


CSI 2132 Tutorial 2

Conceptual Modeling: The Entity-Relationship Model

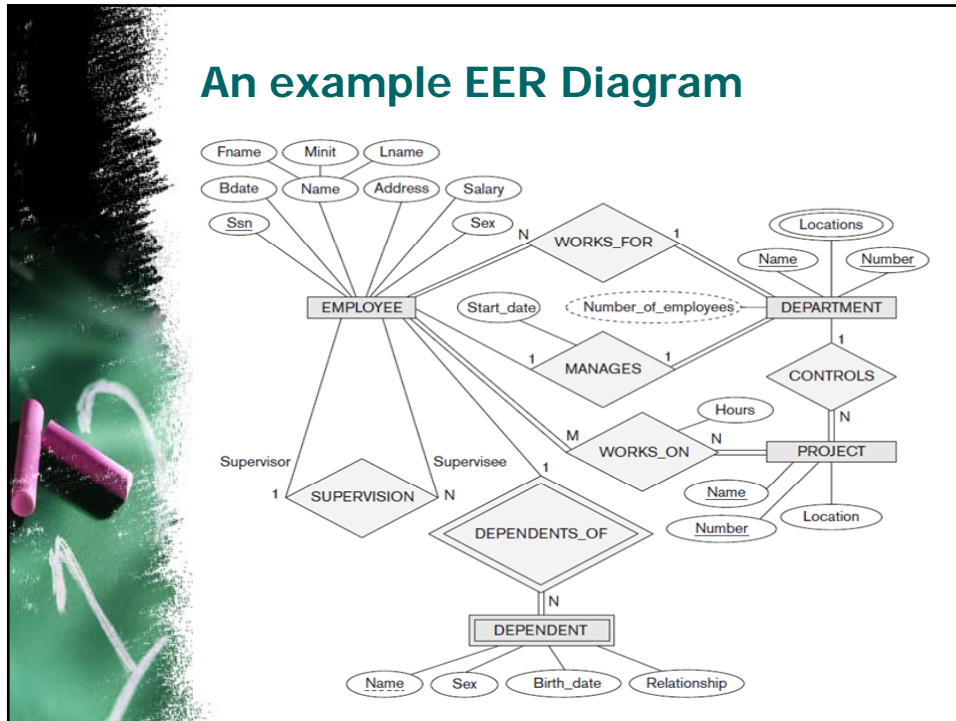


Entity-relationship Diagrams

- **Entities**
 - Entity Types and Entity Sets
 - Strong vs. Weak
- **Attributes**
 - Key Attributes
 - Composite Attributes
 - Multi-valued Attributes
 - Derived Attributes
- **Relationships**
 - Degree and cardinality
 - Role names
 - Partial vs. Total
 - Identifying relationships

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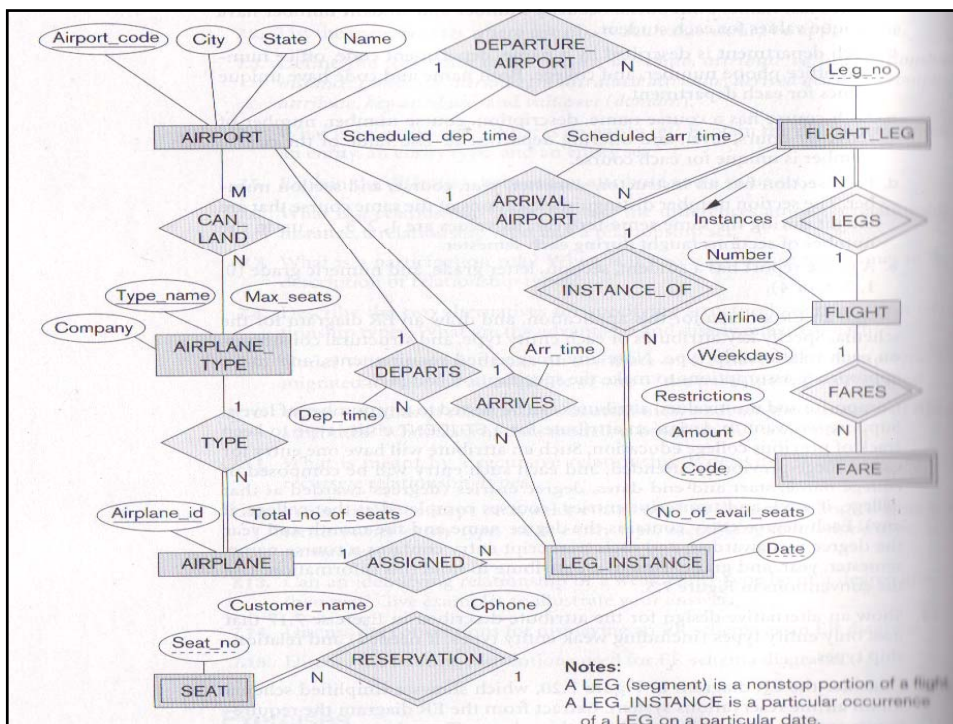
An example EER Diagram



Exercise 1

The ER diagram in the next slide shows a simplified schema for an airline reservations system.

Extract from the ER diagram the **requirements** and **constraints** that resulted in this schema. Be as precise as possible.



Exercise 2

A database is needed to keep track of the teams and games of a sports league. A team has a number of players, not all of whom participate in each game.

The players participating in each game for each team are recorded, as well as the positions they played in that game, and the result of the game.



Exercise 2

Design an EER schema diagram for this application, clearly stating any assumptions you make.

Choose your favorite sport (hockey, soccer, football, **baseball** ...)

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Exercise 3

Consider a **CONFERENCE_REVIEW** database in which researchers submit their papers for consideration. Referee reviews are recorded for use in the paper selection process.

The DB system caters primarily to reviewers who record answers to evaluation questions for each paper they review and make recommendations regarding rejection or acceptance.

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Exercise 3

- Paper authors are uniquely identified by their email address. First and last names are also recorded.
- Each paper gets a unique ID and is described by a title, abstract and the digital file containing the paper.
- A paper may have multiple authors. One of them is designated as the contact author.

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Exercise 3

- Paper reviewers are univocally identified by their email addresses. Each reviewer's first name, last name, phone number, affiliation and topics of interest are also recorded.
- Each paper is assigned between two and four reviewers. A reviewer rates each paper assigned on 1-10 scale in four categories: technical merit, readability, originality and relevance to the conference. An overall recommendation is finally provided.¹⁰

Exercise 3

- Each review contains two types of written comments: one to be seen by the review committee and the other as feedback to the author(s).

Design an EER diagram for the CONFERENCE REVIEW database.

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Notes

- The solutions to the DGD will be posted on the Virtual Campus
- Complete in your own time and double-check your solution

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