

IST722 Group Project Assignment

OVERVIEW

The group project is your chance to apply what you have learned in the course towards completing a Data Warehouse and Business Intelligence (BW/BI) program for a case study.

The Case Study

Fudgemart, Inc. has hired your team to build a BW/BI solution from scratch. Fudgemart, Inc. is a fictitious conglomerate with two subsidiary companies:

1. **Fudgemart** – Fudgemart is a fictitious online retailer, similar to Amazon.com or Walmart.com. The database consists of customers, products and vendors, and has familiar business processes you would find in any online retailer. The database for Fudgemart is called **Fudgemart_v3**
2. **Fudgeflix** – Fudgeflix is a fictitious online DVD by mail and video on demand service, similar to Amazon instant video or Netflix. The database for Fudgeflix is called **Fudgeflix_v3** and contains concepts such as accounts, subscriptions and video titles as well as other things associated with an online video streaming service.

NOTE: A third database exists called **ExternalSources2**, which has data_dimension and fudgemart tweets and survey.

Project deliverables

1. Project Document:
 - a. Assemble a Project Charter
 - b. Devise a project plan / schedule
 - c. Outline functional requirements based on your activity of profiling data in Fudgemart, Inc.'s databases.
 - d. Overview 5 business processes you will model from those functional requirements and explain their business value
 - e. Assign primary roles to your team members
2. **High-level** dimensional modeling worksheet
 - a. Bus matrix for **5 business processes**
 - b. Attributes and metrics
 - c. Outline any issues you have
3. **Detail-level** dimensional modeling worksheet
 - a. Choose **1 of the 5 processes** for *integration* across both Fudgemart and Fudgeflix.
 - b. Provide fully completed dimensions and facts
 - c. Identify sources for your source to target map
 - d. Generate an *integrated* SQL schema for your data warehouse
4. Data Warehouse on SQL Server
 - a. Use **generated SQL schema** to construct data warehouse with the *integrated* Fact table
 - b. Include all dimension tables needed for the *integrated* Fact table
 - c. Adopt techniques learned in the course, such as use of staging and enterprise bus.
 - d. Follow consistent conventions

5. Initial ETL done in SSIS:
 - a. Source to target map
 - b. SSIS Package to stage your data
 - c. SSIS Package to load to DW from stage
 - d. ETL Documentation: Source to target map, **screenshots** of data flows and explanation of ETL patterns used. Explain any data quality or survivorship rules you may have used.
6. Business Intelligence:
 - a. Construct SSAS cube on Analysis Services Server for the *integrated* Business Process
 - b. BI Dashboard or Application in Power BI and/or Excel.
 - c. BI may connect with ROLAP and/or MOLAP (cube).
 - d. BI Documentation: Create a **powerpoint** that includes the goal of your analytics, the star schema (generated from SSAS), and several graphs/charts/dashboards from above steps. Focus on the data story. Include recommendations.
7. Individual Peer Review and Writeup
 - a. Score you team contributions.
 - b. What did you learn?
 - c. What was *your* contribution to the project?

Project Milestones

- Milestone 01 – First draft of deliverable 1: Project document
- Milestone 02 – First draft of deliverable 2: High-level dimensional modeling worksheet

Milestone will be achieved as part of live session work. These are reviewed and discussed but not graded.

Project Guidelines

Here are some guidelines for completing the project. Answering “yes” to all of these implies that your project has the potential to earn the highest marks possible.

- Did you identify the functional requirements of Fudgemart, Inc.
- Did you identify 5 business processes to model in the data warehouse as part of your functional requirements?
- Can the value of those business processes be justified?
- Did you implement 1 integrated business process in the data warehouse?
- Did you implement meaningful, actionable business intelligence for the integrated business process?
- Did you implement an enterprise bus technical architecture according to the Kimball methods we learned in the course?
- Does the data warehouse your team implemented exhibit the 4 characteristics of a data warehouse?
- Did you satisfy all of the criteria outlined in the project deliverables section?
- Did you complete your project milestones on time?
- Does your presentation overview your DW/BI initiative at an executive level?
- Did you crosscheck the number of rows in each of the tables against source oltp tables and files?
- Does your demo confirm you satisfied the functional requirements of the business processes you implemented?