



VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

DBMS PROJECT:

Smart Healthcare System



TEAM MEMBERS:

-Anmol Pant (18BCE0283)

-Archit Aggarwal (18BCE0724)

ABSTRACT

Smart Healthcare System is a website wherein a user i.e. the patient is assigned a unique patient id that helps access all their records after logging in via their full name and email id. Similarly doctors are assigned a unique doctor id by which their information can be stored in the database.

MySQLi is the database that will be implemented in this project, using this software and PHP as the backend language by creating a server via WampServer, all the database and related records of the doctors, patients, hospitals, medication, etc. can be stored.

The database has two views that can be classified into:

Patient centric- having billing details, medication details, test reports, visit details etc.

Doctor centric- having hospital details, doctors details, etc.

The tables are interconnected by using patient and doctor ids and the same are used to assign a particular doctor to a patient.

Requirements of the Problem

None of us are alien to the fact that Healthcare is one of the most crucial sectors consisting of a vast number of companies that provide medical services, manufacture medical equipment, provide insurance, etc.

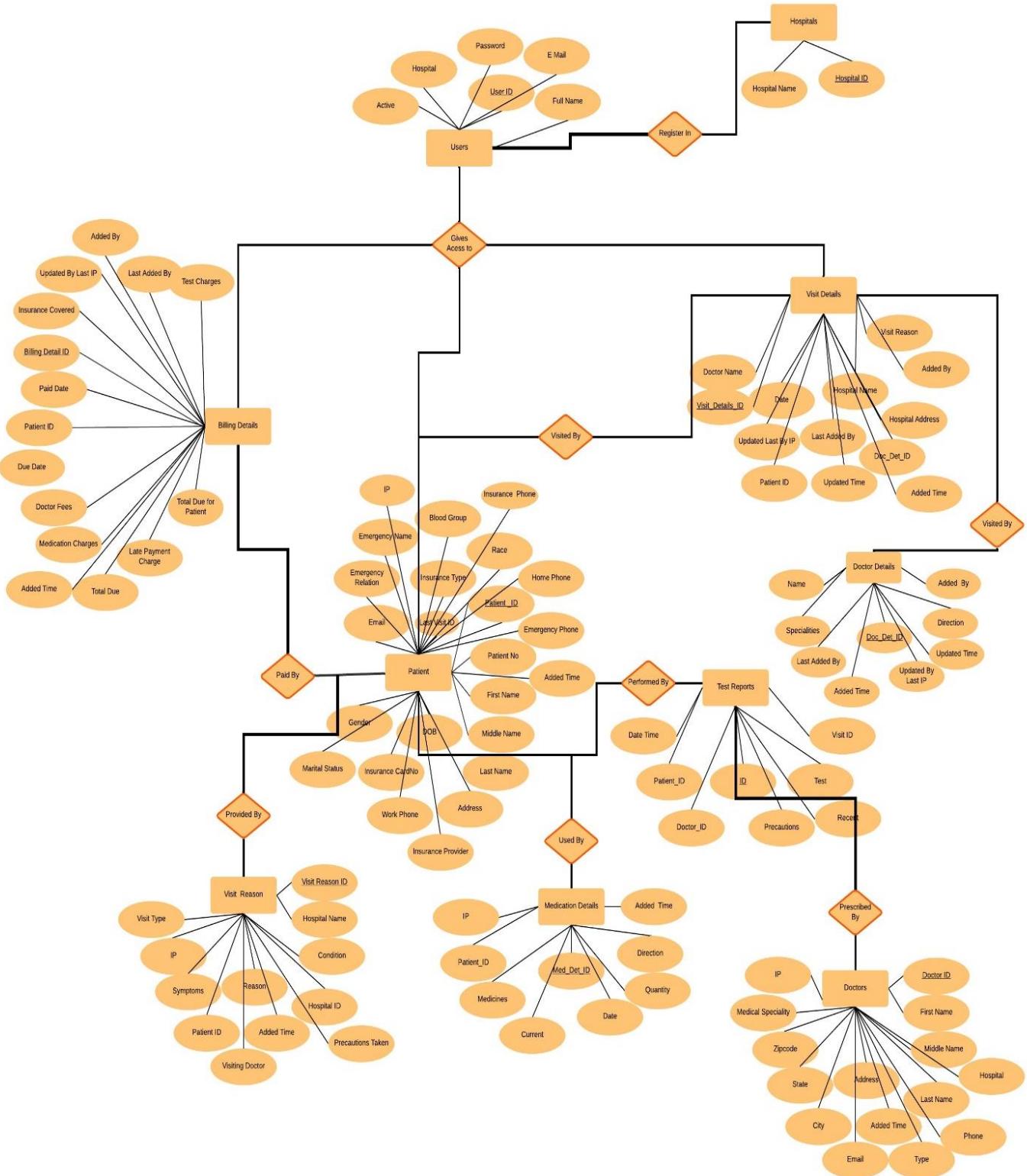
Digitization of healthcare is driving the need for systems that help keep track of and organize such huge amounts of personal data. The following project is a small scale attempt to implement a database storing all the information of the patients and doctors from different hospitals.

The requirements of the application are:

1. Patient name
2. Email and password (for login purposes)
3. Patient Details
4. Reason of Visit
5. Hospital Names
6. Doctor's Details
7. Tests being prescribed
8. Medication Details
9. Visiting details/reasons
10. Billing Details

The above requirements (amongst others) can be summed up with the help of an ER diagram given below

ER MODEL



DATABASE MANAGEMENT SYSTEMS (DBMS)

Faculty: Geetha Mary A.

Members: Anmol Pant (18BCE0283), Archit Aggarwal (18BCE0724)

Slot: D1

Review - 2

The schema diagram is a visual representation of all the tables present in the database and their interconnectivity via keys and joins.

The above ER DIAGRAM was converted into a Relational Model and is depicted by the means of a SCHEMA DIAGRAM that follows.

Each table represents a relation within the database with subsequent columns representing the respective attributes.

The **primary key** in each and every relation is represented via an underline and the **foreign keys** that reference the other tables in the database, have been represented via arrows.

PATIENTS

| <u>patient - id</u> | patient no. | first Name | Middle Name | Last Name | emergency name | emergency Relation | emergency phone | Blood-group | sex | gender |
|---------------------|-------------|------------|-------------|-----------|--------------------|--------------------|--------------------|-----------------|-----|--------|
| medical status | DOB | address | phone | email | Insurance provider | Insurance type | insurance card no. | insurance phone | | |

DOCTORS

| <u>doc - id</u> | first - name | last Name | phone | email | address | city | state | zip code | medical specialty | Hospital | type |
|-----------------|--------------|-----------|-------|-------|---------|------|-------|----------|-------------------|----------|------|
| | | | | | | | | | | | |

DOCTOR-DETAILS

| <u>doc-det - id</u> | name | specializing | |
|---------------------|------|--------------|--|
| | | | |

MEDICATION-DETAILS

| <u>med-det - id</u> | patient - id | medicine | date | quantity | direction |
|---------------------|--------------|----------|------|----------|-----------|
| | | | | | |

TEST REPORTS

| <u>id</u> | test | date time | visit - id | prescription | doctor - id | patient - id |
|-----------|------|-----------|------------|--------------|-------------|--------------|
| | | | | | | |

USER

| <u>user - id</u> | full name | password | Email | Hospital |
|------------------|-----------|----------|-------|----------|
| | | | | |

VISIT-DETAILS

| <u>visit - details id</u> | patient - id | doc-det - id | Date | Hospital - name | Hospital - add. | doctor - name | visit - reason |
|---------------------------|--------------|--------------|------|-----------------|-----------------|---------------|----------------|
| | | | | | | | |

VISIT-REASON

| <u>visit - reason id</u> | patient - id | Hospital - id | Reason | Symptoms | Condition | visit type | private doctor | private |
|--------------------------|--------------|---------------|--------|----------|-----------|------------|----------------|---------|
| | | | | | | | | |

BILLING-DETAILS

| <u>Billing - det - id</u> | patient id | doctor fee | Medication charge | Total charge | Total due | Total paid | Due date | Paid date |
|---------------------------|------------|------------|-------------------|--------------|-----------|------------|----------|-----------|
| | | | | | | | | |

HOSPITALS

| <u>Hospital - id</u> | Hospital - name |
|----------------------|-----------------|
| | |

DATABASE MANAGEMENT SYSTEMS (DBMS)

Faculty: Geetha Mary A.

