

Assignment 4

| | | |
|------------------------------|------------------|---------------------------------|
| Due Jul 22 by 11:59pm | Points 36 | Submitting a file upload |
|------------------------------|------------------|---------------------------------|

You will work in the same groups as assignment 3. You will extend your program from assignment 3, while applying the COMMAND and OBSERVER patterns.

You will produce the following artifacts.

1. UML Class Diagram for changes (pdf)
2. UML Sequence Diagrams for use cases (pdf)
3. Fully Functional Java Program (zipped directory of code files)
4. A short 1-page description of how you applied the COMMAND and OBSERVER patterns. This will not be graded (unless it is missing or inaccurate), it is just so I know where to look in your code. (pdf)

Program Description

Modify the slideshow. Add a feature where the caption can be placed anywhere on the image. The position of the caption should be shown in the image list box as well. You must update your save file format to include caption location, and you must handle mouse events to move the caption around the image.

You will also add an undo feature. The user must be able to undo changes to the caption, changes to the caption location, and image changes. All undo must be handled through a menu Edit > Undo.

Use Cases

1. Click and drag caption

1. The user presses the main mouse button down on the box containing the caption on the viewer
2. The user moves the mouse. The caption is moved along with it, relative to the mouse cursor position.
3. The user releases the mouse button while still on the image viewer.
4. The caption is repositioned to the new position. The position of the caption is updated in the image list box.

1.1. Variation

1. The user presses the main mouse button down on the box containing the caption on the viewer
2. The user moves the mouse. The caption is moved along with it, relative to the mouse cursor position.
3. The user releases the mouse button while the cursor is outside the image viewer.
4. The caption stays fully on the image viewer, at the last valid mouse position.

2. Undo

1. The user clicks Edit then Undo.
2. The last change of image, caption, or caption location is undone.

Note: The user must be able to click undo 10 times, if there are 10 actions to undo.

2.1. Variation

1. The user clicks File, then Save to save the slideshow to a file.
2. The undo history is wiped out. Edit > Undo is not selectable.

3. Additional Changes

Several changes are not captured in use cases. The program should save and load caption locations. The program need not save or load undo histories. Also, you must use the COMMAND and OBSERVER patterns to get full credit on the assignment. In your short paragraph, you must point me to the code where you used these patterns.

Note: Additional use cases may be added as a result of class discussion.

