

School of Information Technology
Department of Computer Science
COS326 – Database Systems Assignments for 2016



Objectives

- To read about a selected topic on database systems.
- To write an essay in which you discuss the selected topic in terms of reported problem and solutions (or opinions) as well as your opinion on the reported solution(s) and / or opinions.
- To organize and summarize your essay into an electronic presentation.
- To give a 10 minute presentation of your essay to the rest of the class.

What you have to do

1. Organize yourselves into a group of five or six people (we can have 20 groups at the most), select a topic for the group and date for the presentation. Booking links for essay topics will be active on the COS326 website on Friday 10 August. The list of topics is provided in this document. Topic selection works on a first-come-first-serve basis, and has to be done by Wednesday 17 August, 17:00.
2. Prepare an essay of not less than 700 words and not more than 1000 words on the topic. See details below.
3. Prepare a presentation (e.g. PowerPoint), which you will use to present your essay to the rest of the class. See details below.
4. Hand in the essay and presentation on the Monday prior to your presentation date by uploading it to the COS326 website. **Only one group member should upload on behalf of the whole group.**
5. Present your essay on the presentation date that you selected.

Structure of the essay

You have to find the paper for your topic on the UP library website or web, download and study it. *Your essay should summarise the main points made in the paper, relate the paper to the COS 326 course and state why and how it is relevant to the usage of database systems in (business) organisations.* An essay is a piece of writing reflecting the author's personal view. Therefore, one would generally not include tables, graphs or figures, lists, and definitely no bullets, in an essay. *The essay guidelines are given in Appendix 2 of this document.* You should use the word count feature of the word processor to check that number of the words in your essay is within the specified limits. *The essay marking guidelines are given in Appendix 32 of this document.*

Presentation

You will have *10 minutes*, to present your topic, including questions/comments from class. Your electronic presentation should have not more than *7 slides* (if using power point), structured as follows:

- 1 slide: Title page with topic, name of the group, date, course, student numbers and names of group members etc.
- Remainder of the slides: Introduction and the main part of the presentation. Here you can use tables and graphs to illustrate your point.
- 1 slide: Conclusion

You should avoid flashing effects in your presentation.

Mark Allocation (also refer to study guide)

The assignment makes up 10% of your final mark for the course, of which

- 7% is assigned by the lecturer for the essay and
- 3% is assigned by the class for the presentation to the class

Appendix 1: List of essay topics

Topic	Date	Reference
1	24 August	Ishaq, A. (1999) Lessons learned introducing an object-oriented database in the telecom industry, <i>Proceedings of the Technology of Object-Oriented Languages and Systems Conference</i> , June 7-10, 1999, Nancy, France, pp. 214-223
2	30 August	Leavitt, N. (2000) Whatever happened to object-oriented databases? <i>Computer</i> , August 2000.
3	31 August	Nicola, M. & John, J. XML parsing: a threat to database performance, <i>Proceedings of CIKM 2003</i> , New Orleans, Louisiana, USA, pp. 175 - 178
4	6 September	Hyde, J. (2010) Data in flight, <i>Communications of the ACM</i> , 53(1), pp48-52.
5	8 September	Parker, Z. Poe, S. & Vrbsky, S.V. (2013) Comparing NoSQL MongoDB to an SQL DB, <i>Proceedings of ACMSE 2013</i> , April 2013, Savannah, GA, USA.
6	13 September	Leavit, N. (2010) Will NoSQL databases live up to their promise? IEEE Computer Society, February 2010.
7	14 September	Wright, A. (2010) Data streaming 2.0, <i>Communications of the ACM</i> , April 2010, pp. 13-14
8	21 September	Miller, J. (2013) Graph database applications and concepts with Neo4j. Proceedings of the Southern Association for Information Systems Conference, Atlanta, GA, USA March 23 rd – 24 th , pages 141-147.
9	21 September	Vicknair, C., Macias, M., Zhao, Z. et. al (2010) A comparison of a graph database and a relational database: a data provenance perspective, <i>ACMSE 2010</i> , April 15-17, 2010, Oxford, MS, USA
10	27 September	Stonebraker, M. (2012) New opportunities for new SQL, <i>Communications of the ACM</i> , November 2012, vol 55. no. 11, pp. 10-11
11	11 October	Dean J. & Ghemawat, S. (2008) MapReduce: Simplified data processing on large clusters, <i>Communications of the ACM</i> , vol. 51, no. 1, pp 107-113.
12	12 October	Laurent Bonnet, L., Laurent, A, Sala, M. et.al (2011) Reduce, you say: what NoSQL can do for data aggregation and BI in large repositories, <i>Proceedings of the 22nd International Workshop on Database and Expert Systems Applications</i> , IEEE Computer Society, pp.483-488.
13	19 October	Thusoo, A., Sarma, J.S., Jain, N. et. al (2010) Hive - A Petabyte scale data warehouse using Hadoop, <i>Proceedings of the ICDE 2010 Conference</i> , IEEE, pp. 996-1005.
14	26 October	Ahuja, S. P. & Moore, B. (2013) State of Big Data analysis in the Cloud, Network and Communication Technologies, vol. 2, no. 1, pp. 62-68. Canadian centre of Science and education.
15	26 October	Ortega, P., Figueroa, C. & Ruz, G.A. (2006) A medical claim fraud / abuse detection system based on data mining: a case study in Chile. Conference on Data Mining (DMIN'06), pp. 224-231.

