Week 2

Case Study #2
(USELOG)

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READING MATERIALS:
Rob C and Coronel C, “Chapter 12: The Data Warehouse”,
Database Systems: Design, Implementation, and Management,
Sixth Edition, Thomson Publishing, pp. 556-607, 2004.

A Case Study

The University Computer Lab's director keeps track of the lab usage, measured by the number of students using the lab. This particular function is very important for budgeting purposes. The computer lab director assigns you the task of developing a small Data Warehouse in which to keep track of the lab usage statistics.

The *main requirements* for this database are to:

1. Show the usage numbers by different *time periods*
2. Show the usage numbers by time period, by major, and by student's class
3. Compare the usage numbers for different majors and *semesters*.

Use the provided database which includes the four following tables:

a. USELOG
b. STUDENT
c. MAJOR
d. CLASS

A Case Study: The Data (Uselog Table)

USELOG contains the student access data for Semester 1-1995 and Semester 2-1995.

USELOG (Date, Time, Student_ID, Act)

DATE	TIME	STUDENT_ID	ACT
05-APR-95	12:01 AM	GMR3M5AM7	P
13-APR-95	12:04 AM	GMR3M5AM7	P
11-APR-95	12:05 AM	GMR3M5AM7	P
15-MAR-95	12:06 AM	GM3A55337	P
25-APR-95	12:07 AM	GMG53VAR8	P
25-APR-95	12:07 AM	AG73MR8VA	P
02-MAY-95	12:08 AM	AG73MR8VA	P
23-FEB-95	12:10 AM	M766G75VR	P
13-APR-95	12:11 AM	GM3G3AMV5	P
20-JAN-95	12:16 AM	GMR736GR8	P
25-APR-95	12:17 AM	35588337A	P
01-FEB-95	12:17 AM	GRV338A7V	P

A Case Study: The Data (Student Table)

STUDENT (Student_ID, Sex, Full/Part, Type, Class_ID, Major_Code)

STUDENT_ID	SEX	FULL/PART	TYPE	CLASS_ID	MAJOR_CODE
3335AG37G	F	F	U	SPU	N
333665A6V	F	N	U	SR	SPTH
333666VMG	M	F	U	FR	PSc1
3336A6M7A	F	F	U	SO	ENG1
3336GRR58	M	F	U	SO	RIUD
33378RA35	M	P	U	JR	RIPA
333863VGA	F	P	G	DL	EC07
333G6M5RV	F	L	U	SO	MKT
333GR8858	M	P	G	MS	ADM4
3355AGRAG	F	P	G	MS	SEd4
3355AR7VV	F	P	U	SO	ACTG
33566385R	F	F	U	FR	M C
33566G7G7	F	F	U	FR	NURS

A Case Study: The Data (Major Table)

MAJOR (Major_Name, Major_Code)

MAJOR_NAME	MAJOR_CODE
Accounting	ACTG
Administrative Business	ADBU
Administrative Business	ADM3
Administration and Supervision	ADM4
Administration and Supervision	ADM6
Administration and Supervision	ADSU
Aerospace Education	AeEd
Aerospace	AERO
Agricultural Business	AGBS
Agriculture	AGRI
Animal Science	ANIM

A Case Study: The Data (Class Table)

Class (Class_Description, Class_ID)

CLASS_DESCRIPTION	CLASS_ID
Doctorate in Education	DE
Doctorate in Liberal Arts	DL
Freshman	FR
Junior	JR
Master Student	MS
Special Education	SED
Sophomore	SO
Special Graduate	SPG
Special Undergraduate	SPU
Senior	SR

A Case Study

Using the provided data in the tables, complete the following problems.

1. Define the main facts to be analyzed,
2. Define and describe the possible dimensions,
3. Draw the lab usage star schema, and
4. Define the attributes for each of the dimensions in question 2 above.

Your task is to design the data warehouse and to implement it in the lab.

End of Case Study #2 (USELOG)