Project Title.

Contact Management System using Python Programming Language.

Introduction:

Managing contacts efficiently is essential in both personal and professional settings. A Contact Management System (CMS) provides an organized, accessible way to store, update, and retrieve contact details. This project develops a Python-based Contact Management System, enabling users to save, search, update, and delete contacts. With a focus on ease of use, flexibility, and functionality, the system serves as an ideal solution for individuals and small businesses to keep track of their important contacts.

Objectives:

- To create a Python application that manages contact details effectively.
- To allow users to perform CRUD (Create, Read, Update, Delete) operations on contact entries.
- To provide an organized, user-friendly interface for accessing and managing contact information.
- To enable searching and filtering of contacts based on various attributes such as name, phone number, or email.
- To ensure data integrity and secure storage of contact information.

Key Features:

- **Add New Contacts**: Allows users to enter new contact information, including name, phone number, email, and address.
- **Edit and Update Contacts**: Enables users to edit and update existing contact information.
- **Search Functionality**: Provides quick search options based on names, phone numbers, or email addresses.
- **Delete Contacts**: Allows users to delete contacts no longer needed, keeping the contact list organized.

- **Data Storage**: Stores contact information in a file or database, ensuring data persistence.
- **Simple User Interface**: A user-friendly interface built with Tkinter (or CLI for simpler deployment), making it accessible to users with varying levels of technical expertise.
- **Backup and Restore**: Option to backup contacts data to avoid data loss and restore data if needed (optional).

Software Requirements:

- **Programming Language**: Python (version 3.x)
- **Libraries**:
    - **SQLite3**: For database management to store contact details persistently.
    - **Tkinter**: For developing a graphical user interface (optional; CLI version can be developed alternatively).
    - **CSV** or **JSON**: (Optional) for data export/import capabilities.
- **Operating System**: Windows, macOS, Linux (Cross-platform)

Hardware Requirements:

- **Processor**: 1 GHz or faster processor
- **RAM**: Minimum 1 GB
- **Storage**: 50 MB of available disk space for the program and data storage
- **Display**: A monitor with at least 1024 x 768 resolution

Reference:

- SQLite3 Database documentation: https://docs.python.org/3/library/sqlite3.html
- Tkinter GUI documentation: https://docs.python.org/3/library/tkinter.html
- Python CSV library documentation: https://docs.python.org/3/library/csv.html
- Python JSON library documentation: https://docs.python.org/3/library/json.html

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The Contact Management System developed in Python serves as an effective tool for organizing and managing contacts with ease. With features for adding, searching, updating, and deleting contacts, this system is valuable for both personal and professional use. The use of Python's database and interface libraries demonstrates Python's capabilities for building functional, reliable applications for everyday needs.