

Applications Development Practice II (ADP262S)

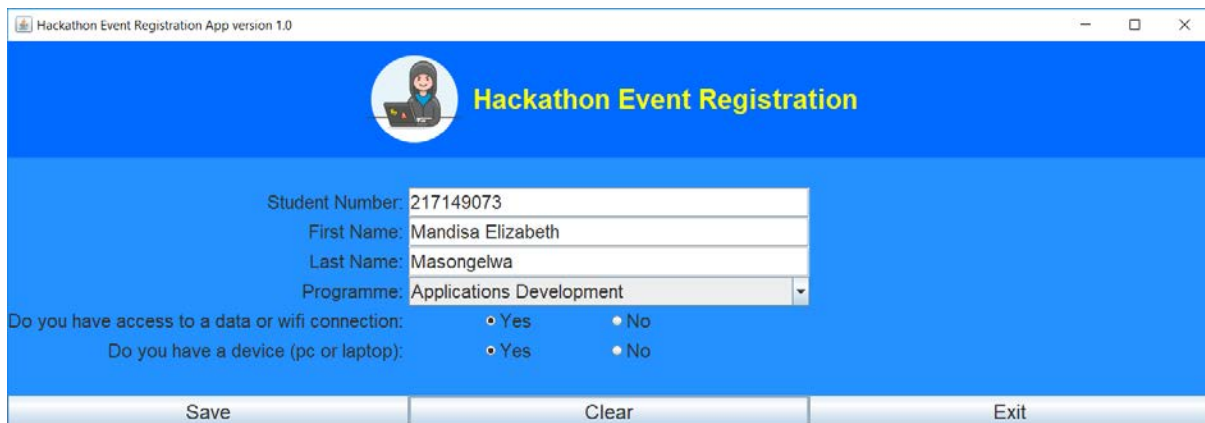
Assignment 2: Event Registration App

Due Date: 15th July 2020

Lecturers: David Makola, Kruben Naidoo, Sheethal Tom

Section A: Overview

Create the following Java Swing application with the necessary functionality as described below in Netbeans 8.2.



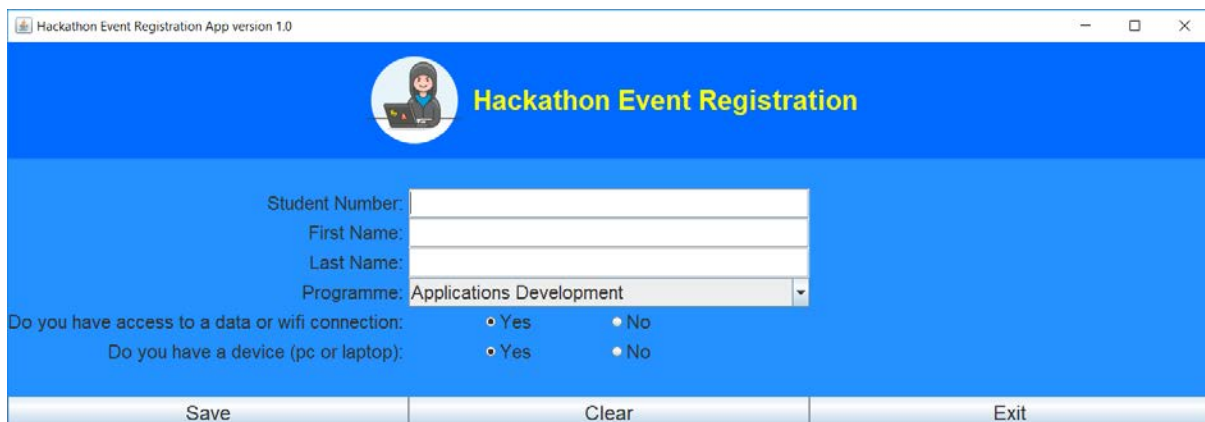
The screenshot shows a Java Swing window titled "Hackathon Event Registration App version 1.0". The window has a blue header bar with a circular profile icon of a person with a laptop and the text "Hackathon Event Registration" in yellow. Below the header, the form contains the following fields and controls:

