CPC451/CPM451 Big Data Technologies and Management
Semester 2, 2023/2024

ASSIGNMENT 2 – REPORT (10%)
(Group Work – **Minimum 3, Maximum 4 members per group**)

NoSQL databases are ideal for unstructured data. Write a report that evaluates the strengths and weaknesses of the following 4 types of NoSQL databases:

1. Amazon DynamoDB (Key-value store)
2. MongoDB (Document-based store)
3. Cassandra (Column-based store)
4. Neo4j (Graph-based store)

Your deliverables must include (not limited to) the following requirements:

• Introduction (Brief background of NoSQL databases)
• Highlights of 4 types of NoSQL databases
• Comparison
• Discussion and recommendation for implementation (e.g. Real-life applications).

Below are some points that guide you in preparing the report.

1. Format of the report [Standard IEEE format]:
    i. *Abstract*
    ii. *Introduction (Brief background)*
    iii. *History and evolution of the selected databases*
    iv. *Highlights of the selected databases*
    v. *Evaluation of the selected databases*
    vi. *Discussion and recommendation (suitability for the application domains)*
    vii. *Conclusion*
    viii. *Clear division of group members' roles*
    ix. *References*

2. Find at least **four relevant papers** that are related to the above topic. Relevant papers refer to papers published in journals, conference proceedings or technical reports [Tips: IEEE Xplore, ACM, Elsevier Science Direct and etc]. Web pages, FAQs or presentation slides are not counted as relevant papers. However, they are counted as other references besides the four required relevant papers. Cite them as your references properly. Your deliverables must include the following requirements:
    • Report format & template: IEEE paper format (Hardcopy & Softcopy)
        o http://www.ieee.org/conferences_events/conferences/publishing/templates.html
    • Failing to comply with the format will affect your overall assignment grade
    • Try to make the report brief yet concise (Proofread your work)
    • Expected length of the report: between 5 (min.) and 7 (max.) pages
    • Marking Scheme: refer to the rubrics posted on the e-learning course page

3. At the end of your report, in the comparison and discussion section:
    • Compare their significant/unique features, strengths and weaknesses
    • Discuss and give recommendations on applications that are suitable for each type of the NoSQL database
    • Your opinions on the future of these NoSQL databases

4. Submit the following:
    • Soft copy - (Report + 4 most relevant papers): e-learning [Deadline 7 June 2024]

Note:

You must write the report yourself using your own ideas / words and not simply cut and paste from your references. List all references at the end of the article. ***In the event that parts of the report are directly copied from others without references, F grade is given.***