A07 Changing Images

Due Mar 5 by 11:59pm   **Points** 40   **Submitting** a file upload

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Learning Objectives :

- Create a subclass of JPanel that displays a picture consisting of at least three images.
- Dynamically update images from another panel.
- Use the internet to learn about JCheckBox and include checkboxes in the control panel.
- Refactor the program by extracting methods that add clarity to the code and increase maintainability

Description:

Create a gui application that allows the user to change different parts of a picture based on selections in the control panel.
Below you can find the recording of a finished project that shows a face. In this example, the user can select whether the eyes, nose, and/or mouth should be changed.
Your program needs to use a different picture that is not a face. However, the required functionality and restrictions remain the same.

Requirements:

- The application needs to include two panels (JPanel):
  - A control panel, that includes a label, three checkboxes that correspond to three features (in my case eyes, nose, and mouth), and a submit button.
  - A picture panel, that is implemented as a separate class that extends JPanel. It draws the picture (in my case the face) with the three features, and each of those features is a separate image.
    Your picture can be anything you want as long as it is not a face. However, it needs to include three exchangeable features and those features need to be placed appropriately to fit the context (e.g. the mouth needs to be below the eyes and it needs to fit inside the face).
    FYI: One way to create a picture based on multiple images is by overriding the method paintComponent and by calling paintIcon (a method from the interface Icon) on the ImageIcon object. There is no need to pass a Component object. You can pass null instead.
- Use proper spacing around the controls in the control panel.
  Prevent the label, checkboxes, and button from touching the sides, the top, or each other. The distance between the buttons should feel natural. Avoid spreading them out over the whole control panel.
- All the features, whose checkboxes are selected, need to change when the submit button is clicked.

- Features are changed by rotating through all the available images. There should be at least three images for each changing feature.
- When the submit button is clicked but none of the checkboxes are selected, the features remain the same. However, something else needs to be modified. Again, there need to be at least three different variants of that change.
  In my case, I chose different colors for the face. However, I could have done something more creative like adding different hairstyles.
- All image files need to be part of the project and they should be accessed by using the resources of the class. (If you use absolute paths from your computer I won't be able to access the files)
- Refactor your code using private methods to improve maintainability. Pay special attention to the clarity of your constructor. *Hint: refactor early and often.*

Here is a running version of a finished project. Your solution will look different because no images are provided and you need to choose a different picture. This assignment is a great opportunity to be creative and to have fun.
Changing Imges.mp4

Turning In:

Create a runnable jar file that includes the source code and resource files (e.g. images). Submit it via Canvas.

1410 Rubric - Changing Images (1)