Members: Anmol Pant (18BCE0283)

Archit Aggarwal (18BCE0724)

Slot: D1

Review - 3

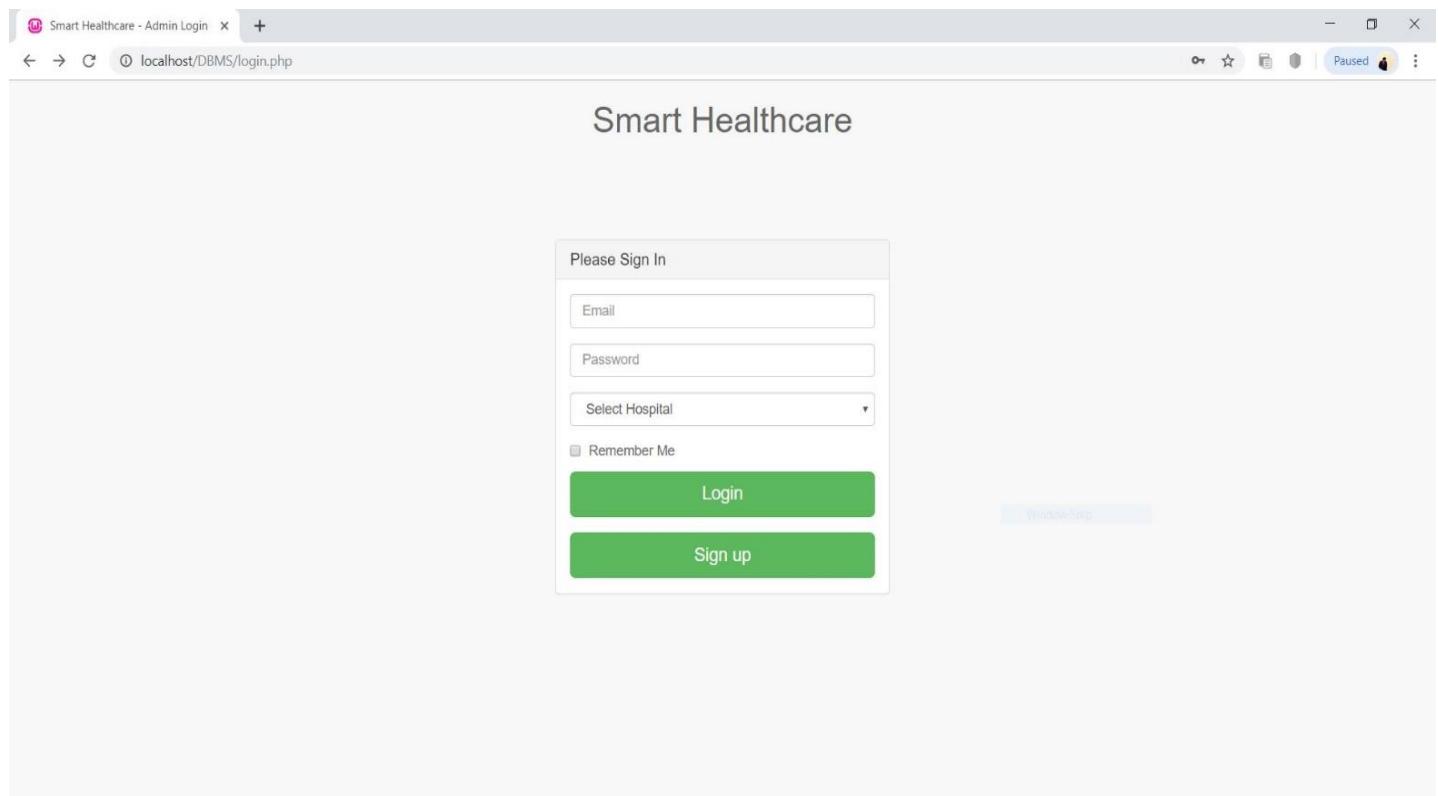
The following is the final review of our project for the course – ‘Database and Management Systems’. The title of our project is **Smart Healthcare System**, and it attempts to find a middle ground between daily life and database concepts learned throughout the duration of this course.

The database features a total of 10 tables, most of which being tables storing information that is not directly accessible to the user, ie. Buffer data, to add more functionality to the frontend.

The user creates a session by logging in with an email and setting up a password and selecting a hospital from the

dropdown menu that draws its entries from a hospital table that exists in the database.

Frontend Screenshots



Initial login page

The user can sign up after which their details are stored in the 'user' table.

The user can also login to their existing session if they've already signed up before.

Smart Healthcare - Admin Login × +

localhost/DBMS/login.php

Paused

Smart Healthcare

Full Name
Anmol Pant

Email Address
anmolpant@gmail.com

Password

Hospital

Select Hospital

- Select Hospital
- Kaiser Permanente
- California Hospital Medical Center
- Valley Care Medical Center
- Century City Hospital
- Kentfield Rehabilitation Hospital
- Memorial Hermann
- AO Fox Memorial Hospital
- UHS Binghamton General Hospital
- New York Methodist Hospital
- St Peters Hospital
- St Marys Hospital
- St Joseph Hospital

Type here to search

11:21 03-11-2019

Initial login page (with filled entries)

Smart Healthcare - Admin Login × +

localhost/DBMS/index.php

Paused

Welcome to Smart Healthcare

Doctors List Add New Patient

Scan Healthcare Card...

[Close Patient File](#)

[Patient Details](#)

[Hospital Visits](#)

[Medications](#)

[Medical Tests & Reports](#)

[Hospital](#)

[California Hospital Medical Center](#)



Homepage

After logging in, the user is directed to the homepage, from where one can **add patients, access hospital and medication details, logout**, etc. Screenshot of the same is attached above.

