

DESIGN DOCUMENT

Contact List/Address Book Project

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PROJECT OVERVIEW

The Contact List/Address Book project contains the contact details of people. Using this application, the user can Add, Delete, Modify and View the details of any record in the contact list provided.

The contact_id acts as the primary key in the CONTACT table. The contact_id is used to perform major operations in the application.

The web application GUI used : HTML, CSS , JavaScript & PHP.

SQL database used : MySql

DATABASE STRUCTURE

The following table contains the information of the fore different tables used :

TABLE NAME	DESCRIPTION	COLUMNS USED
CONTACT	<ul style="list-style-type: none">Contains the Name of the person	Contact_id, First_name, Middle_Name Last_Name,
ADDRESS	<ul style="list-style-type: none">Contains the Address details of the personCan contain maximum of 3 Address Types	Address_ID, Contact_ID, Address_Type, Address, City, State, Zip
PHONE	<ul style="list-style-type: none">Contains the phone number of the personCan contain maximum 4 phone types for a person	Phone_id, Contact_id, Phone_Type, Area_Code, Number
DATE	<ul style="list-style-type: none">Contains date details of the personCan contain maximum of 2 date types	Date_id, Contact_id, Date_Type, Date

FUNCTIONALITY

Displaying Records:

The application can be used to all the existing details of a person once the corresponding record is chosen by the user. All the data are not published at once, to enhance readability and security.

Searching Records :

The application can be used to search for a contact, given any combination of Name components, Address component(s), Phone number components. All searches happen via a single search field (like Google or Bing).

Once the data is published to the user, required operations can be performed on the record.

Adding new Record:

The application can be used to add new records which includes name, address, phone and date details. Th application has a feature to add an extra address field, phone fields and date field according to the requirement of the user.

Modifying Existing Record :

The application allows the user to modify the existing record of a person and also add 1 new address field, phone field and date field according to the requirement.

Database Design Process

The basic approach for the database project was to choose the most feasible and flexible scripting language and SQL database. I used HTML,CSS,JavaScript & PHP to develop the user end GUI.

For the database creation, I used PhpMyAdmin. I created tables with the provided schema , by entering the CREATE DATABASE & CREATE TABLE commands in PhpMyAdmin. The primary and foreign keys were assigned according to the scheme. Once the four tables, namely: Contact,Address,Phone,Date were created, I populated the tables with the help of the contact.csv file given to us.

Data had to be first inserted in the contact table and then for the rest of the tables, because of the foreign key dependencies. Once data was entered, the records could be viewed correctly in PhpMyAdmin.

Once the database and GUI was ready, I had to start scripting the SQL queries to be displayed on the GUI on user action or requirement.

Design Decisions & Assumptions

There are several design decisions and assumptions taken to complete this application.

- The user can delete or modify a record only after searching for the data in the database.
- All the details of the person is not visible to the user in the starting phase. This is to ensure data security. Only when the user clicks edit/view, the details are made visible.
- Initially only the First name, Middle name & Last name are visible to the user when performed a search.
- The search keyword entered by the user, would be searching all the columns in all the tables, except the ID columns. This is to avoid excess of unwanted data.
- When user enters more than a single word in the search field, the application searches the entire database for the all the individual keywords.
- By default, there would be 2 address types & 3 phone types visible to the user while entering or modifying or viewing the records.
- The user can add an additional of only 1 address type or 1 phone type or 1 date type.
- The address types are restricted to : Home, Work, Other
- The phone types are restricted to : Work, Home, Cell, Other
- The date types are restricted to : Birth date, Anniversary Date
- Once contact_id is deleted from database, we cannot use the same contact_id for a new record entry
- During modifying data, if the fields in address or phone or date field is empty, the corresponding IDs will be deleted from the database. This ensures deletion of only particular fields in the selected record.
- A new record can be inserted if only the first name field is entered.