

Due date

→ Friday, November 20th, 2015 at 13h00

Assignment #2

Doctoral journey, milestones, and expectations

Instructions

This questionnaire needs to be completed before the in-class session. A PDF or a Word file must be uploaded on the MOODLE site under the heading “assignments”.

You will also need a copy of your completed assignment when the group meets.

In preparation for the second meeting, please answer the following questions.

Feel free to use bullet form if you find this more convenient.

Questions that will be explicitly discussed during the second in-class meeting

- What is the milestone of the Ph.D. journey that you “fear” most and why?
A: I really consider the comprehensive exam and the first paper as a milestone for me. As soon as I finish those I will be able in the beginning of the end.
- Please write down the outline of the Ph.D. proposal you plan to submit.
(On the next page)
- What are in your opinion the objectives of the comprehensive examination?
A: Is to be a milestone for the student work until the time of the presentation this will give also information about the student progress.
- If you already published an article, please tell us the main difficulties that you encountered during the preparation of the manuscript. If you have not published an article yet, please list the difficulties that you can foresee.
A: I am finding the results to gather for an article, but I have done a conference and I was participating actively in another one. In this first work that I presented, the problem was to find a question and in fact to find relevant results. In the end I wasn't able to have so unexpected results so I couldn't present in a journal paper.

- What are the pros and cons of a doctorate charter like the one of University of Strasbourg ?

A: I thought it was a little abstract in a sense that no definition of reliable sources were detailed to follow (i.e. defining a publication catalog) and also the I disagree with the policy of not suspending the course.

Questions in order to help us better understand your needs

- If have new suggestions for topics or questions that you would like to see addressed during this series of workshops, please do not hesitation to mention them to us.

A: Some difficulties related with pursuing the PhD, like anxiety and depression, on the students. Knowing them it would be better to deal with it.

Outline

Supervisor: Michel Dagenais

Working title: Techniques of trace comparison and correlation

1. Objective of the Research

Main object: use trace compare and correlation to improve system performance in general, the object is the abstract the concept of comparison and apply to traces, compare then until find some metrics which are relevant to this implementation.

It will also bring information to improve the analysis of the systems from the work already done with Ltng.

2. Background/Review of the Literature

My work starts from the work of Francois Doray master thesis and some articles about trace correlation/abstraction from Concordia University.

Ltng articles and thesis will form the basis of the work, citing Mathieu Desnoyers and how the system evolved with time.

3. Hypotheses and Predictions

Hypotheses is that we can use machine learning techniques to improve the analysis of tracing comparison. Some restrictions can be found on this comparing since there are too much information to compare, so the knowledge from it would be very useful.

Null hypothesis: the current model of analysis does not take into consideration compare traces as relevant tool for performance.

4. Method and Design

The main method of this research are the traces and the information which can be obtained from those traces.

From the traces, there would be some abstraction and data processing and evaluation and finally some techniques as machine learn correlation techniques can be applied.

The research aims more than the empirical contribution so this process and information will be used to a high level analysis.

As design prospective, many prototypes will implemented the results will be compared and benchmarked, with this results it will be possible to come with some conclusions and apply this to solve more problems e.g. as a tool for comparison. Those prototypes

5. Significance and Conclusion

This will improve tracing in general in a sense of more enable more data comparison and therefore a quicker analysis of the traces, including large traces.

6. References (APA style)

Bases of the work :

Doray, Francois. (2014). *Analyse de variations de performance par comparaison de traces d'execution*. Unpublished master's thesis, Polytechnique University of Montreal, Montreal, Quebec.

M. Desnoyers et M. R. Dagenais, *The Ittng tracer : A low impact performance and behavior monitor for gnu/linux*, dans Ottawa Linux Symposium, Ottawa, Ontario, 2006, pp. 209-224.

Concepts from:

A. Hamou-Lhadj, S. S. Murtaza, W. Fadel, A. Mehrabian, M. Couture, et R. Khoury, "Software behaviour correlation in a redundant and diverse environment using the concept of trace abstraction", dans Proceedings of the 2013 Research in Adaptive and Convergent Systems, série RACS '13. New York, NY : ACM, 2013, pp. 328-335. DOI : 10.1145/2513228.2513305