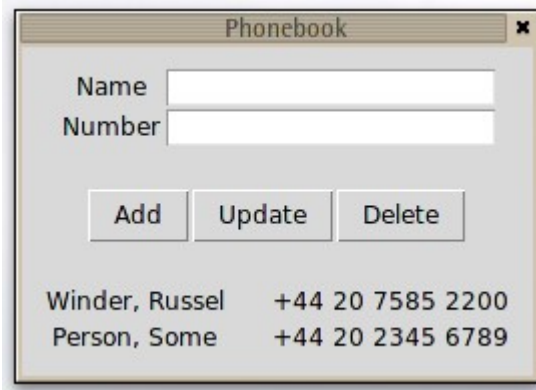# Exercises: Persistence

For the purposes of this exercise a "contacts database" is a system that stores names, addresses, and phone numbers (landlines or mobiles) of people or organizations with the ability to lookup information about a record by presenting bits of information to be searched for.

This exercise is about developing a number of different implementations of persistent storage for a user interface looking something like:

Using a proper testing regime, it is not necessary to actually have the user interface available in order to develop the persistence backend. You may wish to make use of Façade *and* Mediator *patterns to specify an API for connecting the front-end to the back-end, a classic "three tier" architecture.*

Part A

Create a small personal contacts database using `shelve`.

Part B

Create a small personal contacts database using SQLite.

Part C

Create a small personal contacts database using PyMongo.

Part D

Create a small personal contacts database using SQLAlchemy.

The SQLite and SQLAlchemy versions should be usable with any SQL-based client, the PyMongo version with any MongoDB client, but the `shelve`*-based version will require a Python client.*