University
Mohammed VI
Polytechnic

College of Computing

Deliverable # 2: Relational Schema for the MNHS

Data Management Course

UM6P College of Computing

Professor: Karima Echihabi **Program:** Computer Engineering

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Repository Link	https://github.com/therealzaini/DMG_LAB2_LEO_FL_BERNABEU

1 Part 1

1. Staff

- Primary Key: Staff_Id
- Attributes: name, statue

2. Practionners

- Primary Key: Staff_id
- Attributes: specialty, license_number

3. Caregiving

- Primary Key: Staff_id
- Attributes: ward, grade

4. Technical

- Primary Key: Staff_id
- Attributes: modality, certification

5. Hospital

- Primary Key: HID
- Attributes: name, city, region

6. Dept

- Primary Key: DEP_ID
- Attributes: name, speciality, HID

7. Work_in

- Primary Key: (Staff_id, Dep_id)
- Attributes: Staff_id, Dep_id

We did a composite key because this is a many to many relationship between staff and departement and also that s why the primary key is a tupple of both their primary keys respectively.

8. Medication

- Primary Key: Drug_id
- Attributes: Class, name, form, strength, active_ingredient, manufacturer

9. Stock

- Primary Key: (HID, Drug_id)
- Attributes: HID, Drug_id, Unit_Price, qty, stock_timestamp, reorder_level

We did a composite key because this is a many to many relationship between HID and medication and also that s why the primary key is a tupple of both their primary keys respectively.

10. Prescription

- Primary Key: PID
- Attributes: DateIssued, CAID

11. Include

- Primary Key: (PID, Drug_id)
- Attributes: PID, Drug_id, Dosage, Duration

We did a composite key because this is a many to many relationship between prescription and medication and also that s why the primary key is a tupple of both their primary keys respectively.

12. Patient

- Primary Key: IID
- Attributes: CIN, name, sex, birth_date, blood_group, Phone

13. Contact_Location
- Primary Key: CLID
- Attributes: city, province, street, Number, Postal_Code, Phone

14. Have
- Primary Key: (CLID, IID)
- Attributes: CLID, IID

We did a composite key because this is a many to many relationship between contact location and patient and also that s why the primary key is a tupple of both their primary keys respectively.

15. Insurance
- Primary Key: InsID
- Attributes: Type

16. Covers
- Primary Key: (InsID, IID)
- Attributes: InsID, IID

We did a composite key because this is a many to many relationship between insurance and patient and also that s why the priamry key is a tupple of both their primary keys respectively.

17. Expense
- Primary Key: ExId
- Attributes: Total, InsID, CAID

18. Clinical_activity
- Primary Key: CAID
- Attributes: Time, Date, Dep_id, Staff_id, IID, ExId, PID

19. Appointment
- Primary Key: CAID
- Attributes: Reason, Statues

20. Emergency
- Primary Key: CAID
- Attributes: triage_level, outcome

2 Part 2

Foreign Keys:

- FOREIGN KEY “Staff_id” in “Practitioners” Table, referencing Primary key “Staff_Id” in “Staff” Table
- FOREIGN KEY “Staff_id” in “Caregiving” Table, referencing Primary key “Staff_Id” in “Staff” Table
- FOREIGN KEY “Staff_id” in “technical” Table, referencing Primary key “Staff_Id” in “Staff” Table
- FOREIGN KEY “HID” in “dept” Table, referencing Primary key “HID” in “hospital” Table
- FOREIGN KEY “Staff_id” in “Work_in” Table, referencing Primary key “Staff_Id” in “Staff” Table
- FOREIGN KEY “dep_id” in “Work_in” Table, referencing Primary key “dep_id” in “dept” Table
- FOREIGN KEY “HID” in “stock” Table, referencing Primary key “HID” in “hospital” Table
- FOREIGN KEY “Drug_id” in “stock” Table, referencing Primary key “Drug_id” in “medication” Table
- FOREIGN KEY “PID” in “Include” Table, referencing Primary key “PID” in “Prescription” Table
- FOREIGN KEY “Drug_id” in “Include” Table, referencing Primary key “Drug_id” in “medication” Table