Adding a new patient to the database

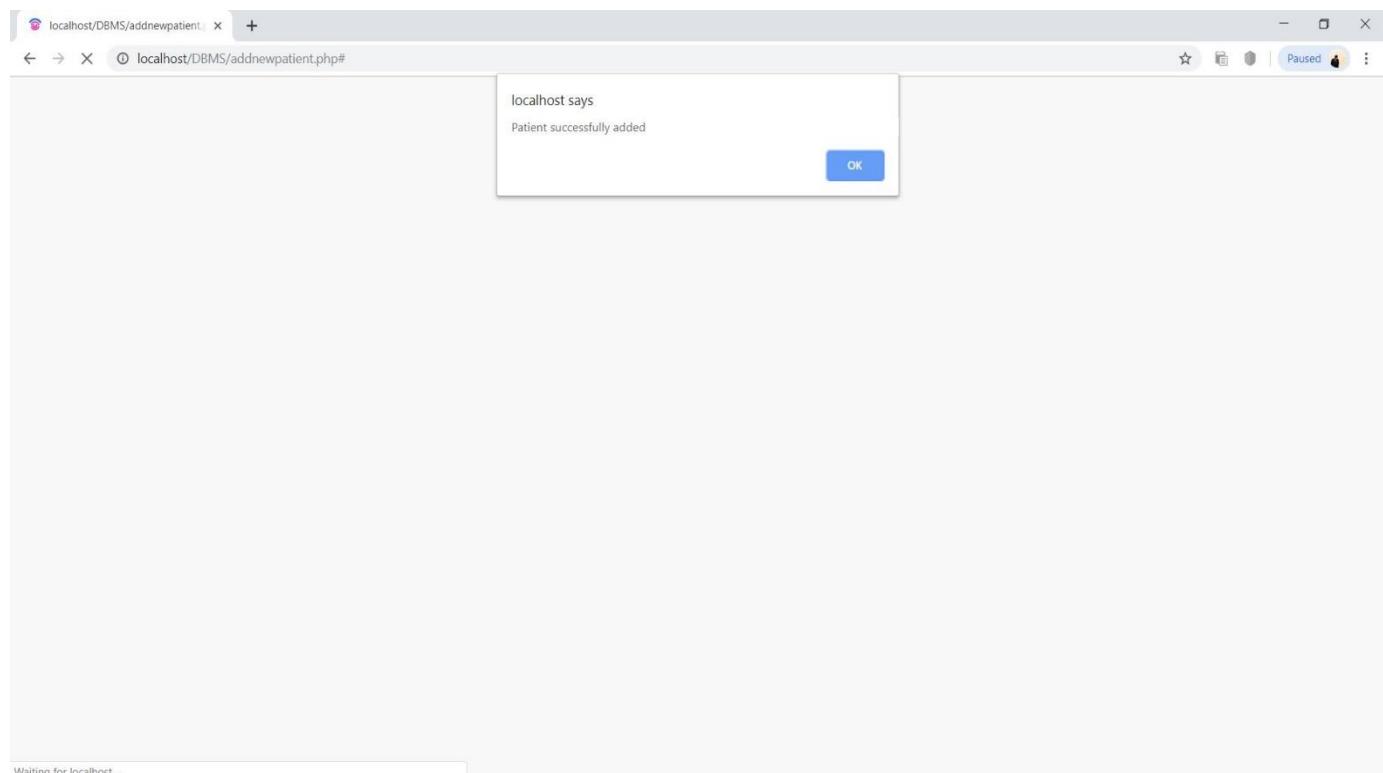
To add a new patient to the ‘Patients’ table, the user has to fill a form containing all the necessary patient details.

The screenshot shows a web browser window titled "Smart Healthcare - Admin Login". The URL is "localhost/DBMS/addnewpatient.php". The page header includes "Smart Healthcare v7.0", a search bar, and buttons for "Doctors List", "Add New Patient", and a user profile icon. On the left, there's a sidebar with links: "Patient Details", "Hospital Visits", "Medications", "Medical Tests & Reports", and "Hospital" (selected). The main content area is titled "New Patient" and contains a "Personal Details" section with fields for First Name, Middle Name, Last Name, Emergency Contact Name, Emergency Contact Number, Emergency Contact Relation, Blood Group, Race, Gender, Date of Birth, Marital Status, Address, Home Phone, Work Phone, Email Address, Insurance Provider, Insurance Type, Insurance Card No, and Insurance Contact. At the bottom are "Add Patient" and "Reset" buttons.

Add New Patient Form

The screenshot shows the 'Smart Healthcare - Admin Login' interface. On the left, there's a sidebar with links: 'Patient Details', 'Hospital Visits', 'Medications', 'Medical Tests & Reports', 'Hospital', and 'California Hospital Medical Center'. The main area is titled 'New Patient' and contains a form for personal details. The fields include: First Name (Archit), Middle Name (empty), Last Name (Aggarwal); Emergency Contact Name (Anmol), Emergency Contact Number (98688846722), Emergency Contact Relation (Friend); Blood Group (A+), Race (Asian), Gender (Male); Date of Birth (21/03/2000), Marital Status (Single); Address (C-84, PLOT NO. 11, ASHIRWAD APARTMENT, SECTOR 12, DWARKA); Home Phone (01145563990), Work Phone (9910643282), Email Address (architaggarwal21@gmail.com); Insurance Provider (ICICI Bank), Insurance Type (Life), Insurance Card No (AS151211SE), Insurance Contact (9910043282). At the bottom are 'Add Patient' and 'Reset' buttons.

Add New Patient Form (filled)



alert thrown post the successful addition of a new patient

| patient_id | patientno | firstName | middleName | lastName | emergencyName | emergencyPhone | emergencyRelation | blood_group | race | gender | dob | marital_status | address | home_phone | work_phone | email | InsuranceProvider |
|------------|-----------|-----------|------------|----------|-----------------|----------------|--------------------|-------------|---------------------------|--------|------------|----------------|--|--------------|--------------|----------------------------|---------------------|
| 1 | 123059457 | Pragnesh | G | Patel | Tania | 000-000-0000 | Mother | A+ | Asian | Male | 1993-1-8 | Single | 1035 Southern Artery | 600-300-8000 | 800-000-0000 | p@gmail.com | ISO |
| 2 | 267168921 | Pragnesh | G | Patel | Garry | 000-000-0000 | Friend | A+ | White | Female | 1973-8-17 | Married | 1035 Southern Artery | 130-550-5500 | 000-000-0000 | p@gmail.com | NY Insurance |
| 3 | 862168920 | Brian | K | Philips | Elizabeth Yard | 5103688425 | Wife | A+ | White | Male | 1970-2-30 | Married | 1035 Northern Artery | 278-589-8969 | 278-589-8969 | brian_p@gmail.com | Kaiser Permanente |
| 4 | 801123456 | Ken | J | Adams | Brian Adams | 9002149000 | Brother | A+ | White | Male | 1988-11-27 | Single | 1321 Alameda St,Alameda, CA 94501 | 5103988596 | 5103988596 | kenadams@gmail.com | United Health Care |
| 5 | 879100990 | Samuel | L | Jackson | Kevin L Jackson | 510-388-4120 | Son | O- | Black or African American | Male | 1980-5-10 | Married | 2002 Kings Street, Hollywood, CA 90210 | 600-200-2800 | 600-200-2800 | sijackson@hotmail.com | United Health Care |
| 6 | 828787707 | Kevin | | Spacey | Michael Kelly | 100-200-3000 | Personal Assistant | AB+ | White | Male | 1959-7-24 | Single | Hollywood Plaza, Beverly Hills CA, 90210 | 200-380-7000 | 200-380-7000 | kevinspacey@gmail.com | Hollywood Insurance |
| 7 | 628056810 | Anant | | Govil | Archit | 9910643282 | Friend | B+ | Black or African American | Male | 01/09/2000 | Divorced | Delhi Jamuna Pur | 011345678 | 688768877 | anantgovil@hotmail.com | BOB |
| 8 | 267805750 | Pratyush | | Rohilla | Archit | 7e87987988 | Father | AB+ | White | Other | 28/08/2000 | Widowed | Pillar ke neechhe | 7987989 | 7987080 | pratyushrohilla@gmail.com | BOB |
| 9 | 308834635 | Archit | | Aggarwal | Arnol | 98688846722 | Friend | A+ | Asian | Male | 21/03/2000 | Single | C-84, PLOT NO. 11, ASHIRWAD APARTMENT, SECTOR 12,... | 01145563990 | 9910643282 | archilaggarwal21@gmail.com | ICICI Bank |

