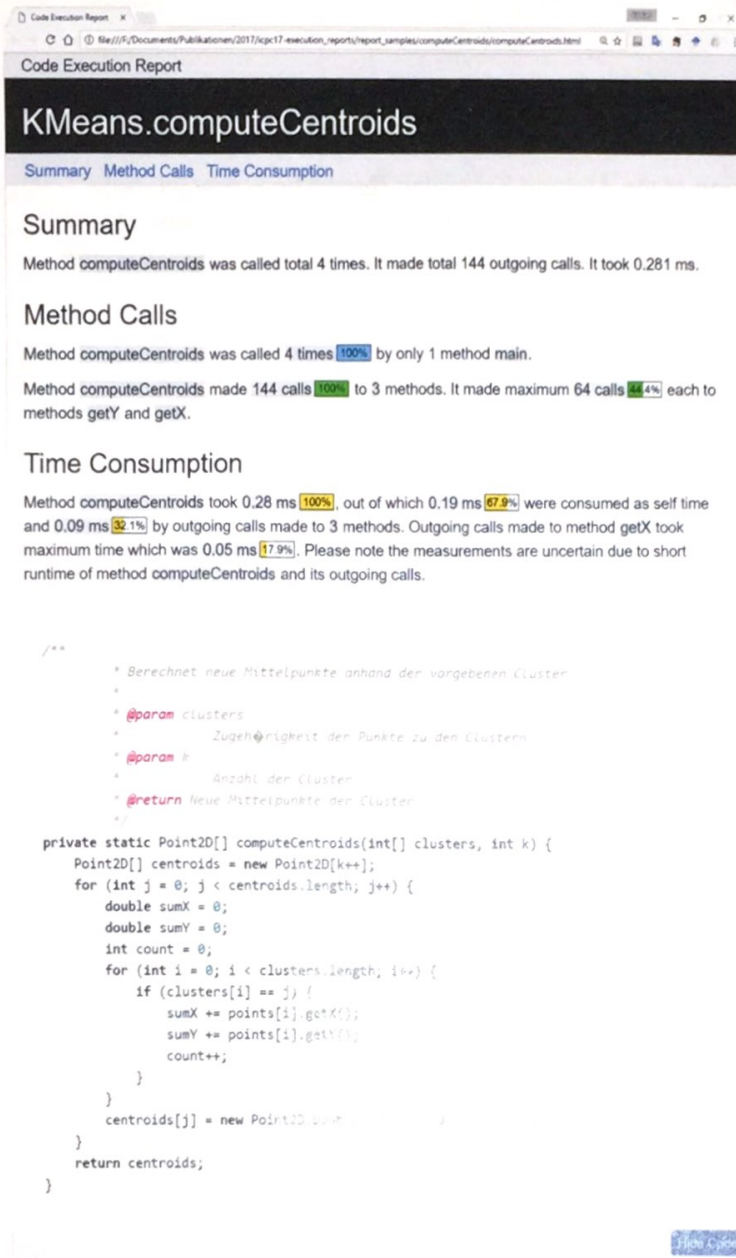


Figure on the left gives an example of the report. The report is structured into three sections, and lists the code of the method.

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: 18:01

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

- IF I DON'T KNOW THE CODE IS QUITE DIFFICULT TO RELATE THE PRESENTED METHODS WITH THE TARGET OF THE EVALUATION

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

Please, justify

- IT IS USEFUL THE EXECUTION TIME INFORMATION, MAYBE THE NUMBER OF CALLS INFO COULD BE PRESENTED WITH SOME KIND OF DIRECT RELATION WITH THE CODE.

- NOT REALLY SURE ABOUT THE GOAL OF THE 'HOVER' INFO.

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

- NOT REALLY SURE ABOUT THE HOVER INFO.

- ~~THE~~ THE CLICK INSTRUCTION WAS A LITTLE CONFUSING ABOUT THE CLICK ON THE HOVER INFO OR THE TEXT 'LABEL'

- THE 'CALLED METHODS' INFO WAS DIFFICULT TO FIND

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

Please, justify

- WITH VERY BASIC INFORMATION, OR WITHOUT KNOWING THE CODE, IT COULD SOUND REDUNDANT, BUT IS NOT.

QUESTION 3:

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

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

Please, justify

- BUT COULD BE MISSING THE RELATION WITH OTHER OBJECTS / METHODS

QUESTION 4:

In what scenarios and for solving which maintenance tasks would developers use Method Execution Reports?

Please, justify

- SOME APPS WITH EXPECTED TIME PERFORMANCE
AS WEB APPS (TIME < 10 [s]APP.)

QUESTION 5:

What tools would you use instead of Method Execution Reports to retrieve the same information?

Please, justify

- SOME GRAPHIC/EXECUTION TIME BASED TOOL (WITH 'TREES' GRAPHICS)

QUESTION 6:

Do you have any suggestion on how to improve the report? Any critic?

Please, justify

- MORE EXPLICIT LABELS
- RELATION BETWEEN INFO & CODE
- RELATION ~~NOT~~ WITH SOME OTHER OBJECTS / METHODS.

TIME END: 18:20