

# CSE201: Advanced Programming

## Project Assignment 1

You are supposed to design a system for PhD Admissions

### **At applicant's end:**

You are required to design a set of forms to apply for PhD Admissions. The shared html file describes the outlook and features of the form pages to design.

You have to use Javafx to design the GUI window. As of now, the design and functionality are applicable only on your local machine i.e we shall not deal with remote(web-based) form applications as of now.

Corresponding to every application, you are supposed to maintain all the data (obtained from textfields, dropdowns, radiobuttons etc.) along with the timestamp of form submission in a file.

On clicking submit button,

- You must check if all mandatory fields are filled. If so, then proceed, else prompt to fill the missing fields.
- Once proceeded, your form should generate a unique enrollment id and export all data to a file which may be unique per application or may append to existing common file with other entries- your choice to design.

The form also provides an option to upload the CV and SOP. So implement a File chooser and uploader, a saver rather. As of now, all these uploaded files need to be saved in a common directory of the same machine, appropriately rename such as Enrollmentid\_CV.extension

### **At admin's end:**

Design a UI to fetch data from the database file based on certain filters. The expected filters are provided in the screenshots(at the end of this document) of the expected layout. The filter GUI consists of three tab panes, the layout of each has been provided in the screenshot. All the expected filters are listed in the screenshots of the layout itself.

It is not necessary to apply all the filters in one go. You may just set one of the filters and leave the rest as default. The functionality should nevertheless support applying multiple filters altogether, eg. List out all applicants with a Graduation percentage greater than 80% and have B.Tech degree with a Department of Computer Science- this involves three filters.

On submitting the filter, your window/scene should navigate to another scene/window where the GUI should list the filtered entries in tabular form with the following attributes: (The screenshot for the same has been provided)

- EnrollmentID
- Name of Applicant

- Link/Button to a data file that contains all the data that was filled in the form by that particular applicant. So clicking on this link/button should open the data file in the default program(say Adobe Reader for a pdf if you are converting the data file into a pdf though it is your design choice). This may be of help:

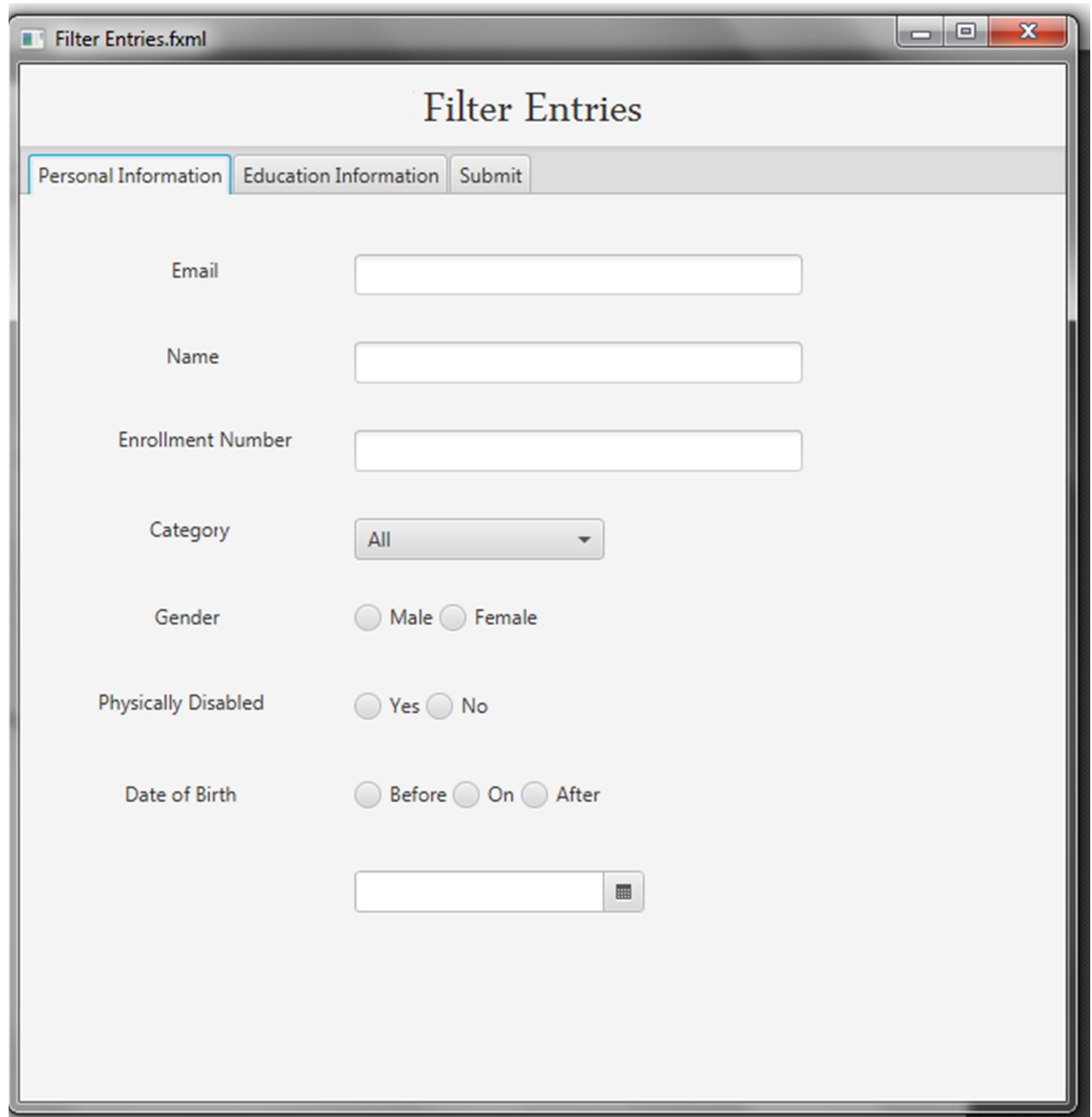
<https://docs.oracle.com/javafx/2/api/javafx/application/HostServices.html>

