Image Album Project

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Image I/O

- Handles pictures, albums and JSON I/O
- Album class

- It has Album class which aggregates Pictures.
- It can add tags, remove and get tags to itself.
- It can add parent albums and remove child albums.
- Album can add, get and remove Picture objects.

JSON I/O

- JSONReader and JSONWriter manage reading and writing to json file which holds data about images.
- Picture class represents a picture. Each picture has its tag list and those tags can be added or removed. Also each picture has a list of all parent albums.
- The picture has its name, id and file path.

AlterCommands

- AlterCommand interface is a layout for the editing commands. Each command class implements this interface, so it has to implement execute and undo methods. This is command pattern.
- The command and corresponding classes are: Crop, Flip, Mirror, Resize, Rotate and Search.

UndoRedo

- BasicUndoRedoStack has a undo and redo stacks which store the commands which represent the changes made to the picture.
- It has undoPicture and redoPicture methods.

GUI

- The main class is GUI which holds and manages all the components of the graphical user interface.
- It stores the picture which is currently being edited, so it retains a reference of the Picture class.
- For each element on the GUI there is a class that is a Listener which performs the corresponding action when the user clicks that element.
- For example the class CropAction, it retains a reference to the GUI and It instantiates the Crop class and calls its execute method on the picture that is currently being edited which is stored in the GUI class.
- Then it notifies the Observers to let them know that a change happened and it adds the crop
- to the undo/redo stack. This is Observer pattern. So in this case the Picture is Observable and the GUI is the Observer because it needs to update the screen when a change happens to a picture.