New patient successfully added to 'Patients' table

Insertion Operation

The screenshot shows a web-based administrative interface for a healthcare system. The main title is "Smart Healthcare - Admin Login". On the left, there is a sidebar with several tabs: "Patient Details", "Hospital Visits", "Medications" (which is highlighted with a red box), "Medical Tests & Reports", and "Hospital" (with a sub-item "California Hospital Medical Center"). The main content area is titled "Medications" and contains a table titled "Current Medicines". The table has columns for "Date", "Medicine", "Quantity", "Directions", and "Actions". Six rows of medication data are listed:

| Date | Medicine | Quantity | Directions | Actions |
|---------------------|----------------|----------|-------------------------|---------|
| 2016-05-03 14:59:13 | Crocin | 2 | Morning | |
| 2016-05-07 08:34:07 | Influenza | 2 | Morning, Evening, Night | |
| 2016-05-07 08:17:20 | Brufen Tablets | 1 | Morning, Evening | |
| 2016-05-06 18:48:18 | Panadol | 2 | Morning, Evening | |
| 2016-05-03 16:01:19 | Xanax | 1 | Night | |
| 2016-05-03 14:59:13 | Brufen Tablets | 2 | Morning | |

The above screenshot shows the 'medications' table that can be accessed via the highlighted tab, on which the insertion operation is going to be performed.

phpMyAdmin

Current server: MySQL

Recent Favorites

- New
- capstone
 - New
 - New
 - billing_details
 - doctors
 - doctors_details
 - hospitals
 - medication_details
 - patients

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Run SQL query/queries on table capstone.medication_details:

```
1 INSERT INTO `medication_details` ('med_det_id', 'patient_id', 'medicines', 'date', 'quantity', 'direction', 'added_time', 'ip', 'current') VALUES (10, 4, 'Avomine Tablets', '2019-11-03 00:00:00', '2', 'Morning', '2019-11-03 22:42:43', '::1', '0')
```

SELECT SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Insertion command execution

phpMyAdmin

Current server: MySQL

Recent Favorites

- New
- capstone
 - New

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Show query box

1 row inserted. (Query took 0.3693 seconds.)

```
INSERT INTO `medication_details` ('med_det_id', 'patient_id', 'medicines', 'date', 'quantity', 'direction', 'added_time', 'ip', 'current') VALUES (10, 4, 'Avomine Tablets', '2019-11-03 00:00:00', '2', 'Morning', '2019-11-03 22:42:43', '::1', '0')
```

[Edit inline] [Edit] [Create PHP code]

localhost / MySQL / capstone / Smart Healthcare - Admin Login

Medications

Patient Details Hospital Visits Medications Medical Tests & Reports Hospital California Hospital Medical Center

| Date | Medicine | Quantity | Directions | Actions |
|---------------------|-----------------|----------|-------------------------|---------|
| 2019-11-03 22:42:43 | Avomine Tablets | 2 | Morning | |
| 2016-05-03 14:59:13 | Crocin | 2 | Morning | |
| 2016-05-07 08:34:07 | Influenza | 2 | Morning, Evening, Night | |
| 2016-05-07 08:17:20 | Brufen Tablets | 1 | Morning, Evening | |
| 2016-05-06 18:48:18 | Panadol | 2 | Morning, Evening | |
| 2016-05-03 16:01:19 | Xanax | 1 | Night | |
| 2016-05-03 14:59:13 | Brufen Tablets | 2 | Morning | |

New entry successfully inserted into the 'Medications' table

phpMyAdmin

Current server: MySQL

Recent Favorites

- New
- capstone
 - New
 - New
 - billing_details
 - doctors
 - doctors_details
 - hospitals
 - medication_details
 - patients
 - testreports
 - users
 - visit_details
 - visit_reason
- information_schema
- mysql

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Showing rows 0 - 6 (7 total, Query took 0.0006 seconds.)

SELECT * FROM `medication_details`

Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

| + Options | med_det_id | patient_id | medicines | date | quantity | direction | added_time | ip | current |
|--------------------|------------|------------|-----------------|---------------------|----------|-------------------------|---------------------|-----------|---------|
| Edit Copy Delete | 1 | 1 | Brufen Tablets | 0000-00-00 00:00:00 | 2 | Morning | 2016-05-03 14:59:13 | ::1 | 0 |
| Edit Copy Delete | 2 | 2 | Xanax | 0000-00-00 00:00:00 | 1 | Night | 2016-05-03 16:01:19 | ::1 | 1 |
| Edit Copy Delete | 4 | 1 | Panadol | 0000-00-00 00:00:00 | 2 | Morning, Evening | 2016-05-06 18:48:18 | 127.0.0.1 | 1 |
| Edit Copy Delete | 7 | 3 | Brufen Tablets | 0000-00-00 00:00:00 | 1 | Morning, Evening | 2016-05-07 08:17:20 | 127.0.0.1 | 0 |
| Edit Copy Delete | 8 | 3 | Influenza | NULL | 2 | Morning, Evening, Night | 2016-05-07 08:34:07 | 127.0.0.1 | 0 |
| Edit Copy Delete | 9 | 7 | Crocin | 2019-11-03 00:00:00 | 2 | Morning | 2016-05-03 14:59:13 | ::1 | 0 |
| Edit Copy Delete | 10 | 4 | Avomine Tablets | 2019-11-03 00:00:00 | 2 | Morning | 2019-11-03 22:42:43 | ::1 | 0 |

Update Operation

The screenshot shows a web-based healthcare management system. At the top, there are several browser tabs: 'localhost / MySQL / capstone / v', 'Smart Healthcare - Admin Login', 'Vellore Institute of Technology', and 'FALLSEM2019-20_CSE2004_EPJ...'. The main content area is titled 'Hospital Visits' and contains a table labeled 'Visit History'. The table has columns: '#', 'Date', 'Hospital', 'Doctor', 'Reason', and 'Actions'. A red box highlights the row where visit_id=15, which corresponds to the entry: Date 2019-11-03, Hospital California Hospital Medical Center, Doctor Dr. Galendar Singh, Reason X-Ray Test. The 'Actions' column for this row contains three icons: a magnifying glass, a pencil, and a trash can.

| # | Date | Hospital | Doctor | Reason | Actions |
|----|---------------------|------------------------------------|--------------------|------------------|---------|
| 15 | 2019-11-03 22:54:27 | California Hospital Medical Center | Dr. Galendar Singh | X-Ray Test | |
| 13 | 2016-05-07 10:46:21 | Kaiser Permanente | Dr. Regina Felangi | Weekly Check up | |
| 12 | 2016-05-07 10:27:58 | Kaiser Permanente | Dr. Sarmad Asif | Annual Checkup | |
| 11 | 2016-05-07 10:22:00 | Kaiser Permanente | Dr. Regina Felangi | Regular Checkup | |
| 10 | 2016-05-07 08:04:59 | Kaiser Permanente | Dr. Regina Felangi | Nausea, Vomiting | |
| 7 | 2016-05-07 05:30:10 | New York Methodist Hospital | Dr. Galendar Singh | Cough, Flu | |
| 6 | 2016-05-07 05:14:18 | New York Methodist Hospital | Dr. Sarmad Asif | Check up | |
| 5 | 2016-05-06 18:44:50 | New York Methodist Hospital | Dr. Galendar Singh | Nausea | |
| 4 | 2016-05-06 13:58:45 | Kaiser Permanente | Dr. Regina Felangi | Accident | |
| 3 | 2016-05-05 08:08:09 | Kaiser Permanente | Dr. Regina Felangi | Accident | |
| 2 | 2016-05-05 08:45:03 | Kaiser Permanente | Dr. Regina Felangi | General checkup | |
| 1 | 2016-05-03 14:25:27 | Kaiser Permanente | Dr. Regina Felangi | Blood Test | |

The above screenshot shows the ‘Hospital Visits’ table that can be accessed via the highlighted tab, on which the updation operation is going to be performed.

