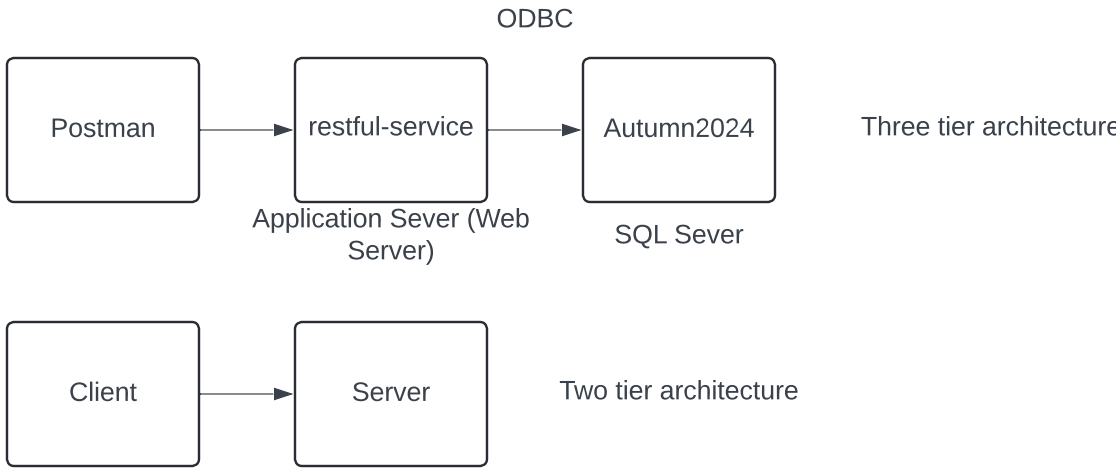
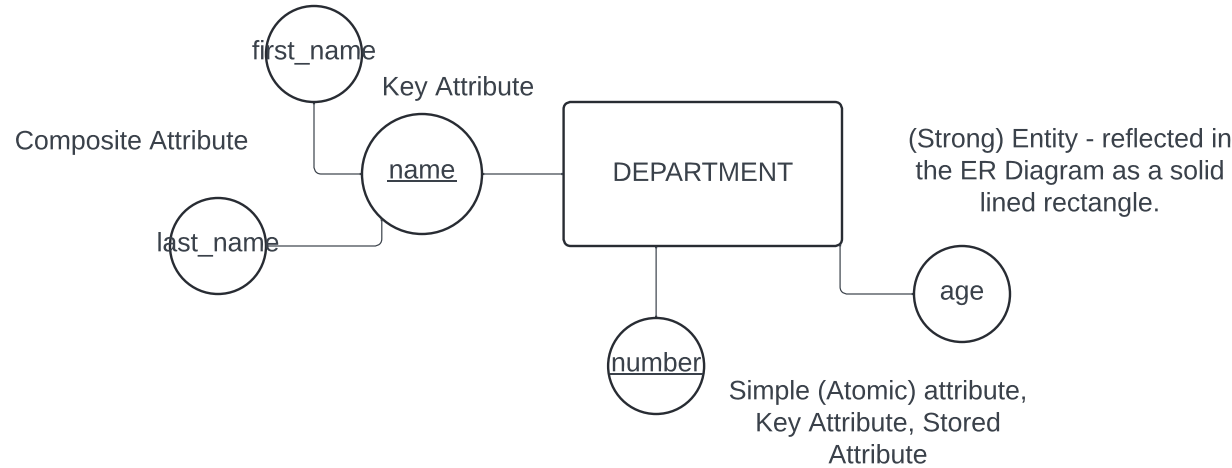
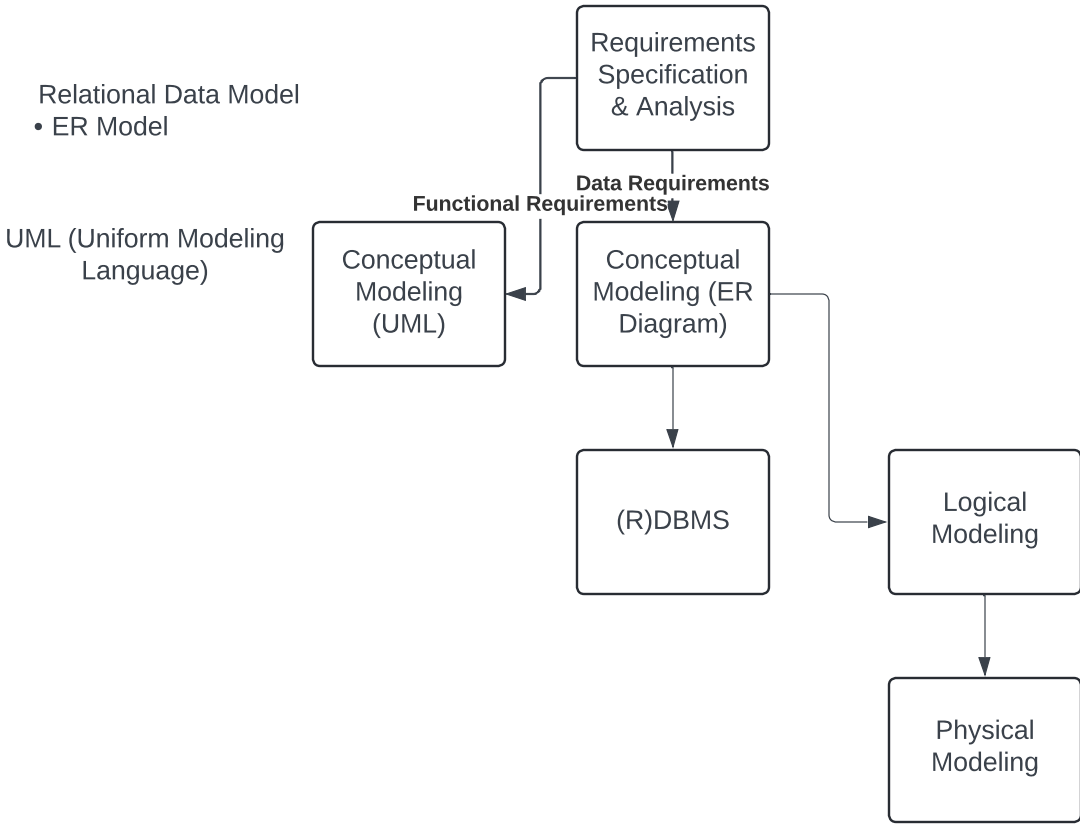


