

Assignment 3 (17% of final assessment)

Presentation on 10am-12pm 23rd May and report due on 4pm 30th May

Aim

The aim of this assignment is to understand some of the developments in the field of database and to develop skills in research paper selection, paper reading, critical thinking, presentation on research problem and etc. This is a group assignment with 1-2 members in each group. Please form groups by yourselves (up to 2 members for each group), or you can choose to do this assignment independently as a group. Your group must choose **one** topic in the field of databases such as:

Timeseries Databases, Graph Databases, Temporal databases, Geospatial databases, or other topics in the field of databases.

Paper example 1: [Gorilla: A Fast, Scalable, In-Memory Time Series Database \(Facebook\)](#)

Paper example 2: [Trinity: A distributed graph engine on a memory cloud \(Microsoft\)](#)

Task

Your group need to perform the following tasks:

- **Find a research paper** to read in the field of databases. This article should be a high quality research and a full research paper (typically with a length of 8 pages or longer). Paper selection sources are described in the end of this assignment guidance.
- **Write a report (due on 4pm 30th May) and make a presentation on 23rd May (Monday lecture time).** It is expected that your group report is around 4 pages or 2000 words, and each group presentation is within 10 minutes.
- **In the report and your presentation, you are expected to include the basic component that summarises the work done in that paper.** This component should have the information that answers the following questions:
 - What problem was investigated in that paper?
 - What is the key idea of the proposed algorithm/system?
 - How does the proposed algorithm/system work?
 - How was the developed algorithm/system evaluated, and what are the evaluation results?
- **In the report (not the presentation), you are also expected to include an advanced component that gives some critical and insightful thinking.** This component should have the information that answers the following questions:
 - Do a quick literature review on the related works. How are they related to the work done in the paper you choose? Is there any paper that investigates the same problem you identified?

- Do you think the developed algorithm/system was properly evaluated? If not, what is missing? how should it be evaluated?
- Do you think the paper was written in a way that is easy to understand? Do you have any suggestions to improve the writing or do you have any solutions to the identified problem?
- Do you find any drawbacks of the solution proposed in that paper?

Note that your group only need to present the basic component in the presentation. Both basic component and advanced component need to be included in your report. Marks are the same for group members in the same group.

Assessment

Your group report (10 marks) will be assessed based on your explanation and your understanding of the problem in the paper, your review of relevant research, and your ability to summarise the authors' arguments. Your group presentation (7 marks) will be assessed by all the listeners including other group members by the following criteria.

Presentation marking sheet (Please don't mark for your own group)

Group	Presentation topic	Do you feel the presenter(s) made it clear to you about the research problem in the paper? (0-no, 1-a little, 2-some, 3-clear)	Do you feel the presenter(s) showed a good understanding of the key ideas or solutions for the research problem? (0-no, 1-a little, 2-some 3-good, 4-very good)
1			
2			
3			
4			
5			
6			
7			
8			

Assignment Submission:

Please submit your group report along with the above presentation marking sheet by blackboard or email to Yawen (yawen@cs.otago.ac.nz) with subject 430 Assignment 3 by the due date. Make sure that your name and ID are in the email.

Sources

You should find your paper from the following journals and/or conferences.

Journals

- ACM Transactions on Database Systems
- Data and Knowledge Engineering

Conferences

- ACM Special Interest Group on Management of Data
- ACM Principles of Database Systems
- Very Large Databases (VLDB)
- IEEE International Conference on Data Engineering

If you plan to examine a paper that is not from the sources described above, you should justify your rationale as to the quality of the research, e.g., based on bibliometrics such as high citation count, or ratings such as 'A*' or 'A' from [the CORE conference/journal portal](#).

To avoid conflict, please fill your selected paper here, so that others know that paper has been selected to present:

https://docs.google.com/document/d/1VQraKuC2DLw9trnNImwI6iZQoHxF95wC7FP0U_Fy8wo/edit?usp=sharing