- Student Number: 217149073
- First Name: Mandisa Elizabeth
- Last Name: Masongelwa
- Programme: Applications Development (dropdown menu)
- Do you have access to a data or wifi connection: ☒ Yes ☐ No
- Do you have a device (pc or laptop): ☒ Yes ☐ No
- Buttons: Save, Clear, Exit

The IT Department is planning to have an in-house Hackathon later in the year. The theme of the event is to code apps that solve real-life problems during the Covid-19 pandemic. Each attendee would need to complete the registration form (as shown above) when they arrive at the event on campus. The program will be loaded onto a tablet and the attendees will be able to complete their registration at the Event Helpdesk (where the tablet will be affixed).

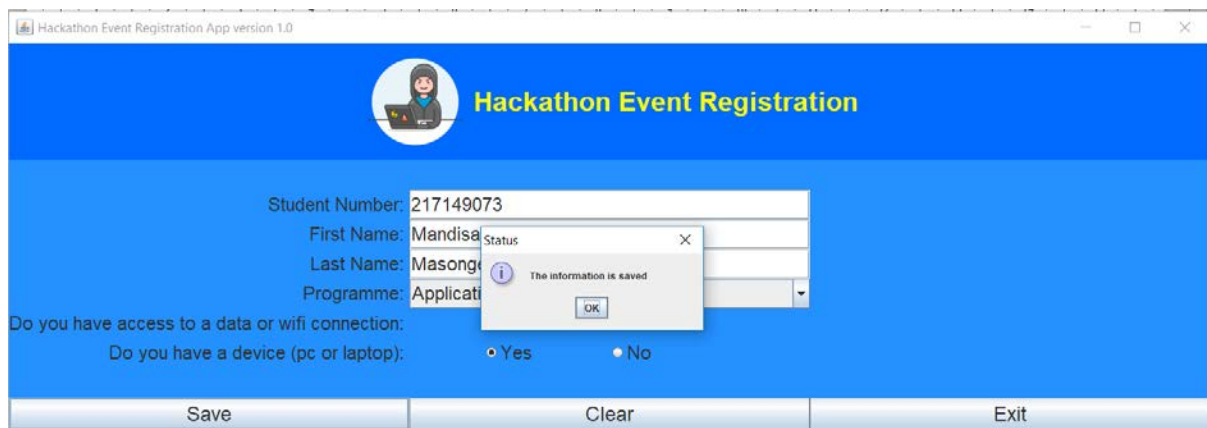
Section B: Functionality

1. When the program loads, the following GUI application is shown:



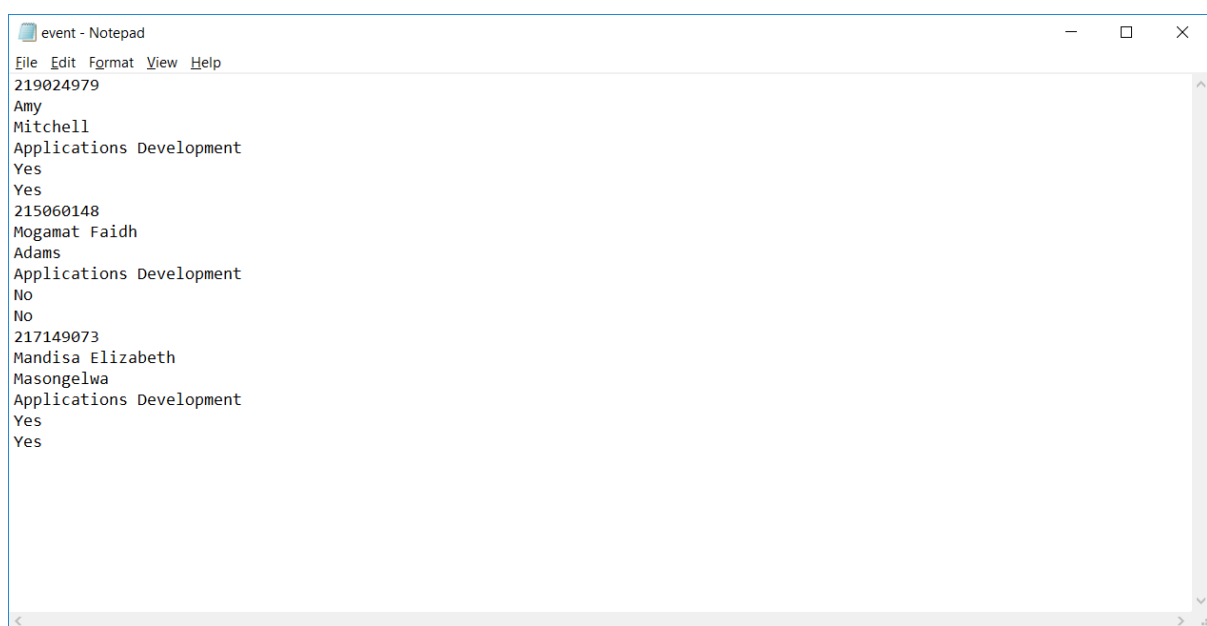