• FOREIGN KEY “IID” in “Have” Table, referencing Primary key “IID” in “Patient” Table
• FOREIGN KEY “CLID” in “Have” Table, referencing Primary key “CLID” in “Contact_Location” Table
• FOREIGN KEY “IID” in “Covers” Table, referencing Primary key “IID” in “Patient” Table
• FOREIGN KEY “InsID” in “Covers” Table, referencing Primary key “InsID” in “Insurance” Table
• FOREIGN KEY “InsID” in “Expense” Table, referencing Primary key “InsID” in “Insurance” Table
• FOREIGN KEY “PID” in “Clinical_activity” Table, referencing Primary key “PID” in “Prescription” Table
• FOREIGN KEY “ExId” in “Clinical_activity” Table, referencing Primary key “ExId” in “Expense” Table
• FOREIGN KEY “IID” in “Clinical_activity” Table, referencing Primary key “IID” in “Patient” Table
• FOREIGN KEY “Dep_id” in “Clinical_activity” Table, referencing Primary key “Dep_id” in “dept” Table
• FOREIGN KEY “Staff_id” in “Clinical_activity” Table, referencing Primary key “Staff_id” in “Staff” Table
• FOREIGN KEY “CAID” in “appointment” Table, referencing Primary key “CAID” in “Clinical_activity” Table
• FOREIGN KEY “CAID” in “Emergency” Table, referencing Primary key “CAID” in “Clinical_activity” Table
• FOREIGN KEY “CAID” in “Prescription” Table, referencing Primary key “CAID” in “Clinical_activity” Table
• FOREIGN KEY “CAID” in “Expense” Table, referencing Primary key “CAID” in “Clinical_activity” Table

Participations:

- The participation of Staff in Work_in relationship is total.
- The participation of Department in belongs relationship is total.
- The participation of Clinical activitiy in generates relationship is total.
- The participation of Clinical activitiy in has relationship is total.
- The participation of Clinical activitiy in linked relationship is total.
- The participation of Clinical activitiy in occrus relationship is total.
- The participation of Prescription in generate relationship is total.
- The participation of Expense in generates relationship is total.

Domain Checks:

ContactLocation:
• CLID: VARCHAR(50)
• City: VARCHAR(20)
• Province: VARCHAR(50)
• Street: INT
• contact_number: INT
• Postal_code: VARCHAR(30)
• contact_Phone: VARCHAR(20)

Insurance:
• InsID: VARCHAR(100)
• Type_Ins: VARCHAR(100)

Patient:
• IID: VARCHAR(20), PRIMARY KEY, NOT NULL
• CTN: VARCHAR(100), NOT NULL
• pa_name: VARCHAR(100), NOT NULL
• Birth: DATE
• Sex: VARCHAR(10)

- BloodGroup: VARCHAR(5)
- Phone: VARCHAR(20)

Hospital:
- HID: VARCHAR(100)
- Name_H: VARCHAR(100)
- City: VARCHAR(100)
- Region: VARCHAR(100)

Department:
- DEP_ID: VARCHAR(100) NOT NULL
- Name_Dep: VARCHAR(100)
- Specialty: VARCHAR(100)
- HID: VARCHAR(100)

Staff:
- Staff_ID: VARCHAR(20), PRIMARY KEY, NOT NULL
- Staff_Name: VARCHAR(100), NOT NULL
- Staff_Status: VARCHAR(100)

Caregiving (is-a Staff):
- Staff_ID: VARCHAR(20)
- Grade: INT
- Ward: VARCHAR(100)

Technical (is-a Staff):
- Staff_ID: VARCHAR(20)
- Modality: VARCHAR(100)
- Certifications: VARCHAR(100)

Practitioner (is-a Staff):
- Staff_ID: VARCHAR(20), PRIMARY KEY
- Specialty: VARCHAR(100), NOT NULL
- LicenseNumber: INT

ClinicalActivity:
- CAID: VARCHAR(100)
- activity_time: TIME
- activity_date: DATE
- generates_expense: VARCHAR(100)
- generate_prescription: VARCHAR(100)
- DEP_ID: VARCHAR(100)
- Staff_ID: VARCHAR(20)
- IID: VARCHAR(20)

Prescription:
- PID: VARCHAR(100)
- DateIssued: DATE

Expense:
- ExID: VARCHAR(100)
- Total: VARCHAR(100)
- InsID: VARCHAR(100)

Medication:
- Drug_ID: VARCHAR(100)
- Class: VARCHAR(100)
- Med_Name: VARCHAR(100)

- Form: VARCHAR(100)
- Strength: VARCHAR(100)
- Manufacturer: CHAR(100)
- Active_inpredient: VARCHAR(100)

Relationship Tables

Have (Patient-ContactLocation):
- CLID: VARCHAR(100)
- IID: VARCHAR(100)

Covers (Patient-Insurance):
- IID: VARCHAR (same as in original tables)
- InsID: VARCHAR (same as in original tables)

Work_In (Staff-Department):
- Staff_ID: VARCHAR(20)
- DEP_ID: VARCHAR(100)

Stock (Hospital-Medication):
- Drug_ID: VARCHAR(100)
- HID: VARCHAR(100)
- Unit_Price: INT
- Stock_Timestamp: INT
- Qty: INT
- Reorder_level: VARCHAR(100)

include (Prescription-Medication):
- PID: VARCHAR(100)
- Drug_ID: VARCHAR(100)
- duration: INT
- Dosage: VARCHAR(100)

3 Part 3

See the implementation.sql file.