Database Design ----- CS 6360 ------ Project 1

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Project Design Decisions:

1. The project consisted of implementing an application that interacts with a SQL database to store and retrieve and modify a user's contacts.

2. The project was implemented in Eclipse.

3. A Java GUI interface was chosen for implementing the contact manager app.

4. The Java application interacts with the SQL database to retrieve, add, or modify information about contacts.

5. The application interacts with the SQL database using the **Java Database Connection** (JDBC) API in Java.

6. The SQL database was implemented in MySQL.

7. The schema for the application database was made as per the requirements given. The SQL database **'contact_list'** consists of 4 relation tables contact, address, phone, and date.

8. The contents of the **contacts.csv** file given were imported into the MySQL database under different tables(relations).

9. A Java **JFrame** Object was used to design the window which displays the contacts. The contacts are displayed in the JFrame using a JTable Object. It includes

    1. a button for searching a contact
    2. a button for adding a new contact
    3. a button for modifying a contact

10. A Java JDialog Object was used to retrieve information from the user to add a new contact/modify an existing contact. **JLabels, JButtons** and **JTextField** objects are used to acquire user input in the JDialog Object. It includes:
    1. A button for saving the new/modifying information
    2. A 'cancel' button to return to the search interface

11. The application code consists of 4 java classes:
    1. **ContactDAO**, which contains methods to interact with the SQL database using JDBC
    2. **ContactForm**, which creates an object that represents a contact every time we require to pass to and from the SQL database via the methods in ContactDAO
    3. **ContactTableModel**, which is a class responsible for displaying all contacts/ contacts which are searched for in the JTable of the JFrame object
    4. **ContactManagerApp,** which creates a JFrame object and starts the application
    5. **addContact**, which creates a JDialog object for adding a contact to the database

12. The ContactDAO class contains methods such as searchForContact(contact), getAllContacts(), modifyContact(contact) and addContact(contact) which interface with the SQL database.

13. The Application can be accessed by running the **ContactManagerApp** class.