CIS 3050 Project 3
Fall 2023
Prof. Azam

Guidelines:

This is your final project (Project 3) for Fall 2023 semester. It requires an individual report. Your manager at the VPF wants your help to answer the following questions and form your reply as a complete report. The report should be single-spaced, with a cover page (page 1), table of contents (page 2), statement of Academic Honesty (page 3), reference page, and any other diagrams or appendices that will enhance your report.

Note: Use the Pine Valley database as a reference for this project and projects 1 and 2.

After completing projects 1 and 2, your manager asked you the help him with the following:

Part 1: Read "Big Data Management and NoSQL Databases by clicking on the following link, file:///C:/Users/aqazam/Downloads/30.pdf or https://www.researchgate.net/publication/372724213_Big_Data_Management_and_NoSQL_Databases then answer the questions below:

> *Q1*- Summarize the paper
> *Q2*- What are the main characteristics of NoSQL?
> *Q3*- *Compare SQL and NoSQL*
> *Q4*- In figure 1, list all the keys in all tables.
> *Q5*- *What are the advantages and disadvantages of relational DB*
> *Q6*- *List and define the Characteristics of big data.*
> *Q7*- *What is MongoDB?*

Part 2: Answering the following top ten questions by your upper management.

Q8. Prepare a report that evaluates possible client/server solutions to handle new customer application system for 6 branch offices. What technological characteristic you will evaluate?

Q9. What is an Index? Create an alphabetical index on the customer name in the Customer Table. (ref: project 2)

Q10. What are the data elements necessary to create an invoice for a customer? Create and save this query as a view named Invoice View (MSSQL)

Q11. What is a query optimizer in SQL? How is it different than SQL Query? Give an example.

Q12. Create a star schema for your Project 2.

Q13. How can you benefit from the concepts of date warehousing and DataMart? Is it visible to use it for your project, and why?

Q14. What do you think about the quality of the data in your projects 1 and 2?

- *How do you measure the data quality?*

- *How do you calculate the cost of data?*

- *What are your recommendations to improve the quality of data?*

Q15. Since there are many recovery techniques available, explain which of the recovery techniques is most appropriate for your project, and why.

Q16. What is cloud computing, and is it viable to use for your project? Why?

What to submit in Project Report 3 (digital submission)

Each student will write a comprehensive report about the topic presented in the class. Make sure to submit a quality report which includes the managerial and technical information. The report should be single-spaced.

Follow the same formatting as indicated in Projects 1 & 2:
- Cover page title, author's name, professor's name, and date *(page 1)*
- Table of Contents *(page 2)*
- Student's Academic Honesty Page signed *(page 3)*
- Introduction and or abstract
- Answer parts 1 (7 questions) and part 2 (the top 9 questions by your manager)
- Your analysis, findings, and recommendations
- Lessons Learned from project 3 (at least 3)
- Conclusions
- References (Bibliography) (*at least 4 references*)
- Appendices (if used)

General Guidelines

- ***Formatting***:
  - Type your report on 8.5 x 11-inch paper
  - Use Times New Roman font
  - The font size should be 12 pt.
  - Set the margins of your document to 1-inch on all sides
  - Create a header that numbers all pages consecutively in the upper right-hand corner, one-half inch from the top and flush with the right margin. (omit the number on your first page. Always follow your instructor's guidelines.)
  - Use italics throughout your essay for the titles of longer works and-only when necessary-providing emphasis

Feel free to be creative while still adhering to these requirements! If you have any questions, please let me know.

Project 3 Rubric

Items	Pts
PART 1 (20 points)	
Page 1: Cover Page Title, Author, School Name, Professor and Date	5
Page 2: Table of Contents	5
Page 3: Academic Honesty (signed)	5
Page 5: Introduction/Abstract	7
Part 2 Article-(35 points)	
Page 7: Big Data Management and NoSQL Databases	
Q1-Summary of the paper	4
Q2- What are the main characteristics of NoSQL?	4
Q3- Compare SQL and NoSQL	4
Q4- In figure 1, list all the keys in all tables.	4
Q5- What are the advantages and disadvantages of relational DB	4
Q6- List and define the Characteristics of big data.	4
Q7- What is MongoDB?	4
Part 3 top 9 questions by your manager (45 points)	
Q8- Client/Server solutions report and technological characteristics	6
Q9- Creating an alphabetical index	6
Q10- Creating an invoice view for a customer	6
Q11- Query optimizer in SQL and SQL Query	6
Q12- Star Schema for your project	6
Q13- Data Warehousing and DataMart	6
Q14- Quality of the data in your project	6
Q15- Recovery Techniques	6
Q16- Cloud Computing	6
Part 4 Analysis (20 points)	
New Page: Analysis finding, and Recommendations	6
Lessons Learned	7
Conclusions	7
References (Bibliography) at least 4 references	6
Part 5 quality of evidence (30 points)	
Format, Font, Time New Roman, Margin, Header/footer, & page#	10
Clear writing, logical, organized, professional and easy to read format	10
Total	**150**

Report samples: Please see the following as a guidance only:
https://www.victoria.ac.nz/vbs/teaching/resources/VBS-Report-Writing-Guide-2017.pdf
Project due date: 12/7/2023