

THE MERCY MEDICAL MANAGEMENT

DATABASE DESIGN PROJECT

BY

SUMANTH MUDHAM

Entities

- Doctor
- License
- Disease
- Patient
- Insurance
- Hospital
- Treatment

Entities & Attributes

Doctor

- ID → PK
- Name
- State of Practice
- Address
- Phone
- School graduated from
- Year of graduation
- Specialty
- Consultation fee

Patient

- Number → PK
- Name
- SSN
- Date of birth

License

- State licensed in
- Date license given
- Date of revocation
- Date of suspension
- Date suspension removed

Insurance

- Identification number → PK
- Company name

Treatment

- Name

Disease

- Name → PK
- Symptoms
- Area of attack
- Extent (deadly/not)

Hospital

- Number → PK
- Name
- Rating
- Center of excellence
- Year of Excellence

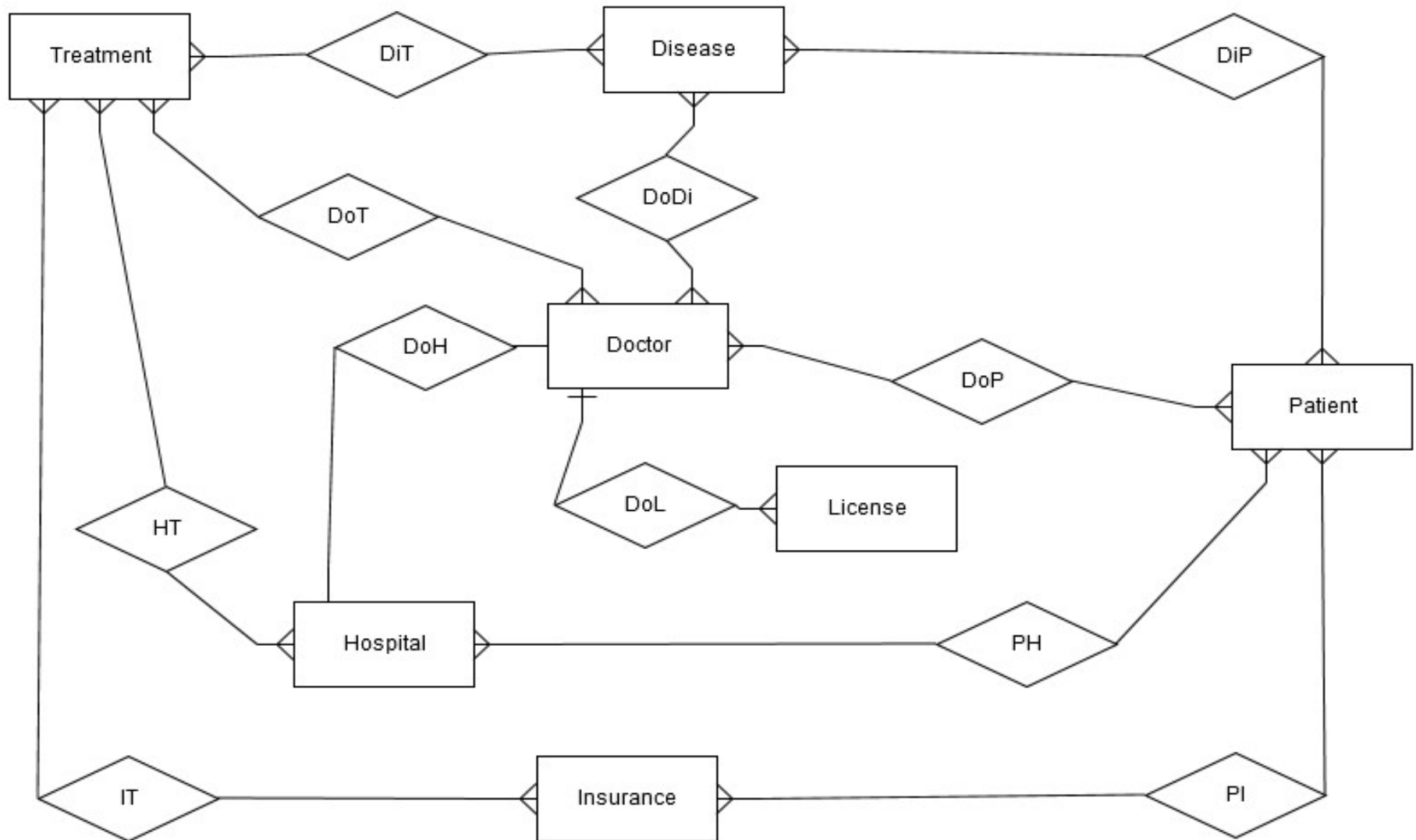
Relationships

Sl. No.	Entity Name	Entity Name	Relationship Name	Mapping	Relationship Data
1	Doctor	License	DoL	1:M	None
2	Doctor	Disease	DoDi	M:N	Doctor Rating, fee to treat disease
3	Doctor	Patient	DoP	M:N	Date of visit, disease seen, visit fee, treatment fee
4	Doctor	Hospital	DoH	M:N	Position, salary, started date
5	Doctor	Treatment	DoT	M:N	Treatment fee
6	Disease	Patient	DiP	M:N	None
7	Disease	Treatment	DiT	M:N	None

Relationships

Sl. No.	Entity Name	Entity Name	Relationship Name	Mapping	Relationship Data
8	Patient	Insurance	PI	M:N	Start date, premium, claim date, amount paid, paid date
9	Patient	Hospital	PH	M:N	Fee for visit, date of visit, date of treatment, fee for treatment, cost of treatment
10	Hospital	Treatment	HT	M:N	Treatment fee
11	Insurance	Treatment	IT	M:N	Fee paid per treatment

Entity Relationship Diagram



Transactions

Transaction Name and Description	Frequency	Entities Involved	Read/Write	Batch/Online
Doctors for specified disease	500 times per day	Doctor, Disease	Read	Online
Suspension record of particular doctor	200 times per day	Doctor, License	Read	Online
Change of treatment fee by doctor	600 fee changes per day	Doctor, Treatment	Write	Online
Record of patients go to new doctors	5000 per day	Doctor, Patient	Write	Online
Premium paid by each patient	Once a day	Patient, Insurance	Read	Online

Transactions

Transaction Name and Description	Frequency	Entities Involved	Read/Write	Batch/Online
Change of fee paid by insurance company for each treatment	Once a month	Insurance, Treatment	Write	Online
Change of cost of treatment by each hospital	50 times a month	Hospital, Treatment	Write	Online
Suspension/revocation of doctor	2-3 times a day	Doctor, License	Update	Online
Notice about changing insurance company by patients	3000 per day	Insurance, Patient	Read	Batch
Patients getting treatment	400,000 per day	Patient, Treatment	Write	Online

Transactions

Transaction Name and Description	Frequency	Entities Involved	Read/Write	Batch/Online
