

Legal Management System

Group 1



ER Diagram

MC212: Database Management Systems

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1 | Noun Analysis

The Legal Management System is a big organized database. The Legal Management System aims to tackle various problems that can be faced by clients while seeking legal assistance. One can easily access the profiles of lawyers and hire them in a specified domain with the help of this project.

When anyone opens the site without getting logged in, they are by default a guest. A client can register a case.

A client is of three types: An individual, a company and the Government. A client can either hire an independent lawyer or hire a firm that further assigns the client an apt lawyer. A lawyer working under a firm could be either a Senior/Junior partner or an associate lawyer. The associate lawyers are also capable of taking up cases independently, in which case they act as independent lawyers. There also exists the role of the Managing Partner, who is in charge of the hiring process of new lawyers and managing work, sending objectives and tasks to the other people working under him. The hierarchy in our law firm further extends down to paralegals and trainees where they are assigned tasks and are associated with those cases. Independent lawyers can hire other independent lawyers, paralegals and trainees to work under them for a particular case. Judges evaluate the verdict of the case and can update the decision of a case. He can access all case-files. The firm also receives joining requests from the new lawyers.

At last, our database also includes the Bar Council, which consists of two separate departments which are the advocacy department and the administrative department. The advocacy department handles and answers all the queries. The queries could be of two types which are general queries and license requests. It also looks on the details of all the case files. The administrative department oversees the financial matters and has the access to cancel the licenses of the lawyers if they are found in violation of a law. The bar council supervises the activity of all the lawyers, judges and firms.



Table 1.1: Extracted Nouns and Verbs

Nouns	Verbs
site	opens
guest	getting
client	hires
individual	assigns
company	Working under
government	act
client	exists
Independent lawyer	managing
firm	hiring
lawyer	sending
firm	update
Senior/junior partner	work
Associate lawyer	extends
Associate lawyer	access
Cases	includes
independent lawyer	consists
process	handles
lawyer	answers
objectives	reviews
work	oversees
task	cancel
people	supervises
Law firm	assigned
paralegals	work
trainees	registers
tasks	evaluates
associates	looks on
Independent lawyers	receives
paralegals	joining
trainees	files
case	
judge	
case-files	
case	
database	
Bar council	
departments	
Advocacy department	
Administration department	
queries	
queries	
types	
General queries	
License requests	
lawyer	
Financial matters	
Bar council	
license	
law	
judges	
firm	
requests	
lawyers	



Table 1.2: Nouns and Verbs in E-R Model

Nouns	Verbs
queries client Lawyers under firm Independent lawyers firms/law firms Judges Bar Council paralegals trainees Managing partners Advocacy Department Administration Department tasks case Sr/Junior Lawyers Associate lawyer requests General queries License requests	hired Supervise manage register handles assigned evaluates Looks on oversee Works under associated sending receives files

Table 1.3: Rejected Verbs and Reasons

Rejected Verbs	Reason
opens	Irrelevant to the subject.
cancels	Irrelevant to the subject.
joining	Irrelevant to the subject.
act	Irrelevant to the subject.
extends	Irrelevant to the subject.
exist	Does not represent the relation.
consists	Does not represent the relation.
access	Does not represent the relation.
work	Does not represent the relation.
answers	Too vague and generic.
includes	Too vague and generic.
getting	Synonymous verbs are already used.
update	Synonymous verbs are already used.



Rejected Nouns	Reasons
site	Site is not an entity and it is too general.
individual	We merged this separate categories into a single entity called client.
company	We merged this separate categories into a single entity called client.
government	We merged this separate categories into a single entity called client.
guest	Guest doesn't have any attributes and hence is not an entity.
lawyer	Lawyer is specified and divided into two divisions.
objectives	Combined and referred to as tasks.
work	Combined and referred to as tasks.
people	It is too general and does not give a clear idea of what it refers to.
database	Irrelevant to the topic.
liscence	License doesn't have any attributes and hence is not an entity.
department	It's too general. It's further divided into two divisions.
Financial matters	A general term does not represent an entity.
law	It's not an entity as it doesn't have any attributes.
types	Too irrelevant and vague to be an entity.

Table 1.4: Rejected Nouns and Reasons

2 | ER Diagram Initial and Final Version

Initial ER Diagram with entities, attributes and relationships and Final ER Diagram with Mapping Cardinalities, Total/Partial Participation and Strong/weak entities are submitted in classroom as separate submissions.

3 | Description of ER Diagram

The ER diagram illustrates the relationships between various entities in a legal context.

3.1 | Entities and Relationships

- **Client:** Can be an individual, company, or the government.
- **Independent Lawyers:** Handle cases, receive joining requests, case requests, and assistance requests.
- **Lawyers under Firm:** Includes Senior/Junior partners, associate lawyers, and Managing Partner. They handle cases, receive joining requests, and manage tasks and assistance requests.
- **Paralegals and Trainees:** Send joining requests, case assistance requests, and are associated with cases.
- **Judges:** Evaluate cases and file queries.
- **Firm:** Can be hired by clients.
- **Case and Advocacy Department** are involved in various relationships and have their characteristics.
- **Administrative Department:** Supervises judges, independent lawyers, and lawyers under the firm.



3.2 | Strong and Weak Entities

- Strong entities with primary keys: **Case, Client, Independent Lawyers, Lawyers under Firm, Firm, Paralegals and Trainees, and Judges.**
- Weak entities with composite primary keys: **Queries, Tasks, and Requests.**

3.3 | Primary Keys

- **Client:** Unique ID.
- **Case:** Case ID.
- **Judges:** IDs.
- **Independent Lawyers:** IDs and email IDs.
- **Lawyers under Firm:** IDs and email IDs.
- **Paralegals and Trainees:** IDs.
- **Queries:** Composite primary key - query number, query from, and query to.
- **Tasks:** Composite primary key - task number, task from, and task to.
- **Requests:** Composite primary key - request number, request from, and request to.

3.4 | Relationship Types

- Many-to-One relationships:
 - Client hires independent lawyers.
 - Client hires firms.
- One-to-Many relationships:
 - Client registers a case.
 - Client files queries.
 - Client sends case requests to firms/independent lawyers.
 - Independent lawyers handle cases.
 - Independent lawyers receive case requests from clients.
 - Independent lawyers file queries.
 - Lawyers under firm handle cases.
 - Lawyers under firm can file queries.
 - Managing partner manages lawyers under the firm and paralegals/trainees in a firm.
 - Lawyers under the firm assign tasks to paralegals and trainees.
 - Associate lawyers are associated with the case.
 - Paralegals and trainees send joining requests to lawyers who are superior to them.
 - Paralegals and trainees can file queries.
 - Judges evaluate cases.
 - Judges file queries.
 - Advocacy department looks at queries received from all entities.
 - Advocacy department oversees cases.
 - Administrative department supervises judges, independent lawyers, lawyers under the firm.
- Many-to-Many relationships:
 - Independent lawyers receive requests regarding assistance from paralegals/trainees/associates who work under them.
 - Paralegals and trainees send case assistance requests to lawyers under whom they work.
 - Paralegals and trainees are associated with the case.