Appendix 2: Formatting instructions for the essay

Essay Guidelines for 2016 **(This is the title of the essay. You must use Times New Roman, 16pt, Bold, Center)**

COS 326 essay submitted by

Group name goes here

Group Members:

Names and student numbers go here

Presentation date: (e.g.) 23 August 2016

Introduction (starts on a new page)

Length should be one paragraph

- a. Briefly state the database problem area addressed in your essay, and the solution(s) presented in the paper that you selected.
- b. Briefly state the objectives (purpose) of the essay.

Body of the essay

Use two or three sections for this. This should be a detailed discussion of:

- a. the database problem area addressed in your essay
- b. the solution(s) to (and/or opinions on) this problem as discussed in the paper you selected and additional papers you have read
- c. Your opinion of the advantages and possible disadvantages of the proposed solution(s). This should be backed by the discussions in the additional papers that you have read.
- d. Relevance of the essay topic to COS326 and the usage of database systems in (business) organisations.

Conclusions

Length should be one paragraph. Here, you should summarise the main points made in the essay.

References (Times New Roman, 14pt, Bold)

You have to include at least four *references*, other than your selected paper, that you consulted in order to prepare your essay. If the paper you selected is an 'old' paper, e.g. before 2010, your additional references should be newer references, i.e. after 2010. If the paper you selected is a recent paper, e.g. after 2010, your additional references should be 'older' references, i.e. before 2010. It is allowable to have the textbook as a reference, but the textbook should not be your main source of information for the essay. Avoid Wikipedia. Use the Harvard style. The references in the table of topics in Appendix 1 follow the Harvard referencing style. More examples of Harvard referencing are given below.

Book

Author Year, *Book Title*, Edition (if any), Publisher, Place of publication.

Example:

Czinkota, M.R. & Ronkainen, A.I. (2004) *International marketing*, 7th edition, Thomson/South-Western, Mason, Ohio.

Chapter in Book

Author Year, Chapter Edition (if any) in Editors *Book Title* Publisher, Place of publication.

Example:

North, D. (1980) Energy use at home, in S. Scott, & N Peel (eds.), *Energy conservation*, Academic Press, London.

Journal article on the WWW

Author Year, Article title, *Journal Title*, volume, issue, viewed Day Month Year, <URL>.

Example:

Griffith, A.I. (1995) Coordinating family and school: mothering for schooling, *Education Policy Analysis Archives*, vol. 3, no. 1, accessed 12 February 1997, available at: <<http://olam.ed.asu.edu/epaa/>>.

