

LAB221Assignment

Type:
Code:
LOC:
Slot(s):

Long Assignment
J2.L.P0004
500
N/A

Title

Reader Management

Program Specifications

In this assignment, you are required to build reader management application, in the form of a desktop application. The program has basic functions: add - edit – delete reader information.

You are required to use

- The basic components to design interfaces
- The tabbed pane to organize reader management on the one screen.
- Array List is used to store information.

Program organization must clearly separate functions **according to MVC model**.

Reader information is shown following table

Field Name	Type
readerID	String
readerName	String
gender	Boolean
birthday	Datetime
address	Integer
email	String
phone	String

Features:

This system contains the following functions:

- **Verify constrain of following data type fields – 100 LOC**
 - Reader ID: is not null, max length is 10, is not contains special characters
 - Reader name: max length is 50
 - Gender: famale or male, radio button is recommended
 - Birthday: valid date
 - Address: valid address
 - Email: max length is 30, contain only one “@” character, not contain other special character
 - Phone: max length is 15, contain numeric characters only (0-9)
- **Function 1: Create reader - 50 LOC**
 - The user presses the Add new button to clear the information at detailed part, and system prepares for new data entry.
 - The user inputs new reader information. Then, user clicks the Save button.
 - The program checks the validity of data,

- If data is not valid then display an error message
- Otherwise, system will insert new reader into the Array List.
- The reader table must be refreshed after new data has been successfully inserted.
- **Function 2: Show all readers – 100 LOC**
 - The screen is divided into 2 parts: main information and detailed information.
 - Main part: this part lists all available readers with their information (ReaderID, name, gender, birthday, address, email, phone) in the system. (50 LOC)
 - Detailed part: When you click a row on the table or the Search button is clicked, system calls findByReaderID method (50 LOC),
 - If the application finds a match ReaderID. The details of the respective reader are displayed following information as ReaderID (disable), name, gender, birthday, address, email, phone.
 - Otherwise, some message is shown
 - Four buttons Search, Add New, Save and Delete button are put in detailed part as following picture

The screenshot displays the 'Reader Management' application interface, which is divided into two main sections: 'Main part' and 'Detailed part'.

Main part: This section contains a table with the following columns: ID, Full Name, Age, Gender, Phone, and Address. Below the table, there is a 'Sort by name:' dropdown menu currently set to 'None', a 'Get all data' button, and a 'Search by Name' button with an adjacent text input field.

Detailed part: This section is used for viewing and editing a specific reader's information. It includes the following fields and controls:

- Reader ID:** A text input field followed by a 'Search' button.
- Full Name:** A text input field.
- Gender:** Radio buttons for 'Male' (selected) and 'Female'.
- Birthday:** A date picker showing 'April 21, 2021'.
- Email:** A text input field.
- Phone:** A text input field.
- Address:** A text input field with a vertical scrollbar.
- Buttons:** At the bottom, there are three buttons: 'Add new', 'Save', and 'Delete'.

- **Function 3: Update reader – 50 LOC**
 - The user clicks on the reader that she wants to modify on the reader table.
 - The details of the respective reader are displayed.
 - The user changes the information of the reader (not allow modify the ReaderID). Then, the user clicks the Save button.
 - The program checks the validity of data,

- If data is not valid then display an error message
- Otherwise system will update reader information.
- The reader table must be refreshed after data has been successfully updated.
- **Function 4: Remove reader– 50 LOC**
 - The user clicks on the reader that she wants to delete on the reader table. Then, users click the Delete button.
 - The program must display a message to confirm the deletion.
 - If the user confirms, system will delete the selected reader.
 - The reader table must be refreshed after data has been successfully deleted.
- **Function 5: Search by reader name – 50 LOC**
 - The user enters a string name that she wants to find on the reader table. Then, user clicks the Search by name button.
 - The reader table will display all data row that
 - Their reader name contains the string name was entered above
 - Otherwise, system will display a message to notify that can not found any the reader name.
 - The reader table must be refreshed after data has been successfully find.
- **Function 6: Sort by reader name – 50 LOC**
 - The reader table displays the data in unsorted status. The user clicks on a combo box (sort by name) that she wants to sort the data on the reader table.
 - When the user choices the ascending option on the combo box, the system calls sortAscendingByReaderName method.
 - The data will be sorted ascending and displayed on the reader table.
 - When the user choices the descending option on the combo box, the system calls sortDescendingByReaderName method.
 - The data will be sorted descending and displayed on the reader table.
 - The reader table must be refreshed after data has been successfully sort.
- ❖ **The above specifications are only basic information; you must perform a requirements analysis step and build the application according to real requirements.**
- ❖ **The lecturer will explain the requirement only once on the first slot of the assignment.**