

CS281

Week 3 Lecture Notes

Safa Onur Şahin
Özge Karaman

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Weak Entities

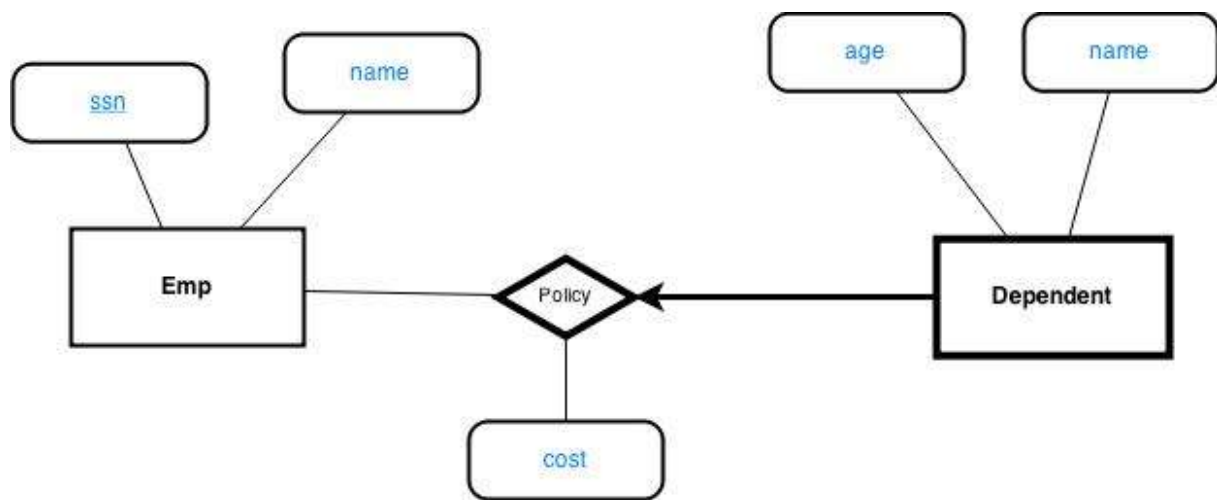


figure 1

- a) Movie name, release date.
- b) Studio has an id, name, address.
- c) A director has a ssn, and a name.
- d) A character in a movie has a name and a role.
- e) An actor has a ssn and name.
- f) Each movie is produced by a single studio.
- g) Each movie is directed by a single director.
- h) An actor plays a character in a movie.