Sanity checks- date should not be in future, Marks Percentage should be an integer  $\leq 100$  and  $\geq 0$ , GATE score should be valid etc.

You are free to play with the designing of the GUI as long as it satisfies the required basic features.

Screenshots:

1. Filter GUI:



The screenshot shows a JavaFX window titled "Filter Entries.fxml". The window has a title bar with standard OS controls (minimize, maximize, close). The main content area is titled "Filter Entries" and contains a tabbed interface with three tabs: "Personal Information", "Education Information", and "Submit". The "Personal Information" tab is currently selected. Below the tabs, there are several form fields and controls:

- Email:** A text input field.
- Name:** A text input field.
- Enrollment Number:** A text input field.
- Category:** A dropdown menu with "All" selected.
- Gender:** Two radio buttons labeled "Male" and "Female".
- Physically Disabled:** Two radio buttons labeled "Yes" and "No".
- Date of Birth:** Three radio buttons labeled "Before", "On", and "After", followed by a date picker control.

Filter Entries.fxml

Filter Entries

Personal Information

Education Information

Submit

PhD Stream	All
Graduation Degree	All
Post Graduation Degree	All
Class X Board	All
Class XII Board	All
Department(Graduation)	All
Department(Post Graduation)	All
University (Graduation)	
University (Post Graduation)	
State (Graduation from)	All
State (Post Graduation from)	All
Class X Board Percentage	<input type="checkbox"/> Greater than <input type="checkbox"/> Equals <input type="checkbox"/> Lesser than <input type="text" value="Percent"/>
Class XII Board Percentage	<input type="checkbox"/> Greater than <input type="checkbox"/> Equals <input type="checkbox"/> Lesser than <input type="text" value="Percent"/>
Graduation Marks Percentage	<input type="checkbox"/> Greater than <input type="checkbox"/> Equals <input type="checkbox"/> Lesser than <input type="text" value="Percent"/>
Post Graduation Marks Percentage	<input type="checkbox"/> Greater than <input type="checkbox"/> Equals <input type="checkbox"/> Lesser than <input type="text" value="Percent"/>
GATE Score	<input type="checkbox"/> Greater than <input type="checkbox"/> Equals <input type="checkbox"/> Lesser than <input type="text" value="Score"/>

Filter Entries.fxml

## Filter Entries

Personal Information Education Information Submit

Applications Dated From

Applications Dated Upto

Show Filtered Result

< September > < 2015 >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

3.

4. Results after filtering:

