

For this assignment, you are being asked to finish the development of a small application for a saving phonebook contacts using JavaFX. The application's GUI is missing a number of important controls; please add them using your favorite JavaFX Scene Builder. The complete application's window is shown in Figure 1. Your solution will be graded for usability and error checking, so make sure your application shows and saves the correct and up-to-date information without any errors.

GUI Features:

■ Initial state:

- ✓ When the application starts all controls are disabled except Load and Exit.
- ✓ Other controls are enabled based on the current state of the application. For example, once the load button is clicked, the add (+) button is enabled. When the add button is clicked, the textfields and delete button are enabled
- ...

■ **Title:** make the title of the window "Phonebook Editor by < your name > "

■ **Field Validations:** A record is valid if it matches the following criteria:

- ✓ **Name:** must start with an uppercase letter followed by at least two letters (upper or lower). For simplicity, we disallow numbers and special characters.
- ✓ **State:** must consist of one OR two words. Each word should start with an upper case letter followed by at least two letters (upper or lower).
- ✓ **Phone:** must be in the form (###) ### - ####. Where # is a number between 0 and 9 except for the 1st and 4th digits, they must be between 1 and 9. Notice the spaces after the ')' and around the '-'

■ **Load:** use the FileChooser class to prompt the user to select a file. Once the user selects a file, open the file and load the list. If the serialization fails, show an error message and create an empty list. Show the file's name next to this button. For the first time, you can create an empty XML file and select it via FileChooser.

Note: just for this assignment, serialization will be written to this file whether deserialization succeeds or fails.

■ **Add button (+):** this button is enabled once the file is loaded. It allows a new record to be appended to the list.

- ✓ Don't allow a new record to be added unless the current record values are valid.
- ✓ Before adding a new record, save the current one.

■ **Remove button (-):** this button is enabled if there is at least one record displayed. The button removes the current record being displayed.

- ✓ Update the text fields with proper record. For example, if record #5 is removed, the application will display record #4.

■ **Next button (»):** this button is enabled if there is a record that can be displayed after the current one.

- ✓ Once clicked, the successive record is shown.
- ✓ Save the current record before moving on

■ **Previous button («):** this button is enabled if there is a record that can be displayed before the current one.

- ✓ Once clicked, the previous record is shown.
- ✓ Save the current record before moving on

■ **Serialize:** the list will be serialized to a file using XML format. Use the FileChooser to prompt for the file.

- ✓ Save the current record before moving on

✓ Once saved, the file's name is displayed next to the Load button

■ **Exit:** exits the application.

✓ The button will confirm that the user wishes to exit. If the user selects OK, exit the application

■ Current record label: a label that shows the current record being displayed

Additional Hints:

✓ Create a Record class with String private fields name, state, and phone. Create accessors and mutators for all fields.

✓ Create a RecordList class with a private ArrayList field. Create accessor and mutator for the list. In your JavaFX application, create an instance of RecordList and use that list to add and remove records. This instance will be used for serialization and deserialization.

Screenshots:

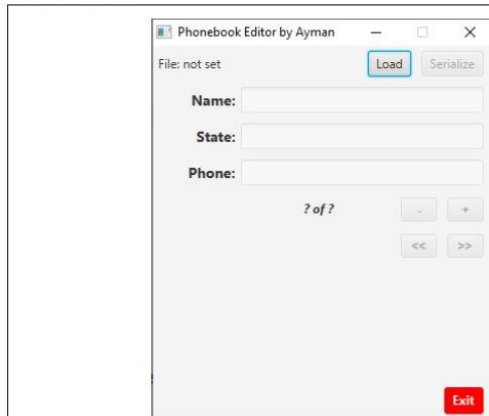


Figure 1: Initial start

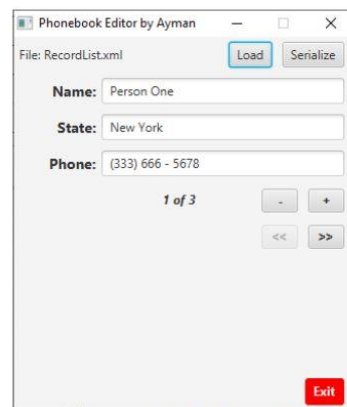


Figure 2: XML file loaded

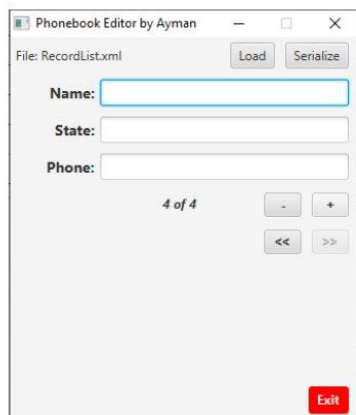


Figure 3: Add button clicked



Figure 4: Exit prompt



Figure 5: Invalid name error message

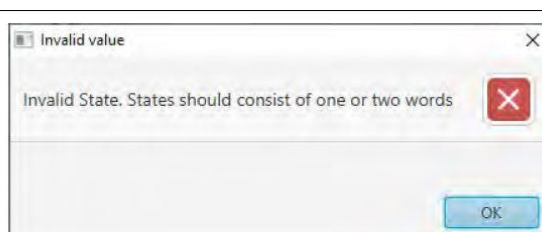


Figure 6: Invalid state error message

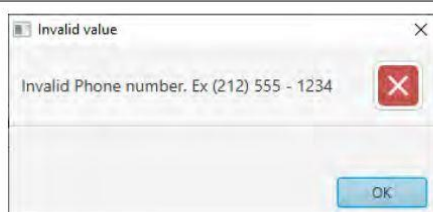


Figure 7: Invalid phone error message