This screenshot is identical to the one above, showing the initial state of the Java Swing application. The form fields are populated with the same data: Student Number (217149073), First Name (Mandisa Elizabeth), Last Name (Masongelwa), Programme (Applications Development), and both radio buttons for data/wifi access and device ownership are selected for "Yes".

2. The attendee then proceeds to input the necessary information and clicks the **Save button**:



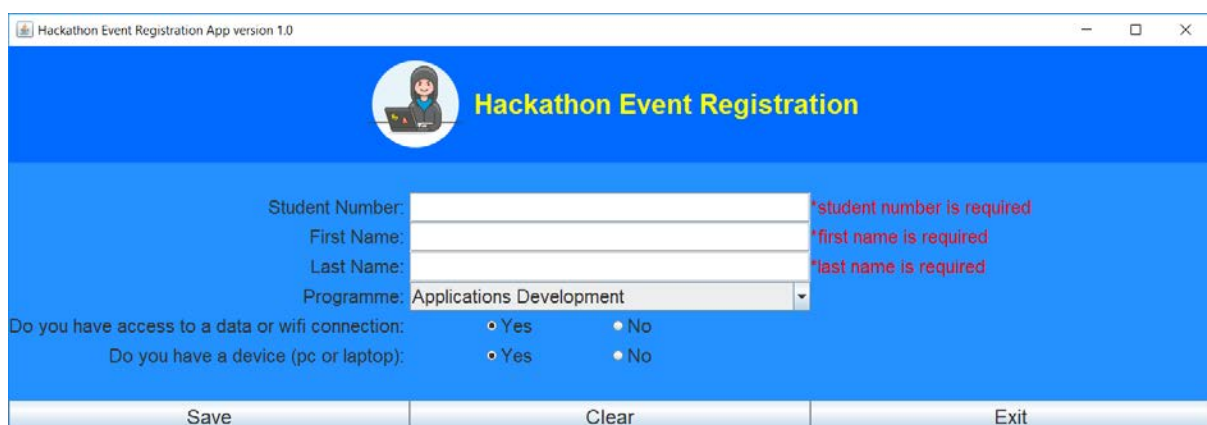
The screenshot shows the 'Hackathon Event Registration App version 1.0' window. The form is filled with the following data: Student Number: 217149073, First Name: Mandisa, Last Name: Masongelwa, Programme: Applications Development. Below the form, the questions 'Do you have access to a data or wifi connection?' and 'Do you have a device (pc or laptop)?' are both answered with 'Yes'. A modal dialog box in the center displays the message 'The information is saved' with an 'OK' button. At the bottom, there are 'Save', 'Clear', and 'Exit' buttons.