Aggregation

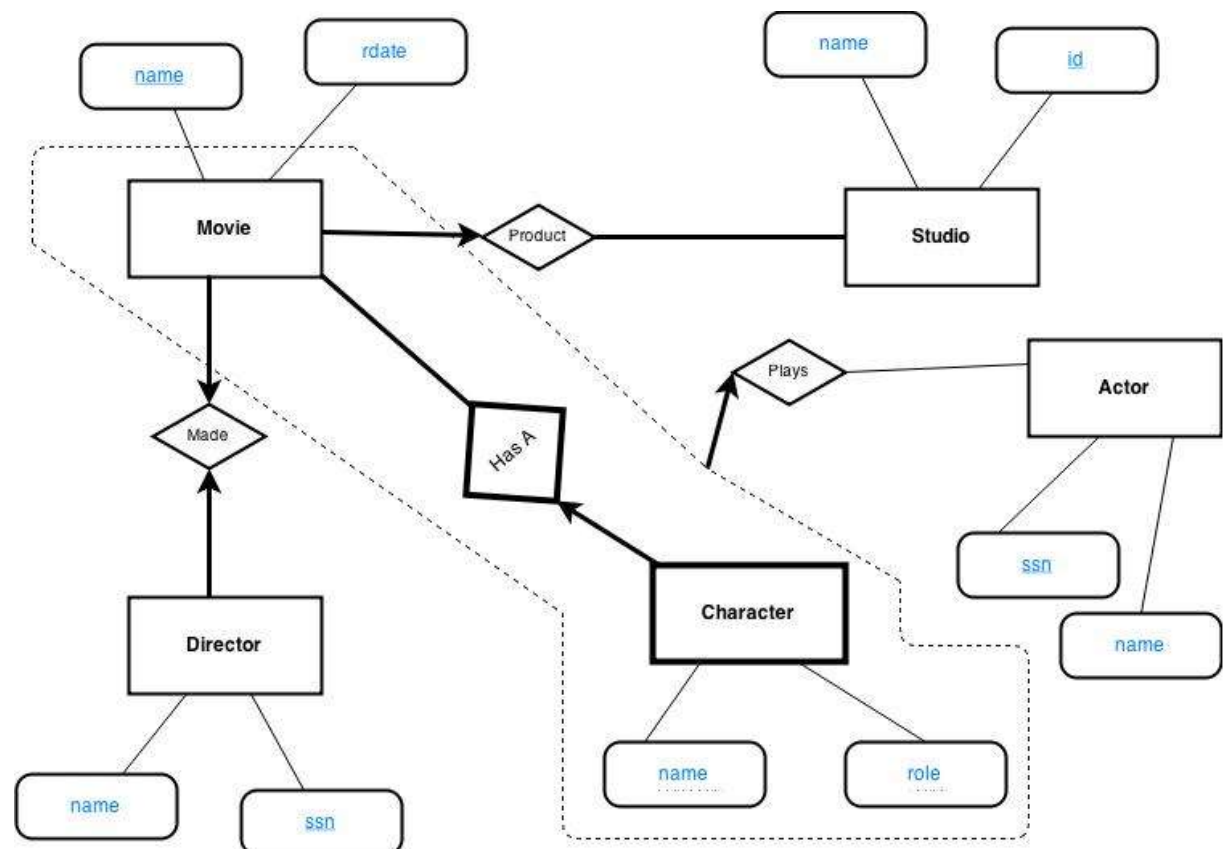


figure 2

Class Hierarchies

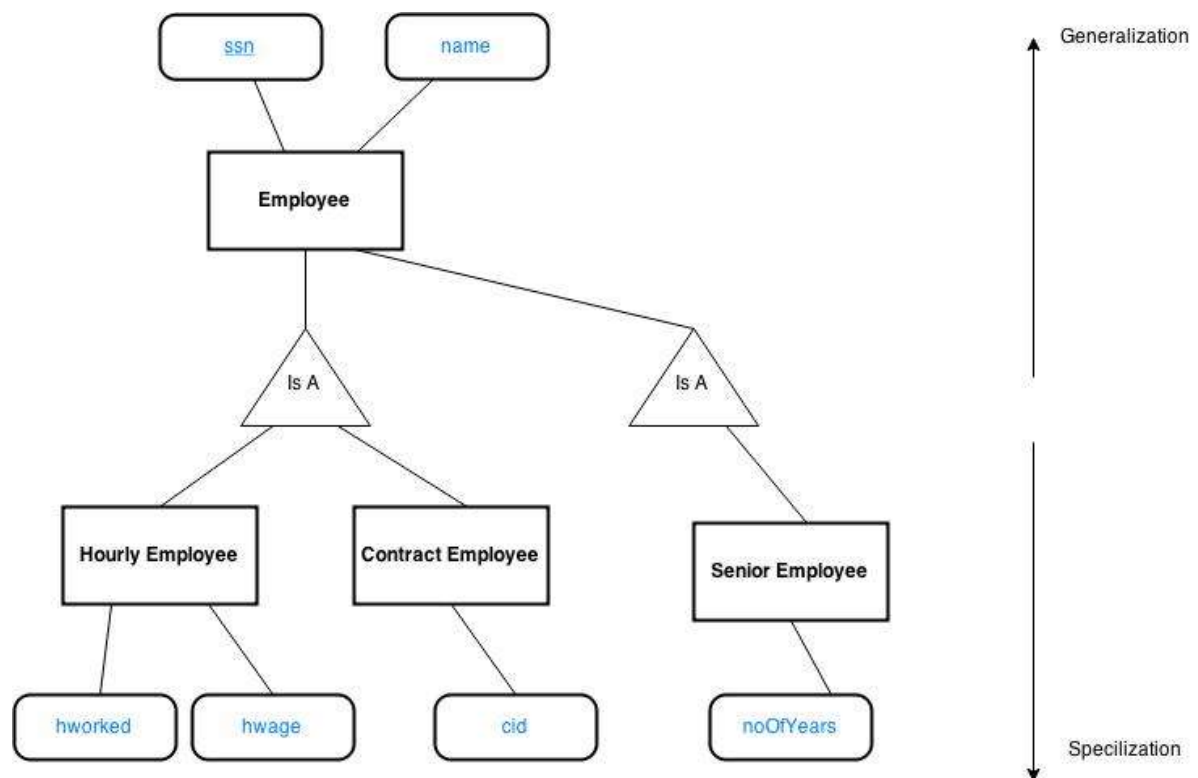


figure 3

Senior Emp.; Attributes of Employee are inherited by Hourly Emp, ContractEmp, and SeniorEmp

Overlap Constraints

Conctact Emp OVERLAPS SeniorEmp

Trigger is refer to error message.

