

TDT4180 MMI - Exercise T4: Editing a list of Person instances, using JList and PersonPanel

The form PersonPanel created in exercises T2 and T3 supports editing of the properties of individual Person instances as models. In this exercise the goal is to learn how to edit a list of Person instances, by utilizing the standard JList component, and our custom PersonPanel component. In addition to these two components, there will be buttons for creating new Person instances and deleting existing ones from the list.

1. Create a PersonListPanel class, a subclass of JPanel, with a JList instance to the left and a PersonPanel to the right. Use the setName method to name the JList instance "PersonList" and the PersonPanel instance "PersonPanel". Analogous to how a Person instance is the model (underlying data) of the PersonPanel class, a DefaultListModel instance will be used as the model of the PersonListPanel. Implement a setModel method in PersonListPanel with a DefaultListModel parameter and a corresponding getModel method. Make sure the JList instance "PersonList" uses this DefaultListModel instance as its model. Implement a main method for testing purposes, that creates an outer JFrame with a PersonListPanel as its content, and uses its setModel method to fill the JList with three Person instances.
2. Implement support for selecting a Person instance in JList and editing it in the PersonPanel. I.e. if a Person instance is selected, it should be available for editing in the PersonPanel, and if no instance is selected, the PersonPanel must be empty/emptied.
3. Create an Action implementation for creating a new Person instance. The action must both create a new Person instance and make sure this instance is ready for editing in the PersonPanel. Add a JButton to PersonListPanel with this Action attached. Use the setName method to name this JButton "NewPersonButton".
4. Create an Action implementation for deleting the Person instance that is selected in the JList. The action must both remove the new Person instance from the model, i.e. DefaultListModel instance and make sure a different or no Person instance is ready for editing in the PersonPanel. Add a JButton to PersonListPanel with this Action attached. Use the setName method to name this JButton "DeletePersonButton".
5. Create a class named PersonRenderer that implements the ListCellRenderer interface, so a Person is shown in the list with the name followed by the email address. The icon must depend on the value of the gender property. Hint: Subclass DefaultListCellRenderer, override its getListCellRendererComponent(...) method and use JLabel label = super.getListCellRendererComponent(...) in the overriding method. Use the ImageIcon class for the icon.