Assignment No. 8
Address Book – Part II

This is the second part of the address book assignment (assignment 7). In the first part you wrote a class (and additional classes if needed) for maintaining an address book and a textual user-interface application. In the second part you will implement a graphical user interface (GUI) for the address book. Your implementation for both parts should follow the model-view separation paradigm. This paradigm dictates that the model of an application (logic and functionality) should be separated from the visual representation (the user-interface). The rationale behind this approach is that visual representation tends to change a lot. Model-view separation ensures us that view changes will not affect the basic model and enables us to maintain one model for several different views (in our case, textual and graphical user-interfaces).
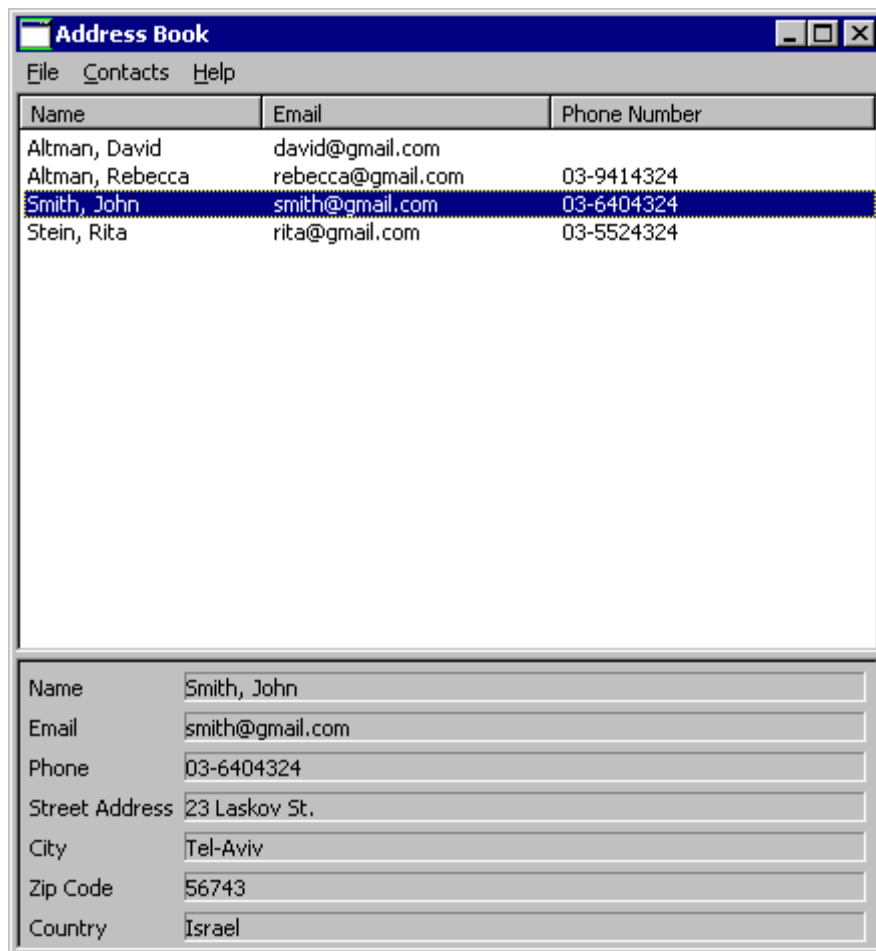
In this part of the assignment you will use the Standard Widget Toolkit (SWT) to implement a graphical user interface (GUI) for your address book.

The GUI will be implemented in one class named **GUIAddressBookViewer**. A template for this class can be found on the course web-site. If you run the application (instructions for installing and running an SWT-based application are below), you can see that the GUI is a window consisting of three parts (see the figure below for a snapshot):

- a menu bar
- a table for showing all the contacts (should be ordered by name alphabetically)
- a form for showing the full details of the currently selected (in the table) contact

Your assignment is to support all the options of the menu bar, that is:

- File→New Address Book: Create a new, blank, address book
- File→Open: Load an address book from a file, using the standard file open dialog
- File→Save: Save an address book. If it was opened from a file, save it to the same file. Otherwise, request a filename in a standard file save dialog
- File→Exit: Exit the application
- Contacts→New: Open a dialog asking for the details of the new contact; create a new contact accordingly.
- Contacts→Edit: Edit the details of the currently selected (in the table) contact; use the same dialog box as the one for creating a new contact.
- Contacts→Delete: Delete the currently selected contact from the address book.

Notes:

- Before performing a File→New/Open/Exit operation, you should check that there are no unsaved changes to the current working address book, and if this is not the case, show a message box asking the user to confirm or allowing him to save the current address book before exiting.
- The table should always be consistent with the address book's contents.
- Decide which exceptions should be handled and how (e.g. showing a message box telling the user about the problem). Any reasonable decision will be accepted.
- Fill in the table with the contacts of the address book, in alphabetic name order (as in Part I), including keeping it synchronized with the address book.
- On highlight (selection) of a table row, fill in the full details in the form below it. On double click (default selection) perform the Contact->Edit functionality.
- The **setHeaderVisible** method of the **Table** class is buggy under Linux. As a result, on Linux the column names of the table might be invisible (see https://bugs.eclipse.org/bugs/).

Configuring Eclipse to use the SWT Libraries and Running an SWT-based Application:

- Download the .zip of SWT 3.3.
  For windows visit:
  http://www.eclipse.org/downloads/download.php?file=/eclipse/downloads/drops/R-3.3-200706251500/swt-3.3-win32-win32-x86.zip

  For Linux visit:
  http://www.eclipse.org/downloads/download.php?file=/eclipse/downloads/drops/R-3.3-200706251500/swt-3.3-gtk-linux-x86.zip

- Follow the instructions in http://www.eclipse.org/swt/eclipse.php
  Note: To open the properties dialog of your Java project, right click on you project in the package explorer view.

הוראות הגשה:

1. קראו בעיון את קובץ נוהלי הגשת התרגילים אשר נמצא באתר הקורס.
2. הגשת התרגיל תעשה ע"י המערכת VirtualTAU (http://virtual2002.tau.ac.il/).
3. הגשת התרגיל היא ע"י יצירת קובץ zip אשר יכיל את כל הקבצים הדרושים:

   א. יש לקרוא לקובץ ה- zip לפי שם המשתמש שלכם, למשל: zvainer.zip

   ב. יש לצרף קובץ פרטים אישיים בשם details.txt שיכיל את שמכם ומספר תעודת הזהות שלכם

   ג. נוסף על הקבצים הבודדים יש להגיש קובץ טקסטואלי נוסף (doc/txt/rtf) שיכיל את כל תשובותיכם