Employee(ssn, name, age, address ...)

HourlyEmp(ssn, hwage, noofhours...)

Hemp(ssn, stuid, hwork, hwage)

ER Example

- 1) Prof have an ssn, name, age, research speciality.
- 2) Project have PNO, a sponsor name, budget, sdate, endingdate
- 3) Grad student have ssn, age, degree, program
- 4) Each project is managed by one Professor(known as the project's principal investigator)
- 5) Each project is managed by one or more professors (known as the project's Co-investigator)
- 6) Professors can manage and/or work in multiple projects
- 7) Each project is worked on by one or more graduate students (known as the project's research assistants)
- 8) When graduate students work on a project a professor must supervise their work on the project, graduate students can work on multiple projects, in which case they will have (potentially different) supervisor for each one.
- 9) Departments have a deptno, name, main office.
- 10) Departments have a professor (known as the chairperson) who runs the dept.
- 11) Professors work in one or more departments, and for each department that they work in, a time percentage is associate with their job
- 12) Graduate students have one major department in which they are working on their degree.
- 13) Each graduate has another, more senior graduate student (known as a student advisor) who advises him or her on what courses to takes.

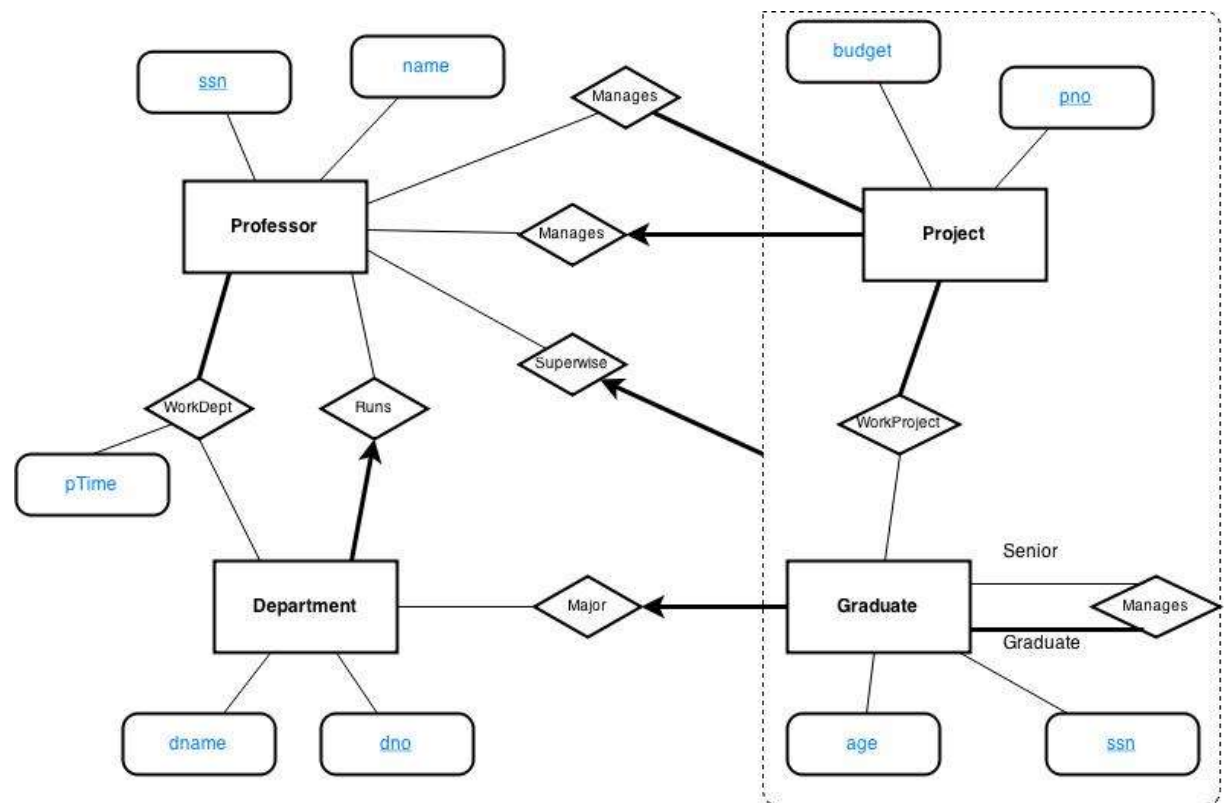


figure 4