Business Intelligence

Mini-project

- The manager of a company want to conduct a broad study of last year's inventory in order to take new strategic orientations: opening of new stores, closing or transfer of poorly established stores, territorial extension to new French departments, reorganization of directorates, reorientation of marketing, expansion or reduction of the catalogue, etc.
- You work as an engineer specialized in decision-making systems and it is your responsibility to set up a software solution to integrate the relevant data and to be able to question them effectively from various angles.
- Use a business intelligence (BI) dashboard to bring together reports and graphs from several data sources (at least two different data type) and present information to users in a simple-to-understand and unified manner.
- Your dashboard will be used for displaying metrics defined by your project.

  Example: Products sold by region, defects per thousand shipped, or student grades by faculty. Typically, these metrics are expressed as key performance indicators (KPIs), and a typical dashboard brings several KPIs together across aspects of the business.
- The choice of the database and what it will be used for is left to the students.

Objective

Phase 1: Data Gathering

Disparate source systems or databases, which collect the data in its original, raw format.

Phase 2: Data Preparation\ ETL or ELT process

An integration layer in the DWH extracts data from the databases, cleanses it and loads it into a DWH (ETL or ELT):

- Collect data from multiple targeted sources
- Converting the structure or format of a data set to match your defined target system.
- Place the data into your target system (DWH server)

Phase 3: Data Storage \ Modeling and DWH creation

A data warehouse that prepares and stores data for analysis**:**

- Identify your Fact/Dimension table for your multidimensional modelling
- Represent your used schema (Star, Snowflake or Fact Constellation)
- Based of your schema, represent your OLAP process: ROLAP, MOLAP or HOLAP
- Structure your DWH into Data Mart if needed

Phase 4: Data Analysis

Use a Business Intelligence tools to draw and present data-based insights in the form of visualizations, reports, dashboards, summaries, and charts

Guidelines

-Maximum two students per project.

-Documents to upload on UVT under IT300(BI) project assignment:

- A written document (a soft copy) containing:
    - A brief introduction of what your project can be used for: Understanding business needs, define exactly what your goals and deliverables are..
    - A brief explanation of the main implemented phases in the database
    - A conclusion (problems you had to solve, possible enhancements, etc.)
    - Project code

Deadline

- The exact date will be set by each teacher according to her availability and communicated to you
- Each group will have to show their code working, explain it and individually answer the questions they receive.

Important

- **NO CHEATING POLICY**
- **Ideas and codes of all groups will be reviewed and compared with each other.**
- **In case teacher find two groups who worked on the same subject and provided the same interrogations, both groups will get a failing mark.**
- **The same goes with codes/ projects copied from Internet or from other students.**

Good luck ☺