Payments made by insurance companies	12,000 per day	Insurance, Patient	Write	Online
Bills submitted by doctors and hospitals	370,000 per month	Insurance, Doctor, Hospital	Write	Online
Payment plan change by insurance company	5% change in each month	Insurance	Write	Batch
Complaint to insurance company	70,000 per month	Patient, Insurance	Write	Online
Which hospital is good for specific disease	200 calls per day	Patient, Hospital	Write	Online
Average patients getting discounts from hospital	100 patients per month	Hospital, Patient	Write	Batch

Physical Tables

Doctor

Doctor ID	Name	State of practice	Address	Phone	School of graduation
Year of graduation		Specialty	Consultation fee		

License

State licensed in	Date of license given	Date of revocation	Date of suspension	Date of suspension removed
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Treatment

TreatmentName

Disease

Name	Symptoms	Area of attack	Extent
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Patient

Number	SSN	Date of birth
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Insurance

Identification number	Company name
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Hospital

Number	Name	Rating	Center of excellence	Year of excellence
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Doctor_License

Doctor_ID	State licensed in	Date license given	Date of revocation	Date of suspension	Date of suspension removed
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Doctor_Disease

Doctor_ID	Disease name	Doctor Rating	Fee to treat disease
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Doctor_Patient

Doctor_ID	Patient number	Date of visit	Disease seen	Visit fee	Treatment fee
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Doctor_Hospital

Doctor_ID	Hospital Number	Position of doctor	Salary	Started date
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Doctor_Treatment

Doctor_ID	Treatment Name	Treatment fee
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Disease_Patient

Disease Name	Patient number
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Disease_Treatment

Disease Name	Treatment Name
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Patient_Insurance

Patient number	Insurance number	Start date	Premium	Claim date	Amount paid by company	Paid date
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Patient_Hospital

Patient number	Hospital number	Fee for visit	Date of visit	Date of treatment	Price charge for treatment	Cost of treatment
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Hospital_Treatment

Hospital number	Treatment name	Treatment fee
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Insurance_Treatment

Insurance number	Treatment name	Fee paid per treatment
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Thank You