SQL Programming Project

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1   Introduction

This SQL programming project involves the creation of a database host application that interfaces with a backend SQL database implementing a Contact List application. I am using **django** framework to implement the project.

2   Architecture

- Model view controller : I am using model view controller which is described given below.

- **Model:** it contains only application data.

- **View:** it contains business logic i.e. all queries for rendering data into template.

- **Controller:**it listens to events triggered by view.

  In our case, we use Django architecture.Image is given below.
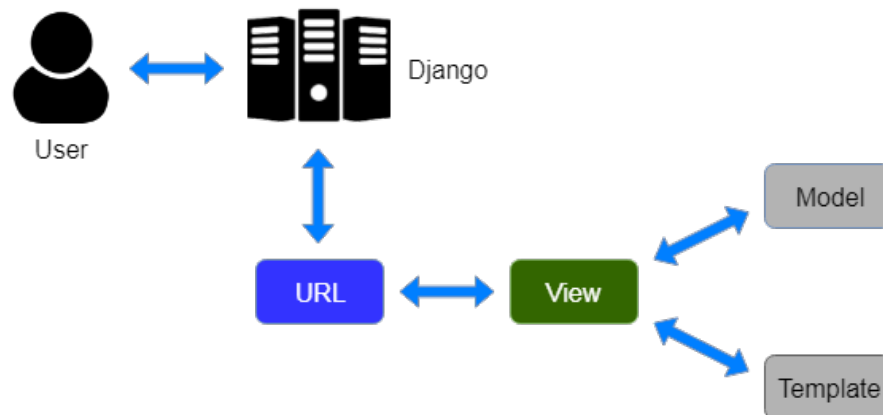

Figure 1: Model View Controller

3 Database information

- Contact Table

```
CREATE TABLE IF NOT EXISTS "contact_app_contact" (
        "Contact_id"    integer NOT NULL PRIMARY KEY AUTOINCREMENT,
        "Fname" varchar(50) NOT NULL,
        "Mname" varchar(50) NOT NULL,
        "Lname" varchar(50) NOT NULL
);
```

- Address Table

```
CREATE TABLE IF NOT EXISTS "contact_app_address" (
        "Address_id"    integer NOT NULL PRIMARY KEY AUTOINCREMENT,
        "Address_type"  varchar(50),
        "Street"        varchar(100),
        "City"  varchar(50),
        "State" varchar(50),
        "Zip"   integer,
        "Contact_id"    integer NOT NULL,
        FOREIGN KEY("Contact_id") REFERENCES

        "contact_app_contact"("Contact_id") DEFERRABLE INITIALLY DEFERRED
);
```

- Phone Table

```
CREATE TABLE IF NOT EXISTS "contact_app_phone" (
        "Phone_id"      integer NOT NULL PRIMARY KEY AUTOINCREMENT,
        "Phone_type"    varchar(50),
        "Area_code"     integer,
        "Number"        integer,
        "Contact_id"    integer NOT NULL,
        FOREIGN KEY("Contact_id") REFERENCES

        "contact_app_contact"("Contact_id") DEFERRABLE INITIALLY DEFERRED
);
```

- Date Table

```
CREATE TABLE IF NOT EXISTS "contact_app_date" (
        "Date_id"       integer NOT NULL PRIMARY KEY AUTOINCREMENT,
        "Date_type"     varchar(50) NOT NULL,
        "Date"  datetime,
        "Contact_id"    integer NOT NULL,
        FOREIGN KEY("Contact_id") REFERENCES
```

```
            "contact_app_contact"("Contact_id") DEFERRABLE INITIALLY DEFERRED
);
```

4 How to Build and Run Application

Web Application for Managing Contact List

Features

- Contact Display Window
- Contact Search
- Adding New Contacts
- Modifying / Deleting Existing Contacts

Platform Details :Exported from Conda

```
Language: Python Framework: Django OS: Ubuntu 18.04/linux-64

python version : 3.7.4.final.0

conda version : 4.8.2
```