The operation is going to be performed on the entry with ‘visit_reason_id’=15 where the hospital name is going to be updated to **Kaiser Permanente** from **California Hospital Medical Center** and reason of visit is going to be changed to **MRI scan** from **X-Ray test**.

Run SQL query/queries on table capstone.visit_reason:

```
1 UPDATE `visit_reason` SET `patient_id` = '9', `hospital_id` = '1', `reason` = 'MRI Scan' WHERE `visit_reason`.`visit_reason_id` = 15
```

Columns

| visit_reason_id | patient_id | hospital_id | reason |
|-----------------|------------|-------------|----------|
| 15 | 9 | 1 | MRI Scan |

Update command execution

Show query box

1 row affected. (Query took 0.1217 seconds.)

```
UPDATE `visit_reason` SET `patient_id` = '9', `hospital_id` = '1', `reason` = 'MRI Scan' WHERE `visit_reason`.`visit_reason_id` = 15
```

[Edit inline] [Edit] [Create PHP code]

Hospital Visits

| # | Date | Hospital | Doctor | Reason | Actions |
|----|---------------------|-----------------------------|--------------------|------------------|---------|
| 15 | 2019-11-03 22:54:27 | Kaiser Permanente | Dr.Galendar Singh | MRI Scan | |
| 13 | 2016-05-07 10:46:21 | Kaiser Permanente | Dr. Regina Felangi | Weekly Check up | |
| 12 | 2016-05-07 10:27:58 | Kaiser Permanente | Dr. Sarmad Asif | Annual Checkup | |
| 11 | 2016-05-07 10:22:00 | Kaiser Permanente | Dr. Regina Felangi | Regular Checkup | |
| 10 | 2016-05-07 08:04:59 | Kaiser Permanente | Dr. Regina Felangi | Nausea, Vomiting | |
| 7 | 2016-05-07 05:30:10 | New York Methodist Hospital | Dr. Galendar Singh | Cough, Flu | |
| 6 | 2016-05-07 05:14:18 | New York Methodist Hospital | Dr. Sarmad Asif | Check up | |
| 5 | 2016-05-06 18:44:50 | New York Methodist Hospital | Dr. Galendar Singh | Nausea | |
| 4 | 2016-05-06 13:58:45 | Kaiser Permanente | Dr. Regina Felangi | Accident | |
| 3 | 2016-05-05 07:08:09 | Kaiser Permanente | Dr. Regina Felangi | Accident | |
| 2 | 2016-05-05 06:45:03 | Kaiser Permanente | Dr. Regina Felangi | General checkup | |
| 1 | 2016-05-03 14:25:27 | Kaiser Permanente | Dr. Regina Felangi | Blood Test | |

entry successfully updated into the 'Hospital Visits' table

Deletion Operation

The deletion operation is going to be performed on the doctors' table. The doctor with 'doctor_id'=10 is going to be deleted from the database. The entry to be deleted has been shown below.

The screenshot shows the 'Doctors List' section of the Smart Healthcare v7.0 application. The table contains the following data:

| Dr. ID | First Name | Last Name | Hospital | Contact No. |
|--------|------------|------------|------------------------------------|--------------|
| 1 | Pragnesh | Patel | Valley Care Medical Center | 210-586-2905 |
| 2 | Sarmad | Asif | Kaiser Permanente | 510-396-8400 |
| 3 | Peter | Richardson | California Hospital Medical Center | 510-369-2589 |
| 4 | Mathew | Hadden | Memorial Hermann | 970-366-2966 |
| 5 | Regina | Felangl | Kaiser Permanente | 832-296-4444 |
| 6 | Andrew | Bosman | Century City Hospital | 510-696-8749 |
| 7 | Galendar | Singh | New York Methodist Hospital | 123-456-7890 |
| 8 | Bert | Macklin | Century City Hospital | 585-698-7895 |
| 9 | Pragnesh | Patel | Kaiser Permanente | 123456789 |
| 10 | Kabir | Singh | Century City Hospital | 956-033-7560 |

The above screenshot shows the ‘Doctor’s List’ table along with the corresponding row, on which the deletion operation is going to be performed.

The screenshot shows the phpMyAdmin interface for the 'doctors' table. The SQL query entered is:

```
1 DELETE FROM `doctors` WHERE `doctors`.`doctor_id` = 10;
```

Deletion command successfully executed.

The screenshot shows the phpMyAdmin interface after the deletion command was executed. The message indicates:

✓ 1 row affected (Query took 0.3683 seconds.)

```
DELETE FROM `doctors` WHERE `doctors`.`doctor_id` = 10;
```

| Dr. ID | First Name | Last Name | Hospital | Contact No. | Actions |
|--------|------------|------------|------------------------------------|--------------|---------|
| 1 | Pragnesh | Patel | Valley Care Medical Center | 210-586-2905 | |
| 2 | Sarmad | Asif | Kaiser Permanente | 510-396-8400 | |
| 3 | Peter | Richardson | California Hospital Medical Center | 510-369-2589 | |
| 4 | Mathew | Hadden | Memorial Hermann | 970-366-2966 | |
| 5 | Regina | Felangi | Kaiser Permanente | 832-296-4444 | |
| 6 | Andrew | Bosman | Century City Hospital | 510-696-8749 | |
| 7 | Galendar | Singh | New York Methodist Hospital | 123-456-7890 | |
| 8 | Bert | Macklin | Century City Hospital | 585-698-7895 | |
| 9 | Pragnesh | Patel | Kaiser Permanente | 123456789 | |

highlighted entry successfully deleted from the ‘Doctors List’ table

Retrieval Operation

Retrieval operation can also be performed by typing in the appropriate query depending upon the result desired.

Here, a sample retrieval query has been run on the table ‘medication_details’ that returns the **medicine** and the corresponding **direction of use** for a given ‘med_det_id’, which in this case, happens to be 9.

| med_det_id | patient_id | medicines | date | quantity | direction | added_time | ip | current |
|------------|------------|-----------------|---------------------|----------|-------------------------|---------------------|-----------|---------|
| 1 | 1 | Brufen Tablets | 0000-00-00 00:00:00 | 2 | Morning | 2016-05-03 14:59:13 | ::1 | 0 |
| 2 | 2 | Xanax | 0000-00-00 00:00:00 | 1 | Night | 2016-05-03 16:01:19 | ::1 | 1 |
| 4 | 1 | Panadol | 0000-00-00 00:00:00 | 2 | Morning, Evening | 2016-05-06 18:48:18 | 127.0.0.1 | 1 |
| 7 | 3 | Brufen Tablets | 0000-00-00 00:00:00 | 1 | Morning, Evening | 2016-05-07 08:17:20 | 127.0.0.1 | 0 |
| 8 | 3 | Influenza | NULL | 2 | Morning, Evening, Night | 2016-05-07 08:34:07 | 127.0.0.1 | 0 |
| 9 | 7 | Crocin | 2019-11-03 00:00:00 | 2 | Morning | 2016-05-03 14:59:13 | ::1 | 0 |
| 10 | 4 | Avomine Tablets | 2019-11-03 00:00:00 | 2 | Morning | 2019-11-03 22:42:43 | ::1 | 0 |

medication_details table along with the row to be retrieved

phpMyAdmin

Server: MySQL 3306 » Database: capstone » Table: medication_details

Browse Structure SQL Search Insert Export Import Privileges Operations

Run SQL query/queries on table capstone.medication_details:

```
1 SELECT `medicines`, `direction` FROM `medication_details` WHERE `med_det_id` = 9;
```