Full-text journal article

Author Year, Article title, *Journal Title*, volume, issue, pages.

Example:

Rasid, Z.M. & Parish, T.S. (1998) The effects of two types of relaxation training on student levels of anxiety, *Adolescence*, vol. 33, no. 129, pp. 99-110.

Web document

Author/editor or compiler Year of the most recent version, *Title*, version number (if applicable), description of document (if applicable), name and place of the sponsor of the source, viewed Day Month Year, <URL either full location details or just the main site details>.

Examples:

Anderson, J. (Minister for Transport and Regional Services) (2000), *CASA approves avgas contamination test*, media release, 23 January, Department of Transport and Regional Services, Canberra, accessed: 7 February 2000, available at: <http://www.dotrs.gov.au/media/anders/archive/2000/jan_00/al6_2000.htm>.

Web site

Author (the person or organisation responsible for the site) Year (that the site was created or last revised), name and place of the sponsor of the source, viewed Day Month Year, <URL>.

Example:

The Body Shop Australia 2003, The Body Shop Australia, Mulgrave, Victoria, accessed: 31 January 2003, available at: <<http://www.thebodyshop.com.au/>>.

Formatting instructions

Although you do not need to submit your paper in hardcopy, make sure that your essay is printable and the printout looks fine, before you submit the file. The sections below describe the formatting required for Body Text (text in a paragraph) and References.

Body Text (Times New Roman, 12pt, Bold)

Body Text should be Times New Roman, 12pt, with line spacing of 1.5 lines. Indent the first line of the paragraph. The paragraph text should be fully justified and sections should be separated with a single line.

References (Times New Roman, 12pt, Bold)

You should read, list and cite at least five references (including your selected topic paper). References should be cited in the text using the Harvard citation style, for example: (Riecken et al, 2003) or Riecken

et al (2003) have stated that ...

Appendix 3: Essay marking guidelines



School of Information Technology

Department of Computer Science

COS326 – Database Systems

Assignment – Essay Marking Sheet 2016

Topic: _____

Team Name:		
Surname	Name	Student Number

Marks

	Comment	Out of	Mark
Cover page provided (1) At least five references are specified (2) Essay structured into introduction, body and conclusion (1)		3	
The <i>introduction</i> captures the essence of the selected paper and clearly states the objectives of the essay.		3	
Body of the essay discusses the important points in the paper (6) References are used and cited in the discussion (4)		10	
Description of the relevance of the topic to the course COS 326.		3	
Description of the relevance of the topic to the usage of database systems in (business) organisations.		3	
The conclusion accurately sums up the essay.		3	
TOTAL:		25	

Appendix 4: Presentation marking guidelines
School of Information Technology
Department of Computer Science



UNIVERSITEIT VAN PRETORIA
 UNIVERSITY OF PRETORIA
 YUNIBESITHI YA PRETORIA

COS326 – Database Systems 2016
Assignment – Presentation Marking Sheet

Student Number: _____ Student Name: _____

Date: _____

Team name: _____

Topic: _____

Marks

	Out of	Mark
The presentation slides were graphically appealing, and easy to follow. 3 = Yes, it could not have been done better. 2 = Yes, I was able to follow the presentation. 1 = Sort of, but some of the slides were more appealing and easier to follow than others. 0 = No	3	
The team's presentation was interesting: 3 = Yes, the presenter(s) kept my attention and made me want to listen to them. 2 = Yes, the presenter(s) kept my attention for most of the presentation. 1 = The presenter(s) had difficulty keeping my attention during a part of the presentation. 0 = No	3	
The team explained the relation to the COS 326 course and the usage of database systems in (business) organizations in a way that I could understand. 3 = Yes, definitely. 2 = Yes, but could not have been done better. 1 = Close, but I am not totally sure what they meant. 0 = No	3	
TOTAL:	9	