Requirements

```
name: contact_management
channels:
  - defaults
dependencies:
  - _libgcc_mutex=0.1=main
  - asgiref=3.2.3=py_0
  - ca-certificates=2020.1.1=0
  - certifi=2019.11.28=py38_0
  - django=3.0.3=py_0
  - ld_impl_linux-64=2.33.1=h53a641e_7
  - libedit=3.1.20181209=hc058e9b_0
  - libffi=3.2.1=hd88cf55_4
  - libgcc-ng=9.1.0=hdf63c60_0
  - libstdcxx-ng=9.1.0=hdf63c60_0
  - ncurses=6.2=he6710b0_0
  - openssl=1.1.1e=h7b6447c_0
  - pip=20.0.2=py38_1
  - python=3.8.1=h0371630_1
  - pytz=2019.3=py_0
  - readline=7.0=h7b6447c_5
  - setuptools=46.0.0=py38_0
  - sqlite=3.31.1=h7b6447c_0
  - sqlparse=0.3.0=py_0
  - tk=8.6.8=hbc83047_0
  - wheel=0.34.2=py38_0
  - xz=5.2.4=h14c3975_4
  - zlib=1.2.11=h7b6447c_3
prefix: /home/user/anaconda3/envs/contact_management
```

How to build the application and run

- Create virtual environment using environment.yml.`conda env create -f environment.yml`

- Alternatively Create Virtual Environment and use requirements.txt. (prefered for *windows*) `pip install -r requirements.txt`

- Run below given command for running server and access http://localhost:8000/ in browser. `python manage.py runserver`

Figure 2: Readme.txt

Please follow below given instruction for setting up environment and running application

5 USER guide

1. Visit http://localhost:8000/ for opening web application.

6 Add New Contact

- Add New contact

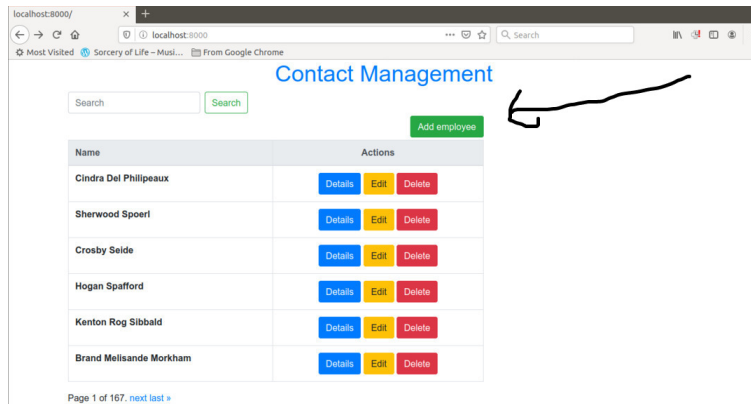 Please click on button provided in screenshot for creating new contact.

Figure 3: add new contact

- Change no. of addresses,phones and dates required by your contact list.Please click change in next page after add new button.
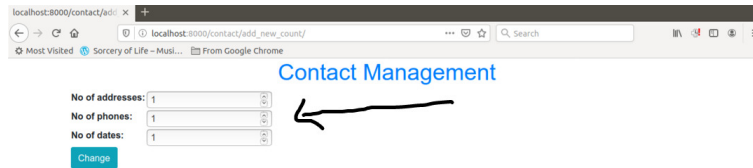

Figure 4: Change no. of address,phones and dates

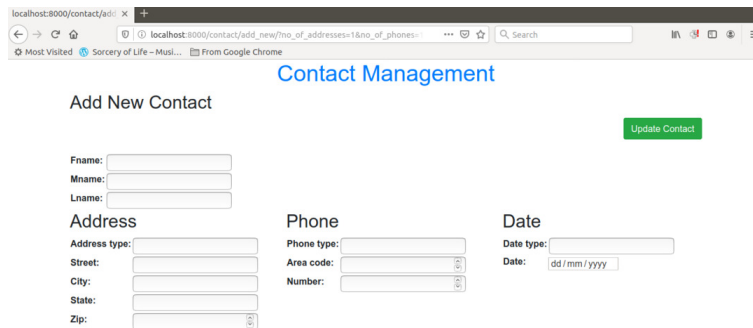- fill in required information and click update contact button

Figure 5: fill in required information

7   Details for contact

- Click details button for viewing details of any existing contact..

