

2CS505 Database Management System
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CASE FILE MANAGEMENT SYSTEM

~ For the Forensic Science Laboratory

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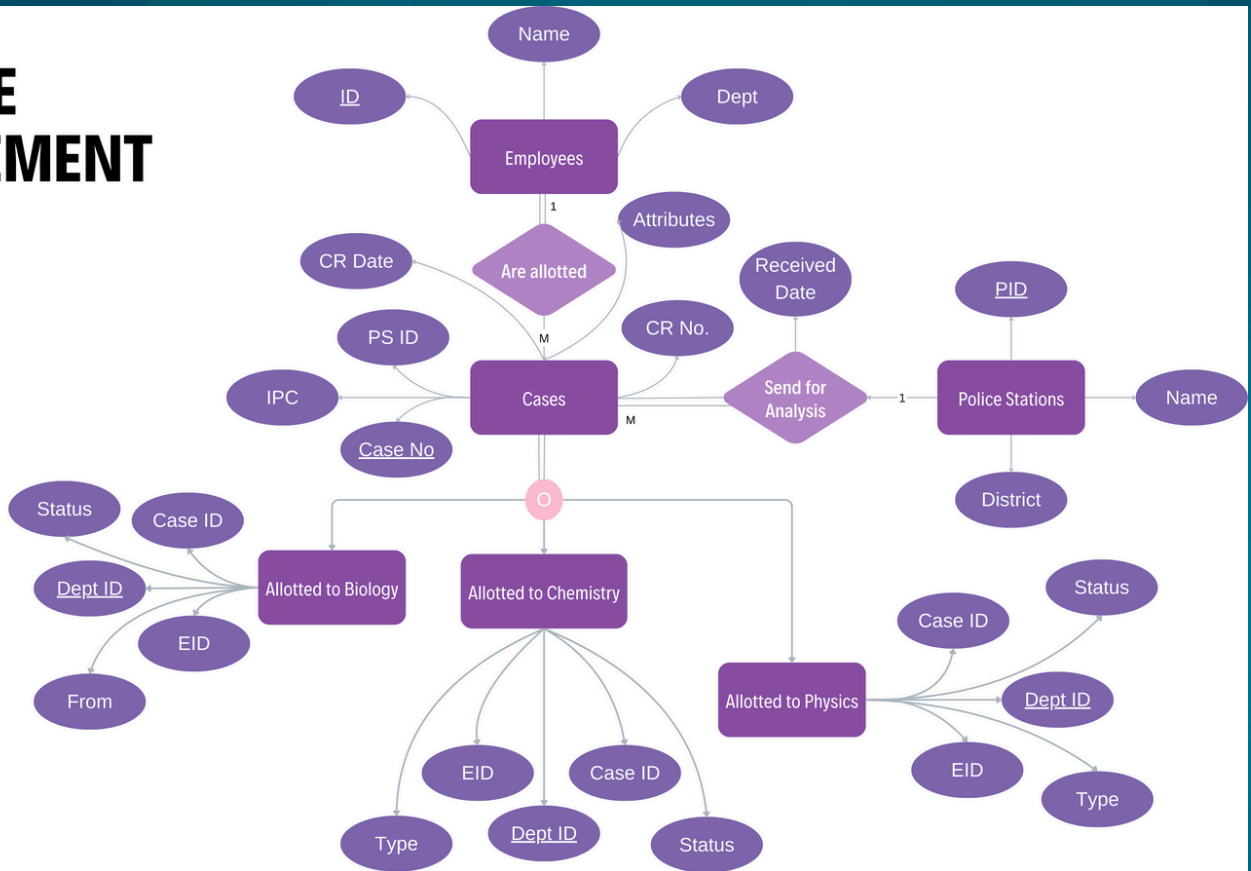
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Entity Relationship Diagram

CASE FILE MANAGEMENT SYSTEM



Cases_Master:

Case No int
 PS ID int
 IPC varchar(100)
 SO varchar(3)
 CR No. int
 Crime Date date
 Received_dt Date
 Attributes varchar(100)

Police_Stations:

PSID int
 Name varchar(100)
 District varchar(100)

Employees:

ID int
 Name varchar(100)
 Dept varchar(100)

Biology:

