

Programming III

Laboratory 9-10-11

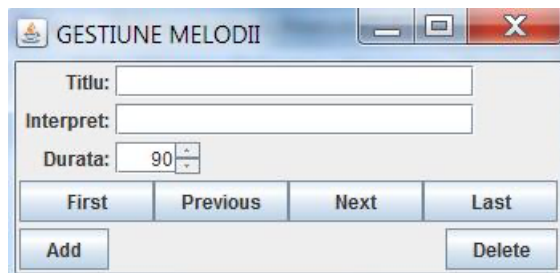
Objectives

- Graphical user interfaces

Exercises

1. Create a graphical user interface that allows the management of a list of songs. A song is characterized by title, duration and the name of the person that sings the song. The interface should allow the user to:
 - a. allows iteration through the list of song
 - b. adding and deleting songs to/from the list
 - c. when the application is opened to automatically load a list of songs from a file and when the application is closed to automatically save the list of songs in a file

Build the interface similar with the one in the next figure.



2. Create a graphical user interface for a program that allows the drawing the following forms: rectangles, circles, stars and smiley face. The application should have the following features:
 - a. A menu that allows to choose the figure that is drawn
 - b. A graphical surface that allows to draw the chosen figure from menu
 - c. A menu entry (or toolbar button) that allows to choose a color for drawing
 - d. A menu entry that allows to draw filled figures
3. Create a graphical user interface for an application that allows splitting a list of students into groups. The application has to implement the following requests:
 - a. The list of students is a load from a text file that contains each student name on a line.
 - b. The groups can be saved in CVS files that contains the list of students on a line the group number and student name

- c. Application offers the possibility to split automatically the students in groups, the user has to provide the number of groups she/he desires
 - d. Application allows visualization of groups/students and allows manually moving unassigned students to a group (The interface contains a combo-box for selecting a group, two lists one with unassigned students and one with the selected group students and buttons to move students from a list to another list)
 - e. The application provides an interface for creating new empty groups names.
4. Create a GUI for the following problem: create a class Playlist that has like attributes the start time, a list of advertisements and a minimum and maximum duration. An advertisement contains the name of the customer for whom is produced, a description, a duration and a price. The interface will allow:
- a. Management (add/delete/edit) list of playlists
 - b. Management (add/delete/edit) list of advertisements
 - c. Create a bar diagram with the price of advertisements from the list of playlists
 - d. Create a table to display all advertisements for a playlist, allow the table sorting based on different criteria (price, duration, firm)
 - e. Validate the input data (use JOptionPane)
 - f. Add an about menu to your application that opens a window with some information about the application

Supplementary exercise.

Create a graphical user interface for managing a simple version of a furniture warehouse. A warehouse has a layout, it is split in a number of regions. Each region has a name, width, height and left corner coordinates. Each region contains a list of products. Each product has a name, a description and a price. Create a GUI that has the following requirements:

1. A menu option(s) from which you can describe the regions of the warehouse
2. A menu option that allows to see a graphical design of the regions
3. For a selected region a table is displayed with all the products from the region. The products can be sorted by price or name. The application should allow adding/removing products from the region
4. Design and offer operation to store the regions. Design a relational database to store the information.