The information is stored in a sequential text file called "**event.txt**" as shown below:



The screenshot shows a Notepad window titled 'event - Notepad'. The text inside the window is a sequential list of registration data, separated by line breaks: 219024979, Amy Mitchell, Applications Development, Yes, Yes, 215060148, Mogamat Faidh Adams, Applications Development, No, No, 217149073, Mandisa Elizabeth Masongelwa, Applications Development, Yes, Yes.

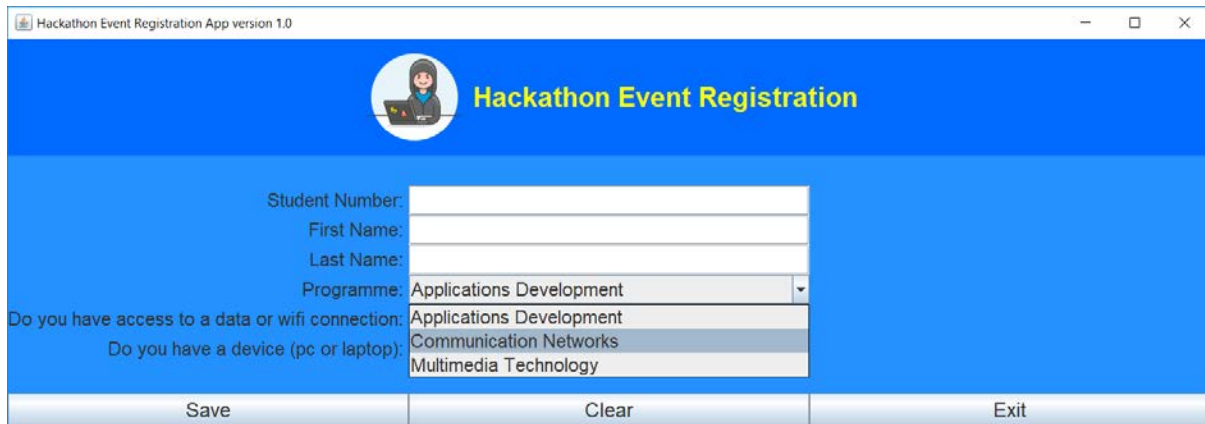
3. There is input validation performed prior to this when the **Save button** is clicked, to ensure that all the information is provided:



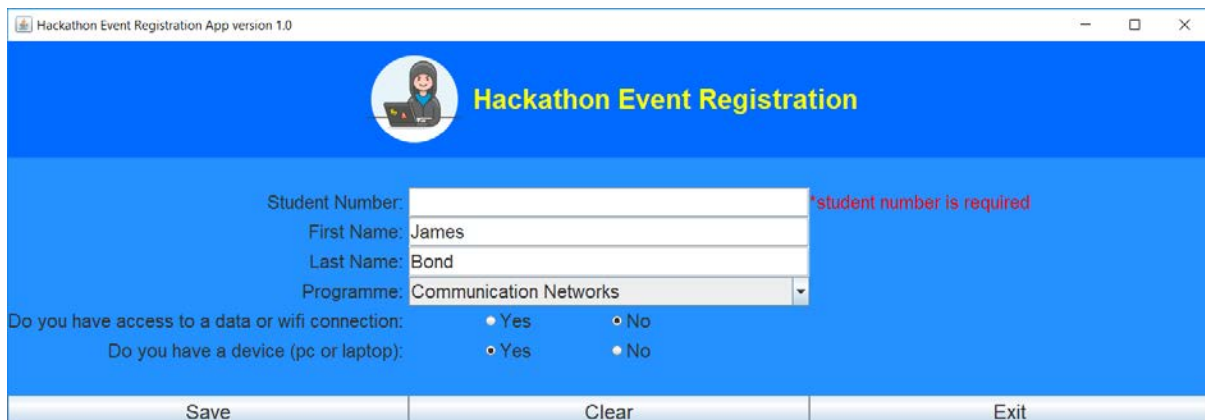
The screenshot shows the same registration app window, but with validation errors. The 'Student Number', 'First Name', and 'Last Name' fields are empty, and each has a red error message to its right: '*student number is required', '*first name is required', and '*last name is required' respectively. The 'Programme' dropdown is set to 'Applications Development'. The radio buttons for the connection and device questions are still set to 'Yes'. The 'Save', 'Clear', and 'Exit' buttons are at the bottom.

