University of Ottawa
School of Electrical Engineering and Computer Science

CSI4142 Fundamentals of Data Science

Project Phase 1: Conceptual Design – Dimensional Model
Due Date: February 8, 2024, 11:59pm

Instructions:

This is a team assignment. Submit your conceptual design using your group locker in Brightspace. Your uploaded document should be in a **PDF FILE FORMAT**. Teams can also have on-demand meeting with a TA via a scheduled Zoom meeting to discuss their design.

Suppose that your team was hired to design and implement a data mart to gather the data as contained in the original repository and include other "external" sources. As a first step, your task is to complete an initial conceptual design for an enriched data mart. Your design can (but is not limited to) address the following questions:

1. What dimensions and attributes should be included to identify and track some trends in different terms over time?
2. Following 1, what key indicators do you need to store to obtain a clear picture of trends of those terms?
3. What are the external sources (if any) that can be potentially added to the dataset to enrich it further?

Deliverables:

Create a dimensional model detailing your initial design of the **project data mart**.

Your PDF document should include the following details.

1. Declare the grain of your data mart.
2. Detail all the dimensions and dimensional attributes. You should list the domains and show sample values. (*e.g., Age: integer, minimum = 0 and maximum = 130, Sample value = 35*).
3. Detail all the measures/facts. You should list the domains and sample values. (*e.g., Age: integer, minimum = 0 and maximum = 130, Sample value = 35*).
4. Remember to detail all your assumptions.
5. Make a checklist (Use Tables) of the "10 design mistakes" mentioned at the end of Module 1, Part C and show how you avoided/handled those mistakes (Where Applicable).
6. A summary of your team's work plan, including the times and dates you met, how you divided the work, and how you often meet with the TA.
7. Add a list of additional references you used when creating your model.