Logical Data Requirements

- The company is organized into departments. Each department has a unique name, a unique number, and a particular employee who manages the department. We keep track of the start date when that employee began managing the department. A department may have several locations.
- A department controls a number of projects, each of which has a unique name, a unique number, and a single location.
- The database will store each employee's name, Social Security number, 2 address, salary, sex (gender), and birth date. An employee is assigned to one department, but may work on several projects, which are not necessarily controlled by the same department. It is required to keep track of the current number of hours per week that an employee works on each project, as well as the direct supervisor of each employee (who is another employee).
- The database will keep track of the dependents of each employee for insurance purposes, including each dependent's first name, sex, birth date, and relationship to the employee.



Key attribute



Data Requirements - concisely written set of user requirements (they should include as much detail as possible)

Functional Requirements - user-defined operations that will be applied to our database (query data, update data, insert data, delete data)

Entity - independent existence, thing or object in the real world

Physical Existence - Car, Table, House, etc...

Conceptual Existence - Job, Database Design Course

Attributes - each entity has these. the characteristics or properties that describe entities (types and values).

- Composite attributes vs. Atomic or simple attributes.
- Single valued vs. Multi valued.
- Stored vs. Derived.

Key attributes

Complex attributes

Date - Day + Month + Year

Name - First Name + Middle Name + LastName

Address - Street + City + State + ZipCode

Date of Birth - Stored attribute, derived attribute - age.

NULL Values

- not applicable for a given entity
- don't know the value

attribute value exists but is missing
don't know if the attribute value exists

Complex Attributes

{Address_phone ({Phone(area_code, etc...), Address(city, etc..)}}