- Click next available in footer area for view contacts in next page.
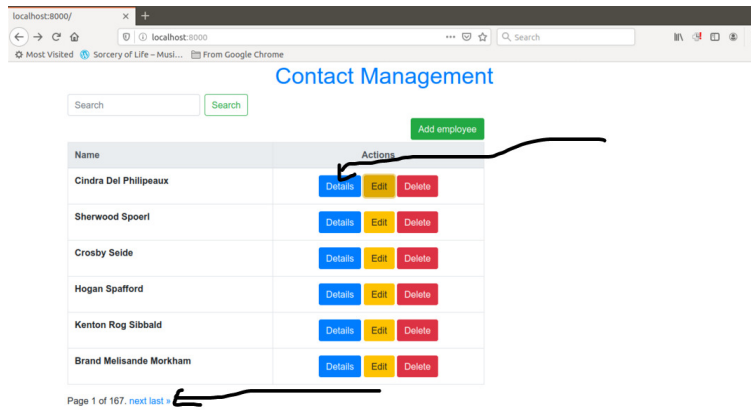
Figure 6: checking details of existing contact

- Details of contacts
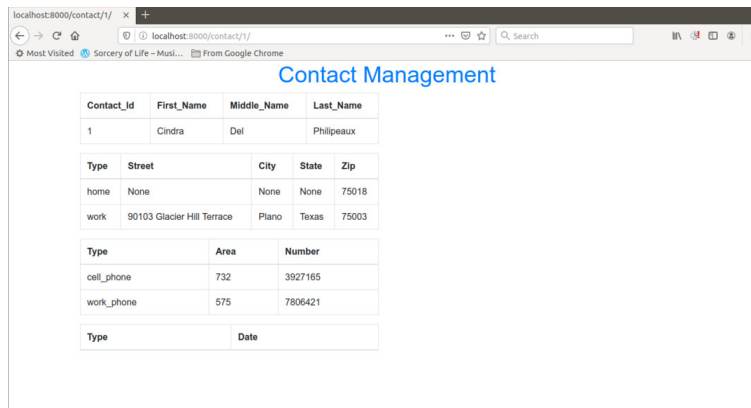
Figure 7: checking details of existing contact

8 Editing Contact

- Click edit button in front of contact name need to be edited
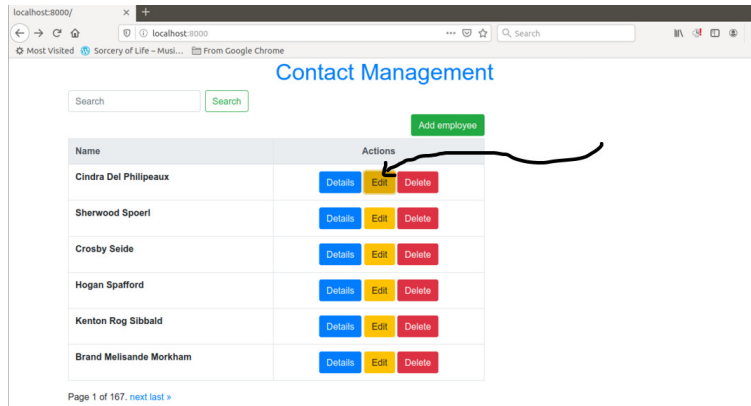
Figure 8: editing contact detail

- Filling in the details and click update contact.

Figure 9: editing contact form

9 Searching a contact

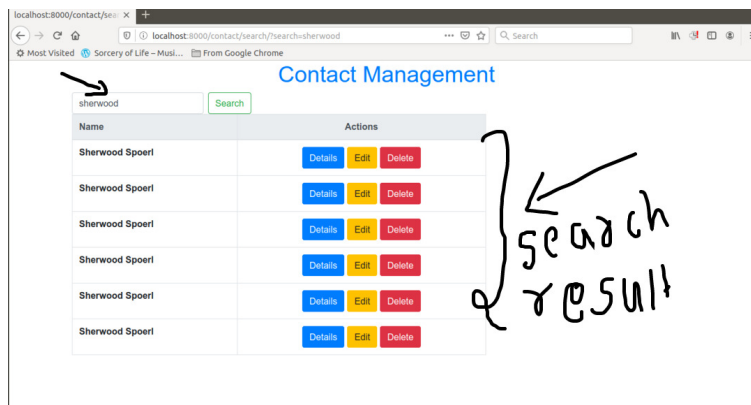- Type anything you want to search and hit search button. You can search by name ,city or any other field.

Figure 10: searching contacts