Case_ID int
Dept_ID int
 EID int
 From varchar(100)
 Status varchar(100)

Chemistry:

Case_ID int
Dept_ID int
 EID int
 From varchar(100)
 Status varchar(100)

Physics:

Case_ID int
Dept_ID int
 EID int
 From varchar(100)
 Status varchar(100)

Normalization

Table 1:
CASES_MASTER

Attributes: R(Case_No(A), PS_ID(B), IPC(C), SO(D) Cr_No(E), Cr_Dt, Rec_dt(F))
Functional Dependencies: $A \rightarrow BCDEF$

A is the Candidate Key

1NF: All attributes are atomic

2NF: Yes, because Candidate key is not Composite

3NF: Yes, because A is a key of the relation

BCNF: Yes, because A is a key of the relation

Table 2:
EMPLOYEES

Attributes: R(EID(A), Name(B), Department(C))
Functional Dependencies: $A \rightarrow BC$

A is the Candidate Key

1NF: All attributes are atomic

2NF: Yes, because Candidate key is not Composite

3NF: Yes, because A is a key of the relation

BCNF: Yes, because A is a key of the relation

Table 3:
POLICE_STATIONS

Attributes: R(PID(A), Name(B), District(C))
Functional Dependencies: $A \rightarrow BC$, $B \rightarrow AC$

A and B both are Candidate Keys

1NF: All attributes are atomic

2NF: Yes, because Candidate key are not Composite

3NF: Yes, because A is a key of the relation (for $A \rightarrow BC$) and B is key of relation (for $B \rightarrow AC$)

BCNF: Yes, because A is a key of the relation (for $A \rightarrow BC$) and B is key of relation (for $B \rightarrow AC$)

Table 4:
BIOLOGY

Attributes: R(Case_ID(A), Dept_ID(B), EID(C), From(D), Status(E))

Functional Dependencies: $A \rightarrow BCDE$, $B \rightarrow ACDE$

A and B both are Candidate Keys

1NF: All attributes are atomic

2NF: Yes, because Candidate keys are not Composite

3NF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

BCNF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

Table 5:
CHEMISTRY

Attributes: R(Case_ID(A), Dept_ID(B), EID(C), From(D), Status(E))

Functional Dependencies: $A \rightarrow BCDE$, $B \rightarrow ACDE$

A and B both are Candidate Keys

1NF: All attributes are atomic

2NF: Yes, because Candidate keys are not Composite

3NF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

BCNF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

Table 5:
PHYSICS

Attributes: R(Case_ID(A), Dept_ID(B), EID(C), From(D), Status(E))

Functional Dependencies: $A \rightarrow BCDE$, $B \rightarrow ACDE$

A and B both are Candidate Keys

1NF: All attributes are atomic

2NF: Yes, because Candidate keys are not Composite

3NF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

BCNF: Yes, because A is a key of the relation (for $A \rightarrow BCDE$) and B is key of relation (for $B \rightarrow ACDE$)

Features

The Project offers the following features:

- To view all cases allotted to a particular scientific officer
 - This is done by searching with the ID of an officers.
 - The IDs are alphabetical short forms of the employee names for easy remembrance.
- To view all cases of a particular department
 - Department can be selected using radio buttons.
- To search cases with specifications
 - Cases are assigned specifications such as murder, rape, theft etc.
 - Case details can be fetched using these attributes.
- To view status of a particular case
 - Searching can be done through Case_ID
 - In case a more generic view is needed, status of cases can be viewed on the basis of IPC sections.
- Receive new case
 - On entering relevant cases, the case is appended to the case_master table as well as the selected department table.
 - In the department, the case is allotted to an officer in round robin fashion.
 - Master case number and department case number are created automatically on the basis of the last known numbers.
- Forward case from one department to another
 - On choosing the source and destination department, the case is appended to the table of the destination and its status is marked as forwarded in the source table.
 - The department attribute of the master table is updated.
 - In the department, the case is allotted to an officer in round robin fashion.
 - Department case number is created automatically on the basis of the last known numbers.
- To view all cases under a particular IPC section
 - Searching can be done by entering the IPC section
- To view all cases under a particular Police station
 - Searching can be done by entering the police station ID, Name or District
- To view all Completed or Pending cases
 - This feature displays all details of cases with the selected status

THANK YOU