ISYS90086 Data Warehousing – Summer Semester 2020

Assignment 1 – Data Warehouse Design Assignment (25 marks)

In groups of 2, you are required to write a report that justifies a design of a dimensional model for a data warehouse for the case described below. Additionally, you are expected to implement this data warehouse using MySQL.

Case Description

Please see – Case Study

Assessment

This assignment is worth 25% of your assessment for the subject. Historically, the average mark for this assignment has been around 17/25 marks.

NOTE: **This assignment should be completed in groups of 2 students.**

Case Study – Report Requirements

Your group is required to design a dimensional model for a data warehouse for the case study. The dimensional model must be documented with a diagram and also a dictionary describing each of the attributes within the fact and dimension tables. Within your data dictionary you should include details about sourcing of data in the dimensional model from data files in the operational systems. The data dictionary needs to contain enough detail for your data warehouse design so that it can be clearly understood.

The submission should be about 3000 words in length and take the form of a report describing and justifying the design of the dimensional model. A suggested outline for the sections of the report is (Please note that this structure is a guide only and can be changed (except for the appendices) if you wish):

1. **Executive summary:** An executive summary is a short summary of the key information in the document and is written for a business person. It should contain a clear recommendation together with evidence to help a business person to decide whether to go ahead with the data warehouse project.
2. **Data warehousing:** You should present a discussion of the data warehousing concept, why data warehouses are necessary and the benefits they can bring to organisations.
3. **Design of the Data Warehouse:** You should discuss and justify the design of your data warehouse. Include a diagram of the design of your data warehouse.
4. **How the data warehouse will be used to address the business problems:** Discuss how the data warehouse may be used to address the business problems included in the case study.
   While you do not need to include SQL queries, you should identify the data that needs to be retrieved and the ways in which it will be presented to the user to support decision-making.
5. **Appendix 1 – Data Dictionary:** Include a data dictionary for each of your fact and dimensions tables. Include an entry for each data item including its name, a brief description of its meaning, and describe how it will be sourced from the existing databases and include a description of any necessary transformations.
6. **Appendix 2 – SQL**: include all of the SQL statements that you used to create your data warehouse in MySQL. This will include Create statements, Key creation and any indexing you deem necessary. Provide an explanation for why each index is required.
7. **Appendix 3 – Work Breakdown:** – Detail the breakdown of work of the team members for this assignment. This should be a detailed account of what each team member accomplished as part of the assignment.

Assessment Criteria

Aspect of review	Poor	Good	Very Good	Excellent
Executive Summary 5%				
Data Warehousing Discussion 15%				
Dimensional Model 40%				
Addressing Key Decisions 30%				
Data Dictionary 5%				
SQL 5%				
Work Breakdown (HURDLE)				

Submission

This assignment is due at **9:00am on Friday 17th Jan.**

You will submit only an electronic version. We will endeavour to get your assignment marked within a 2 week period. You will receive feedback on your assignment via the marking scheme. The marker will also give written feedback in the form of comments on the marking sheet.

You are required to submit an electronic version of your work through the LMS (See the Assessment Link on the LMS and look for the link Assignment 1 Submission. You will be submitting this version of your work through TurnItIn (this is a plagiarism checking platform) and will be able to submit more than once up to the due date so please ensure that your assignment is plagiarism free. By submitting your work in this manner plagiarism is checked for you and you will be able to see if you have any issues with this in your work and will be able to fix these issues before the due date. Also by submitting the Assignment via the LMS you are agreeing that the Assignment is your own work (thus you do not need an assignment cover sheet).

Academic Honesty

Academic misconduct occurs when students portray someone else's work as their own. There are many ways in which Academic misconduct can occur. Some of these are:

- **Sham Paraphrasing**: Material copied verbatim from text and source acknowledged in-line but represented as paraphrased.
- **Illicit Paraphrasing:** Material paraphrased from text without in-line acknowledgement of source.
- **Other Plagiarism**: Material copied from another student's assignment with the knowledge of the other student.
- **Verbatim Copying:** Material copied verbatim from text without in-line acknowledgement of the source.
- **Recycling:** Same assignment submitted more than once for different subjects.
- **Ghost Writing:** Assignment written by third party and represented as own work.
- **Purloining:** Assignment copied from another student's assignment or other person's papers without that persons knowledge.

The university is committed to graduating students with "a profound respect for truth, and for the ethics of scholarship... we want our graduates to be capable of independent thought, to be able to do their own work, and to know how to acknowledge the work of others" (Prof. Peter McPhee). As such, the university takes a dim view of students to are not able to correctly acknowledge the work of others, or who try to pass this work off as their own. All students should be aware of the following web site: http://academichonesty.unimelb.edu.au/advice.html which provides practical advice to students about how

not to be involved in academic misconduct. In particular look at the Quick Checklist section (paraphrased below)

Quick checklist

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To be certain to acknowledge sources fairly and avoid plagiarising, review this checklist before beginning to write your essay and again after you have completed your first draft.

1. What type of source are you using: your own independent material, common knowledge, or someone else's independent material?
2. If you are quoting someone else's material, is the quotation exact? Have you used quotation marks for quotations run into the text? Have you set off block quotes with an extra space before and after the quote, single spacing within the quote, and left indenting of all lines of the block quote? Are omissions shown with ellipses and additions with square brackets?
3. If you are paraphrasing someone else's material, have you rewritten it in you own words and sentence structures? Does your paraphrase employ quotation marks when you resort to the author's exact language? Have you represented the author's meaning without distortion?
4. Have you acknowledged each use of someone else's material?
5. Do all references contain complete and accurate information on the sources you have cited