Design Document

Schema and Tables created in MySQL database. SQL File containing DDL for creation of tables and DML for insertion of initial data is placed in the project folder.

Database Design:

- Database used MySQL, MySQL Workbench
- "DDL-tables-creation.sql" – file contains all the table creation queries
- "init-data.sql" – file contains the insert queries to put data in tables as initial data
- Following is the table name and its corresponding primary key

Table	**Primary Key – Column name**
Address	address_id
Phone	phone_id
Date	date_id

- Contact_id present in other tables (addresses, phone number and date) acts as foreign key links to the contact_id in contact table
- Primary keys in tables are auto-increment
- Deletion of data for a particular contact will be ON CASCADE DELETE, by deleting record from contact table will delete all its corresponding data from other tables

Front-End Design:

- Technologies used are thymeleaf, HTML, JavaScript
- In Home page, application displays list of contacts present in database. Initially First name, middle name and last name will be displayed as list with edit and delete buttons.
- By clicking on the name, the list expands and displays available addresses (type, street address, city, state, zip code), phone numbers (type, area code, number) and dates(type, date) for that particular user

Back-End Design:

- Technologies used are Java JDK 1.8, Spring Boot, maven
- Once the request has received from User Interface, spring boot will request data from database through queries and then convert the data into Java objects and send it to user interface
- Used Spring MVC architecture for separation between controllers, JavaBean models, and views

Design Assumptions:

- User can search for contact in the single search field, internally checks from matching substring in first name, last name, middle name, address type, address, city, state, zip, phone_type, area_code, number
- Converted initial provided contact.csv file into insert queries as per the tables structure
- User can search only from the home page
- Once the user clicks the add/edit button, they should save the data after modification to save in database
- Once a contact is deleted, there is no way to retrieve the contact data
- Address should contain all the values (type, street address, city, state, zip code), data present in initial contacts file missing any of the address column values is ignored
- When searching for contact through home page, the search will check the columns individually, if user is searching for phone number (area-code and number together) then application will not display any results as the entered value is not part of any individual column
- Used schema for this project is “Contact-Info”
- Database URL: ‘jdbc:mysql://localhost:3306/Contact-Info’