Databases – stuff to note

EER model

Enhanced ER model

The eer model introduced the concepts of superclass and subclass entity types in the ER model

MEMBER (superclass):

LIFE\_MEMBER, REGULAR\_MEMBER and SEASON\_MEMBER

Why EER?

How does this help set up databases schema

Veiwing pages in a way – membership sorts of things

Keeping data sets ORDERED. Helps keep the uniqueness

Roles and representation of data – keeping own columsn within the databases – facillatates the differentiations between these roles and accessing

-keeping a foreign key where the extra tables are. Employee id – use that in Lib table as primary key. Use it in the other tbale

Can be expressed

BelongTo<SALARY\_LIBRARIAN, LIB\_GUILD>

Specializarion generalization and inheritance

Specialization : identifying subclasses and distinguishing characteristics - TOP DOWN design

Generalizzation aggregate entities to a superclass entity type by identifying their common characteristics

Bottom up design

Inheritance

IS\_A relationship that supports attribute inheritance and relationship participltion

Single inheritance results in a hierarchu

Multiple inheritance resu;lts in a ,lattice

Subclasss definition

The entities for each class can be user defined or specified with a condition on attributes of from the super class

In a predicatye definied sub class we use a selection condition on one or more attributes to degine entities of the subclass

5clustion constraints classifications

Disjoint constraints

The subclasses of a superclass are disjoint

They can only be o-n-e

Overlapping constraints

Overlapping concerns

Total specialization

Specifies that every entity in the super class must be a member of some of some of its subclasses

Patrtial specialsication

Specifies that an entity may not belong to any subclass

Superclass via generalization is always total

Union types (or categories)

Collection o fentities of distinct types

Multiple inheritance with superclasses of different type

Cat owner is a subclass of the set union of the entity

An instance in categoru must exists only in one of the superclasses

Category canb be

Total

Partial (with predicate definition)

Checks assertions and triggers

Semantic integrity constraints

A costrainy is expressed as a predicate, a condition similae to the WHERE clause of the query

We have three DDL contructs

Check constraints

Saying it doesn’t make sense for x value to not be null

Assertions

Checks that the budget is adequate to paying the employees

The two queries are correlated

Assertions are global, checks are local with in

Assertion statements are expensive.

Asseritons predicagtes often built aroung exists and not exits

Triggers:

-oracle focused

-consist of two different part – condition and action

Create and replace trigger trg name

<time? <event> ON <tname>

Time

1. Before,
2. After
3. Instead of

Event

1. Inster
2. Delete
3. Update [OLF <alist>

For wach row classifies the triggers as a row trigger

In contrast to a statement trigger

New and old allow reference to be made to new and old values of tuples afddted by the trgger and satrifst the WHEN clause in a row trigger

When specifies a condition that must be emt for the trigger to fire

<action<

Wither a sequence of SQL statements

Or a stored procedure

Alter tan;e<tname> enable/disable tiggeres  
alter triggers

Drop triggers

Rollback – abort the transaction.

Whatever thing youre doing - rollback undoes all of it with an error

Every action taken by that transaction gets deleted/undone,. You fuck up, you’re done\

Departmentqal budget and employee salaries can be both related an d cyka I am kired

Statement level triggers

Row level triggers

Happen as many time as we have updates

Values that will be put in

Bad triggers – don’t fucking call the trigger for one change.

Inserting on same column compromises the data integrity.

Achieving auto\_incremen