CITS3401 Data Exploration and Mining - Project 1 (25%)

Healthy Burgers Fast food chain

The Healthy Burgers fast food chain claims to sell the best burgers in the world. The management of Healthy Burgers plans to expand the business further around the world. The management is planning to implement an analytical process based on data warehousing and OLAP for improving sales and popularity of its products. Each franchise of Healthy Burgers maintains its own OLTP database. Moreover, there are state, country and worldwide databases. The data for the data warehouse will be pulled from these databases. Healthy Burgers wants to evaluate a prototype of its data warehouse for three countries, Australia, New Zealand and Singapore. You can assume that Healthy Burgers has three franchises in each of these countries. The business of Healthy Burgers is structured in the following way:

- Each store runs three different sales periods every day: breakfast, lunch and dinner.
- Healthy Burgers runs 6 different promotions every year.
- There are 6 different combo meals, however, not all stores offer all the combos. The combo meals are divided into three different price categories. Each sales period offers two combo meals.
- Healthy Burgers publishes the calorie value of each of the combo meals. It has been reported that the high-calorie combos taste better.
- Healthy Burgers has 2 different suppliers who supply the ingredients for their meals. Each supplier is responsible for supplying the ingredients for three combo meals and a combo meal uses ingredients from a unique supplier.
- Healthy Burgers uses three different designs for the interior design and decoration of their stores.
- Some Healthy Burgers outlets provide dine-in facilities, some drive-through facilities and some provide both.

The management of Healthy Burgers is interested in a thorough analysis of historical data between 2008-2012.

Tasks

Healthy Burgers has appointed you to develop a prototype for an OLAP cube and me as an evaluator of your prototype. Your tasks are to:

1. Design a schema for the data warehouse and design a datacube using Palo;
2. Demonstrate the quality of your datacube to either Furqan or me. Healthy Burgers has instructed us to pose any questions that we find interesting and not to reveal these questions in advance;

Deliverable

1. You have to demonstrate your datacube to us. I will announce the time later.

2. You have to submit a document detailing your design of the schema and the datacube. You have to also submit screenshots of five example scenarios that you think are interesting and important.
3. You have to generate some data for populating your datacube. We are interested in only one measure, sales figures in dollars. You can either type in the values or generate them by writing a program and importing them to Excel. You should assume reasonable dollar values. (Please let me know if you don't know usual prices of burgers :)

Important points

1. I do not assume that there is a unique way to design the schema and the datacube. I know there are different ways to design the schema and datacube and I am not looking for any unique **perfect** answer.
2. I will evaluate your design based on how well my questions are answered and also how well it answers the five example scenarios that you pose.
3. You are free to make any assumptions that you think are reasonable. I know that the specifications I have provided are by no means complete.
4. All of us can further discuss about this in the help3401 forum.

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