

Vanessa Ulloa – CST 338 Final Project

1 SIMPLE STUDENT REGISTRATION SYSTEM

1.1 MAIN CLASS – FINALPROJECT.JAVA

- Variables/Objects:
 - FPGUI projectMain
 - This object is an instantiation of the FGUI class (see below)
 - Set object to visible (true).
- Methods:
 - N/A

1.2 FPGUI.JAVA

- This class is responsible for the GUI aspects of the program. It will extend JFrame will create the mainPanel which will itself hold the 3 panels that information will be displayed on.
- Variables/Objects:
 - Static final int WIDTH,HEIGHT
 - Static final String FNAME,LNAME
 - JPanel mainPanel,userPanel,schedulePanel,viewPanel
 - JButton registerBtn,dropBtn
 - JLabel userLbl,registerLbl,viewLbl,registerStatusLbl,viewStatusLbl
 - JLabel fnameLbl,lnameLbl,fnameUserLbl,lnameuserLbl
 - JList scheduleList, studentList
 - ScheduleOfClasses theSchedule
 - An object of the ScheduleOfClasses Class
 - This object creates an ArrayList of ClassName objects in String form in order to add to a JList that is viewable on the schedulePanel
 - StudentSchedule newStudentSchedule
 - An object of the StudentSchedule Class
 - This class works with the ScheduleOfClasses objects in the JList and adds them to an ArrayList that is that student's schedule.
 - Displayed in JList on the viewPanel
- Methods:
 - FPGUI – default constructor
 - Sets basic details of the mainPanel (size, title, background,etc.)
 - Instantiates the JPanels, JButtons and JLabels used as the “titles” of the JPanels.
 - Sets layouts in each panel, using GridLayout on mainPanel, GridBagLayout on userPanel and FlowLayout in the remaining 2 panels.
 - Calls createUserPanel(), createSchedulePanel(), createViewSchedulePanel()
 - createUserPanel()

- userPanel displays JLabels with the current student information (fnameLbl, lnameLbl, fnameUserLbl, lnameUserLbl)
 - Method adds components to the panel using GridBagConstraints
- createSchedulePanel()
 - schedulePanel displays JList with master schedule of classes created from the ScheduleOfClasses class.
 - registerBtn uses ActionListener to add class to StudentSchedule object and display in JList in viewPanel
- createViewSchedulePanel()
 - viewPanel displays JList with “registered” classes from the JList in the schedulePanel
 - Classes can be “dropped” (removed) from the JList into his panel.
 - dropBtn uses ActionListener to “drop” the class and also calls updateViewPanel() to update the display
- updateViewPanel()
 - resets the Listdata in the JList in the viewPanel
 - calls repaint() to update display

1.3 CLASSNAME.JAVA

- Variables/Objects:
 - Private static string classScheduleName
 - A place where the randomly created class name will be stored and used to populate ArrayLists in ScheduleOfClasses class
 - String[] classID
 - String[] scheduleDays
 - String[] scheduleTimes
 - Above 3 String arrays are the pool that will be used to generate random class names
- Methods:
 - ClassName() – default constructor
 - Populates classScheduleName with results of other class methods
 - getClassScheduleName – accessor for classScheduleName variable
 - generateClassID()
 - uses Random to return random value from the classID array
 - generateScheduleDays()
 - uses Random to return random value from the scheduleDays array
 - generateScheduleItems()
 - uses Random to return random value from the scheduleTimes array

1.4 STUDENTCHEDULE.JAVA

- Variables/Objects:
 - ArrayList<string> studentClassSchedule
 - ArrayList that will hold the entire class schedule

- ArrayList is an easier way to manage multiple entries without having a set array
 - Boolean flag
 - Used to determine if a class has already been registered or not.
- Methods:
 - addClassToSchedule()
 - method that adds a `ClassName.toString()` value to the ArrayList (that student's schedule)
 - uses method to determine if class already exists within the ArrayList (already registered)
 - if successful, class is added to the ArrayList and status message appears in the `schedulePanel`. Else, status message also appears and class is not added.
 - dropClassFromSchedule()
 - method to "drop" or remove a class.
 - Uses ArrayList method to remove class from the list
 - Updates status message in the `viewPanel`
 - isValidRegister(String)
 - method used to check if class already exists in the list (already registered)
 - returns Boolean value of true or false

1.5 SCHEDULEOFCLASSES.JAVA

- Variables/Objects:
 - `Public static final int MAXSCHEDULECLASSES`
 - `ArrayList<String> scheduleOfClasses`
- Methods:
 - `ScheduleOfClasses()` – default constructor
 - Calls `generateClassList()` method
 - `generateClassList()`
 - uses `MAXSCHEDULECLASSES` to determine ArrayList size
 - loops through to fill entries with `ClassName.toString()` values
 - those values are displayed in the `schedulePanel`

1.6 TESTING

- Testing for this program consisted of:
 - Registering for the same class more than once
 - Dropping a class when the student schedule is empty
 - Adding and dropping classes in different order every time.