SELECT* SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query Bind parameters

Retrieval Query

phpMyAdmin

Server: MySQL 3306 » Database: capstone » Table: medication_details

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Show query box

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 0 (1 total; Query took 0.0003 seconds.)

```
SELECT `medicines`, `direction` FROM `medication_details` WHERE `med_det_id` = 9
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all Number of rows: 25 Filter rows: Search this table

| + Options | medicines | direction |
|-----------|-----------|-----------|
| | Crocin | Morning |

Show all Number of rows: 25 Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Retrieval successful

Sample SQL code

```
CREATE TABLE IF NOT EXISTS `billing_details` (
`billing_det_id` int(11) NOT NULL AUTO_INCREMENT,
`patient_id` int(11) NOT NULL,
`doctor_fees` varchar(100) DEFAULT NULL,
`medication_charges` varchar(100) DEFAULT NULL,
`test_charges` varchar(100) DEFAULT NULL,
`total_due` varchar(100) DEFAULT NULL,
`total_paid` varchar(100) DEFAULT NULL,
`due_date` datetime DEFAULT NULL,
`paid_date` datetime DEFAULT NULL,
`late_payment_charge` varchar(100) DEFAULT NULL,
`insurance_covered` varchar(100) DEFAULT NULL,
`total_due_for_patient` varchar(100) DEFAULT NULL,
`added_by` varchar(100) DEFAULT NULL,
`last_added_by` int(11) DEFAULT NULL,
`added_time` datetime DEFAULT NULL,
`updated_time` datetime DEFAULT NULL,
`updated_by_last_ip` varchar(45) DEFAULT NULL,
PRIMARY KEY (`billing_det_id`),
KEY `patient_id` (`patient_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=1 ;
```

```

51  capstone.sql
52  --
53  -- Table structure for table `doctors`
54  --
55
56  CREATE TABLE IF NOT EXISTS `doctors` (
57      `doctor_id` int(11) NOT NULL AUTO_INCREMENT,
58      `firstName` varchar(45) DEFAULT NULL,
59      `lastName` varchar(45) DEFAULT NULL,
60      `phone` varchar(45) DEFAULT NULL,
61      `email` varchar(150) DEFAULT NULL,
62      `address` varchar(255) DEFAULT NULL,
63      `city` varchar(45) DEFAULT NULL,
64      `state` varchar(45) DEFAULT NULL,
65      `zipcode` varchar(45) DEFAULT NULL,
66      `medicalspeciality` varchar(100) DEFAULT NULL,
67      `hospital` varchar(45) DEFAULT NULL,
68      `type` varchar(45) DEFAULT NULL,
69      `added_time` datetime DEFAULT NULL,
70      `ip` varchar(25) DEFAULT NULL,
71      PRIMARY KEY (`doctor_id`)
72  ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=11 ;
73
74  --
75  -- Dumping data for table `doctors`
76  --
77
78  INSERT INTO `doctors` (`doctor_id`, `firstName`, `lastName`, `phone`, `email`, `address`, `city`, `state`, `zipcode`, `medicalspeciality`, `hospital`, `type`, `ip`)
79  (1, 'Pragnesh', 'Patel', '210-586-2905', 'p@gmail.com', '1035 Southern Artery', 'Quincy', 'MA', '02169', 'Cardiology', 'Valley Care Medical Center', 'Visiting'
80  (2, 'Sarmad', 'Asif', '510-396-8400', 's@gmail.com', '1321 Webster Blvd', 'Alameda', 'CA', '94501', 'Radiology', 'Kaiser Permanente', 'Visiting', '2016-05-03
81  (3, 'Peter', 'Richardson', '510-369-2589', 'prich@gmail.com', '1200 Alamedan Ave', 'San Jose', 'CA', '95136', 'Neurology', 'California Hospital Medical Center
82  (4, 'Matthew', 'Hadden', '970-366-2966', 'mhadden@gmail.com', '297 Kraken St', 'Houston', 'TX', '77553', 'Gastroenterology', 'Memorial Hermann', 'Permanent',
83  (5, 'Regina', 'Felangi', '832-296-4444', 'r.felangi@gmail.com', '1 Greenway Plaza', 'Houston', 'TX', '77993', 'General Physician', 'Kaiser Permanente', 'Visit
84  (6, 'Andrew', 'Bosman', '510-696-8749', 'andrew.b@gmail.com', '123 North First St.', 'San Jose', 'CA', '95136', 'Urology', 'Century City Hospital', 'Visiting'
85  (7, 'Galendar', 'Singh', '123-456-7890', 'galensing@gmail.com', '125 Kingwood', 'New York City', 'NY', '95268', 'Radiology', 'New York Methodist Hospital', '(
86  (8, 'Bert', 'Macklin', '585-698-7895', 'bmacklin@gmail.com', '2000 The Woods Way', 'Pawnee', 'IN', '98469', 'Pediatrics', 'Century City Hospital', 'Visiting'
87  (9, 'Pragnesh', 'Patel', '123456789', 'pp@gmail.com', 'absjd', 'Boston', 'MA', '48596', 'Gastroenterology', 'Kaiser Permanente', 'Visiting', '2016-05-06 18:39
88
89  --
90

```

9 characters selected Tab Size: 4 SQL

```

File Edit Selection Find View Goto Tools Project Preferences Help
capstone.sql
90
91  --
92  -- Table structure for table `doctors_details`
93  --
94
95  CREATE TABLE IF NOT EXISTS `doctors_details` (
96      `doc_det_id` int(11) NOT NULL AUTO_INCREMENT,
97      `name` varchar(100) DEFAULT NULL,
98      `specialties` varchar(100) DEFAULT NULL,
99      `added_by` varchar(100) DEFAULT NULL,
100     `last_added_by` int(11) DEFAULT NULL,
101     `added_time` datetime DEFAULT NULL,
102     `updated_time` datetime DEFAULT NULL,
103     `updated_by_last_ip` varchar(45) DEFAULT NULL,
104     PRIMARY KEY (`doc_det_id`)
105  ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=2 ;
106
107  --
108  -- Dumping data for table `doctors_details`
109  --
110
111  INSERT INTO `doctors_details` (`doc_det_id`, `name`, `specialties`, `added_by`, `last_added_by`, `added_time`, `updated_time`, `updated_by_last_ip`) VALUES
112  (1, 'Gupta', 'Heart', NULL, NULL, NULL, NULL, NULL);
113
114  -----
115
116  -- Table structure for table `hospitals`
117  --
118  --
119
120  CREATE TABLE IF NOT EXISTS `hospitals` (
121      `hospital_id` int(10) NOT NULL AUTO_INCREMENT,
122      `hospital_name` varchar(100) DEFAULT NULL,
123      PRIMARY KEY (`hospital_id`)
124  ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=13 ;
125
126  --
127  -- Dumping data for table `hospitals`
128  --
129

```

9 characters selected Tab Size: 4 SQL

```

INSERT INTO `hospitals` ('hospital_id`, `hospital_name`) VALUES
(1, 'Kaiser Permanente'),
(2, 'California Hospital Medical Center'),
(3, 'Valley Care Medical Center'),
(4, 'Century City Hospital'),
(5, 'Kentfield Rehabilitation Hospital'),
(6, 'Memorial Hermann'),
(7, 'AO Fox Memorial Hospital'),
(8, 'UHS Binghamton General Hospital'),
(9, 'New York Methodist Hospital'),
(10, 'St Peters Hospital'),
(11, 'St Marys Hospital'),
(12, 'St Joseph Hospital');

-- 
-- 
-- Table structure for table `medication_details`


CREATE TABLE IF NOT EXISTS `medication_details` (
`med_det_id` int(11) NOT NULL AUTO_INCREMENT,
`patient_id` int(11) NOT NULL,
`medicines` varchar(100) DEFAULT NULL,
`date` datetime DEFAULT NULL,
`quantity` varchar(100) DEFAULT NULL,
`direction` varchar(100) DEFAULT NULL,
`added_time` datetime DEFAULT NULL,
`ip` varchar(45) DEFAULT NULL,
`current` varchar(10) DEFAULT NULL,
PRIMARY KEY (`med_det_id`),
KEY `medication_details_ibfk_1` (`patient_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=9 ;

-- 

```

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capstone.sql

```

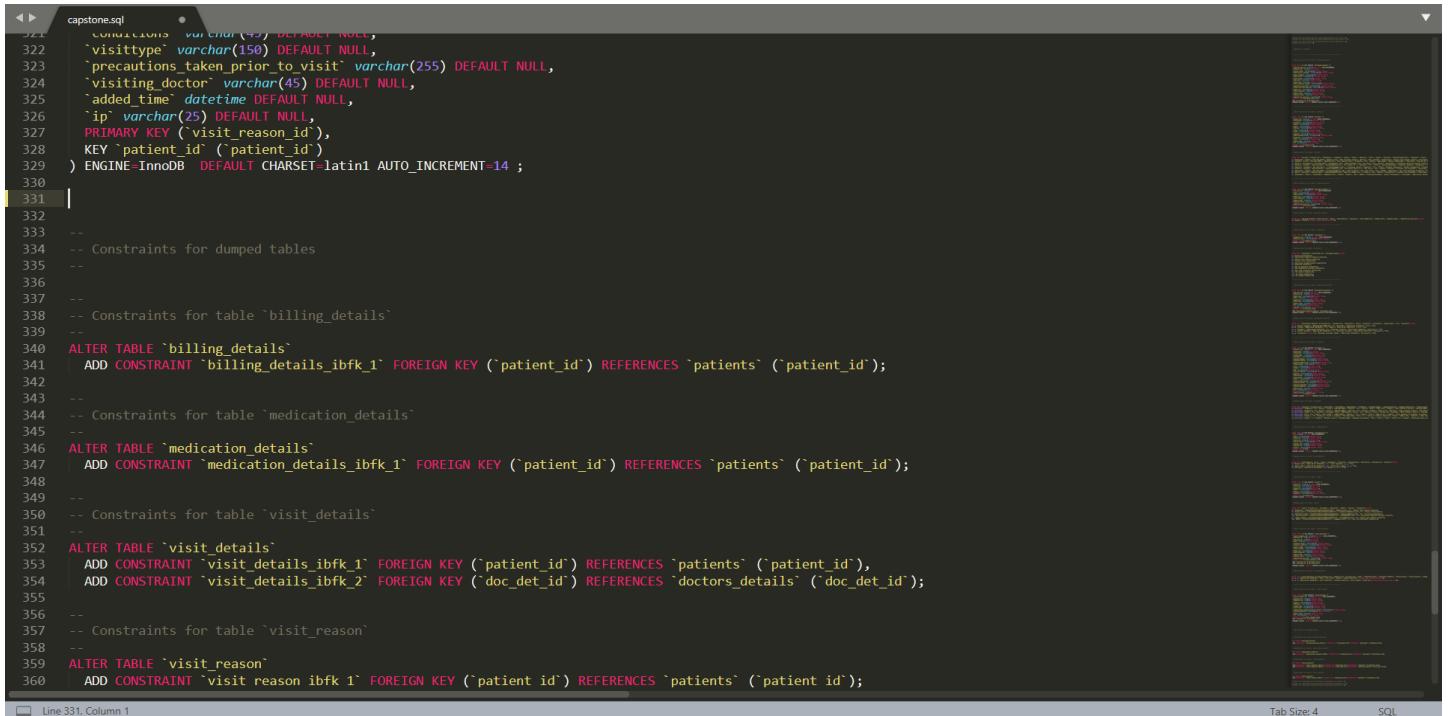
180
181 CREATE TABLE IF NOT EXISTS `patients` (
182     `patient_id` int(11) NOT NULL AUTO_INCREMENT,
183     `patientno` int(45) NOT NULL,
184     `firstName` varchar(45) DEFAULT NULL,
185     `middleName` varchar(45) DEFAULT NULL,
186     `lastName` varchar(45) DEFAULT NULL,
187     `emergencyName` varchar(45) DEFAULT NULL,
188     `emergencyPhone` varchar(45) DEFAULT NULL,
189     `emergencyRelation` varchar(45) DEFAULT NULL,
190     `blood_group` varchar(45) DEFAULT NULL,
191     `race` varchar(45) DEFAULT NULL,
192     `gender` varchar(45) DEFAULT NULL,
193     `dob` varchar(50) DEFAULT NULL,
194     `marital_status` varchar(45) DEFAULT NULL,
195     `address` varchar(255) DEFAULT NULL,
196     `home_phone` varchar(45) DEFAULT NULL,
197     `work_phone` varchar(45) DEFAULT NULL,
198     `email` varchar(150) DEFAULT NULL,
199     `insuranceProvider` varchar(45) DEFAULT NULL,
200     `insuranceType` varchar(45) DEFAULT NULL,
201     `insuranceCardNo` varchar(45) DEFAULT NULL,
202     `insurancePhone` varchar(45) DEFAULT NULL,
203     `added_time` datetime DEFAULT NULL,
204     `ip` varchar(25) DEFAULT NULL,
205     `lastvisit_id` int(10) DEFAULT NULL,
206     PRIMARY KEY (`patient_id`)
207 ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=7 ;
208
209 --
210 -- Dumping data for table `patients`
211 --
212
213 INSERT INTO `patients` (`patient_id`, `patientno`, `firstName`, `middleName`, `lastName`, `emergencyName`, `emergencyPhone`, `emergencyRelation`, `blood_group`,
214 (1, 123059457, 'Pragnesh', 'G', 'Patel', 'Tania', '000-000-0000', 'Mother', 'A+', 'Asian', 'Male', '1993-1-8', 'Single', '1035 Southern Artery', '500-300-8000',
215 (2, 267168921, 'Pragnesh', 'G', 'Patel', 'Garry', '000-000-0000', 'Friend', 'A+', 'White', 'Female', '1973-8-17', 'Married', '1035 Southern Artery', '130-550-1234',
216 (3, 882168920, 'Brian', 'K', 'Philips', 'Elizabeth Yard', '5103698425', 'Wife', 'A+', 'White', 'Male', '1970-2-30', 'Married', '1035 Northern Artery', '278-58-1234',
217 (4, 601123456, 'Ken', 'J', 'Adams', 'Bran Adams', '9002149000', 'Brother', 'A+', 'White', 'Male', '1986-11-27', 'Single', '1321 Alameda St Alameda, CA 94501',
218 (5, 679100990, 'Samuel', 'L', 'Jackson', 'Kevin L Jackson', '510-368-4120', 'Son', 'O-', 'Black or African American', 'Male', '1980-5-10', 'Married', '2002 King St San Francisco, CA 94102',
219 (6, 828787007, 'Kevin', '', 'Spacey', 'Micheal Kelly', '100-200-3000', 'Personal Assistant', 'AB+', 'White', 'Male', '1959-7-24', 'Single', 'Hollywood Plaza, 1000 Hollywood Blvd, Los Angeles, CA 90001'

```

Line 198. Column 37 Tab Size: 4 SQL

