

DESIGN DOCUMENT

Used MVC Framework:

- Model : SQLite
- View: Tkinter
- Controller: Python

Front End

- First page contains 6 frames.
- Contact Details
 - **Display all** button fetches all the data from database and displays contact id, first name, middle name, and last name in the list box.
 - Selecting one row from the list box stores respective data into the text boxes below them i.e. First name, last name and middle name and all the other list boxes present in different frame i.e., Address, Phone, Date
- Address
 - On selecting one of the types in the list box present in this frame all the entry boxes get updated with the values of the current selected row respectively.
 - **Add New** button adds the data present into the list boxes to the address table with contact id of selected row from contact details frame. (Added the feature that you can't add new data with same address type)
 - **Refresh** button just clears all the text boxes and make them empty.
- Phone
 - On selecting one of the types in the list box present in this frame all the entry boxes get updated with the values of the current selected row respectively.
 - **Add New** button adds the data present into the list boxes to the phone table with contact id of selected row from contact details frame. .(Added the feature that you can't add new data with same phone type)
 - **Refresh** button just clears all the text boxes and make them empty.
- Calendar
 - On selecting one of the types in the list box present in this frame all the entry boxes get updated with the values of the current selected row respectively.
 - **Add New** button adds the data present into the list boxes to the Date table with contact id of selected row from contact details frame. .(Added the feature that you can't add new data with same date type)
 - **Refresh** button just clears all the text boxes and make them empty.
- Methods
 - **Delete** button deletes data related to the contact id which is selected from Contacts frame and it deletes data from each table which has that particular contact id.

- **Modify** button fetches data from each text boxes from each frame and updates it to that particular contact id, so when you change any of the data, the data gets updated in the respective tables.
- **Refresh** button just clears all the text boxes and make them empty.
- **Insert** button opens second page.
- Search
 - It contains text box where you can insert text value, after clicking **Search Button** it will look if that particular string is present in any values of any four data base table, if yes it will display those contacts in respective frames.
- Second Page contains 4 frames
 - This page is used to insert new data
 - **User Detail's** frame take first name, middle name and last name.
 - **Address** frame takes address type, address, city, state, zip, after clicking **Add Address button** the address gets stored and you can add new address, so for that contact you can add as any number of addresses you want.
 - **Phone** frame takes phone type and phone number, which is in specific format, after clicking **Add Number button** current number details get stored and you can add more numbers.
 - **Date** frame take date type and date which is fetched from calendar, after clicking **Add Date button** current date gets stored and then you can add more dates to it.
 - **Submit** button adds data to the database by generating queries for four different database tables.

Database Schema

My Database contains 4 tables which are as follows

- Contact (Contact_id, Fname, Mname, Lname)
- Address (Address_id, Contact_id, Address_type, Address, City, State, Zip)
- Date (Date_id, Contact_id, Date_type, Date)
- Phone (Phone_id, Contact_id, Phone_type, Area_code, Number)

Contact_id in address, date and phone table is foreign key which is primary key in contact table.

Address_id is primary key in Address table.

Date_id is primary key in Date table.

Phone_id is primary key in Phone table.

Assumptions

- While inserting new data you should add first name.
- Zip is assumed to be true as while storing we take it as string.
- Phone number should be in that format which is given, and it is assumed that it does not contain other characters but numbers as we store it as string.
- You need to add address type, phone type and date type also, it is recommended.