Note, that the **Programme combobox**, **Data Radiobuttons**, and **Device Radiobuttons** are all set to default values as described above.

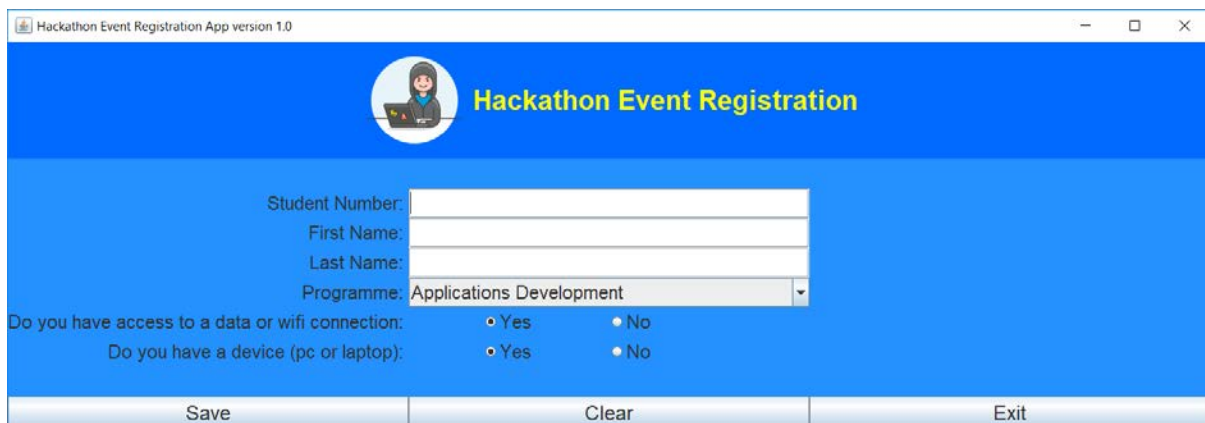
4. The items in the **Programme combobox** include:



5. The **Clear button** resets the information on the form:



After the **Clear button** is clicked,



Notice that the focus of the cursor is on the **Student Number textbox** now.

6. When the user clicks the **Exit button**, the program closes.

Section C: Requirements

Code the Java swing application using the Netbeans 8.2 IDE as described above. Use JDK 1.8 as discussed in class. Be mindful of plagiarism so as to not share your work or discuss the assignment with anyone (including your class mates or family members who want to show you their excellent coding skills – this is however your Assignment and not theirs). Please be mindful of extracting code snippets from the internet – check with your Lecturer to avoid plagiarising!

Section D: Other

A reminder that your program should include:

- Good programming practices
- Efficient algorithms and code
- Good user interface design
- The necessary input validation

Later in the year, we may want to redesign the application to have the information stored onto a distributed database with many tablets loaded with the program to speed up the registration process; so you are encouraged to think about concepts taught like extensibility, adaptability and scalability. For now, consider this version 1.

Section E: Submission

Zip your Java Netbeans project. Then upload it to Blackboard. See link provided.

Section F: Marking

This is a peer-graded assessment. You are required to grade at least 3 of your peer's submissions using Blackboard. The rubric will be given on Blackboard to clearly show how marks are allocated.

Have Fun!