```
File Edit Selection Find View Goto Tools Project Preferences Help
capstone.sql x
229 --
226 CREATE TABLE IF NOT EXISTS `testsreports` (
227     `id` int(10) NOT NULL AUTO_INCREMENT,
228     `test` varchar(100) DEFAULT NULL,
229     `datetime` datetime DEFAULT NULL,
230     `visit_id` int(10) DEFAULT NULL,
231     `precautions` varchar(250) DEFAULT NULL,
232     `doctor_id` int(10) DEFAULT NULL,
233     `patient_id` int(10) DEFAULT NULL,
234     `recent` varchar(10) DEFAULT NULL,
235     PRIMARY KEY (`id`)
236 ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=8 ;
237
238 --
239 -- Dumping data for table `testsreports`
240 --
241 -- Data for table `testsreports`
242 INSERT INTO `testsreports` (`id`, `test`, `datetime`, `visit_id`, `precautions`, `doctor_id`, `patient_id`, `recent`) VALUES
243 (1, 'Blood Test', '2016-05-07 10:46:59', 13, '12hr fasting', 8, 3, '1'),
244 (2, 'Urine Test', '2016-05-07 10:54:59', 13, 'Drink only water', 8, 3, '1'),
245 (3, 'HB test', '2016-05-07 10:56:40', 13, 'Nothin ', 8, 3, '1');
246
247 --
248 --
249 --
250 -- Table structure for table `users`
251 --
252 --
253
254 CREATE TABLE IF NOT EXISTS `users` (
255     `users_id` int(11) NOT NULL AUTO_INCREMENT,
256     `fullname` varchar(30) NOT NULL,
257     `password` varchar(50) NOT NULL,
258     `email` varchar(150) DEFAULT NULL,
259     `active` varchar(45) DEFAULT NULL,
260     `hospital` varchar(100) DEFAULT NULL,
261     PRIMARY KEY (`users_id`)
262 ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=19 ;
263
264 --
Line 198, Column 37
Tab Size: 4
SQL
```

```
File Edit Selection Find View Goto Tools Project Preferences Help
capstone.sql x
281
282 CREATE TABLE IF NOT EXISTS `visit_details` (
283     `visit_details_id` int(11) NOT NULL AUTO_INCREMENT,
284     `patient_id` int(11) NOT NULL,
285     `doc_det_id` int(11) NOT NULL,
286     `date` datetime DEFAULT NULL,
287     `hospital_name` varchar(100) DEFAULT NULL,
288     `hospital_address` varchar(100) DEFAULT NULL,
289     `doctor_name` varchar(100) DEFAULT NULL,
290     `visit_reason` varchar(255) DEFAULT NULL,
291     `added_by` varchar(100) DEFAULT NULL,
292     `last_added_by` int(11) DEFAULT NULL,
293     `added_time` datetime DEFAULT NULL,
294     `updated_time` datetime DEFAULT NULL,
295     `updated_by_last_ip` varchar(45) DEFAULT NULL,
296     PRIMARY KEY (visit_details_id),
297     KEY `patient_id` (patient_id),
298     KEY `doc_det_id` (doc_det_id)
299 ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=3 ;
300
301 --
302 -- Dumping data for table `visit_details`
303 --
304
305 INSERT INTO `visit_details` (`visit_details_id`, `patient_id`, `doc_det_id`, `date`, `hospital_name`, `hospital_address`, `doctor_name`, `visit_reason`, `added_by`, `last_added_by`, `added_time`, `updated_time`, `updated_by_last_ip`)
306 (1, 1, 1, '2016-03-24 00:00:00', 'JFK', 'New York', 'Gupta', 'Blood Check Up', NULL, NULL, NULL, NULL, NULL);
307 (2, 1, 1, '2016-03-10 00:00:00', 'CITY Hospital', 'Downtown Boston', 'Gary Singh', 'Check Up', NULL, NULL, NULL, NULL, NULL);
308
309 --
310 --
311 -- Table structure for table `visit_reason`
312 --
313
314 CREATE TABLE IF NOT EXISTS `visit_reason` (
315     `visit_reason_id` int(11) NOT NULL AUTO_INCREMENT,
316     `patient_id` int(10) DEFAULT NULL,
317     `hospital_id` int(10) DEFAULT NULL,
318     `reason` varchar(255) DEFAULT NULL,
319     PRIMARY KEY (visit_reason_id)
320 );
321
322 --
323 Line 198, Column 37
Tab Size: 4
SQL
```



```

1 capstone.sql
2
311
312     `conditions` varchar(45) DEFAULT NULL,
313     `visitype` varchar(150) DEFAULT NULL,
314     `precautions_taken_prior_to_visit` varchar(255) DEFAULT NULL,
315     `visiting_doctor` varchar(45) DEFAULT NULL,
316     `added_time` datetime DEFAULT NULL,
317     `ip` varchar(25) DEFAULT NULL,
318 ) PRIMARY KEY (`visit_reason_id`),
319     KEY `patient_id` (`patient_id`)
320 ) ENGINE=InnoDB DEFAULT CHARSET=latin1 AUTO_INCREMENT=14 ;
321
322
323
324
325
326
327
328
329
330
331
332
333
334 -- Constraints for dumped tables
335 --
336
337 --
338 -- Constraints for table `billing_details`
339 --
340 ALTER TABLE `billing_details`
341 ADD CONSTRAINT `billing_details_ibfk_1` FOREIGN KEY (`patient_id`) REFERENCES `patients` (`patient_id`);
342
343 --
344 -- Constraints for table `medication_details`
345 --
346 ALTER TABLE `medication_details`
347 ADD CONSTRAINT `medication_details_ibfk_1` FOREIGN KEY (`patient_id`) REFERENCES `patients` (`patient_id`);
348
349 --
350 -- Constraints for table `visit_details`
351 --
352 ALTER TABLE `visit_details`
353 ADD CONSTRAINT `visit_details_ibfk_1` FOREIGN KEY (`patient_id`) REFERENCES `patients` (`patient_id`),
354 ADD CONSTRAINT `visit_details_ibfk_2` FOREIGN KEY (`doc_det_id`) REFERENCES `doctors_details` (`doc_det_id`);
355
356 --
357 -- Constraints for table `visit_reason`
358 --
359 ALTER TABLE `visit_reason`
360 ADD CONSTRAINT `visit_reason_ibfk_1` FOREIGN KEY (`patient_id`) REFERENCES `patients` (`patient_id`);

```

Line 331, Column 1 Tab Size: 4 SQL

Software Requirements

- Windows 7/8/10
- WAMP Server
- PHP 11.0
- HTML 5
- Google Chrome/Mozilla Firefox/ any other web browser
- PHPMyAdmin
- MySQL

The project was truly a great learning opportunity and a chance to implement in practice the concepts leaned in the classroom and hence, last but not the least, we would like to sincerely thank our professor, Dr. Geetha Mary A. for giving us the chance to work on the same.

THANK YOU