

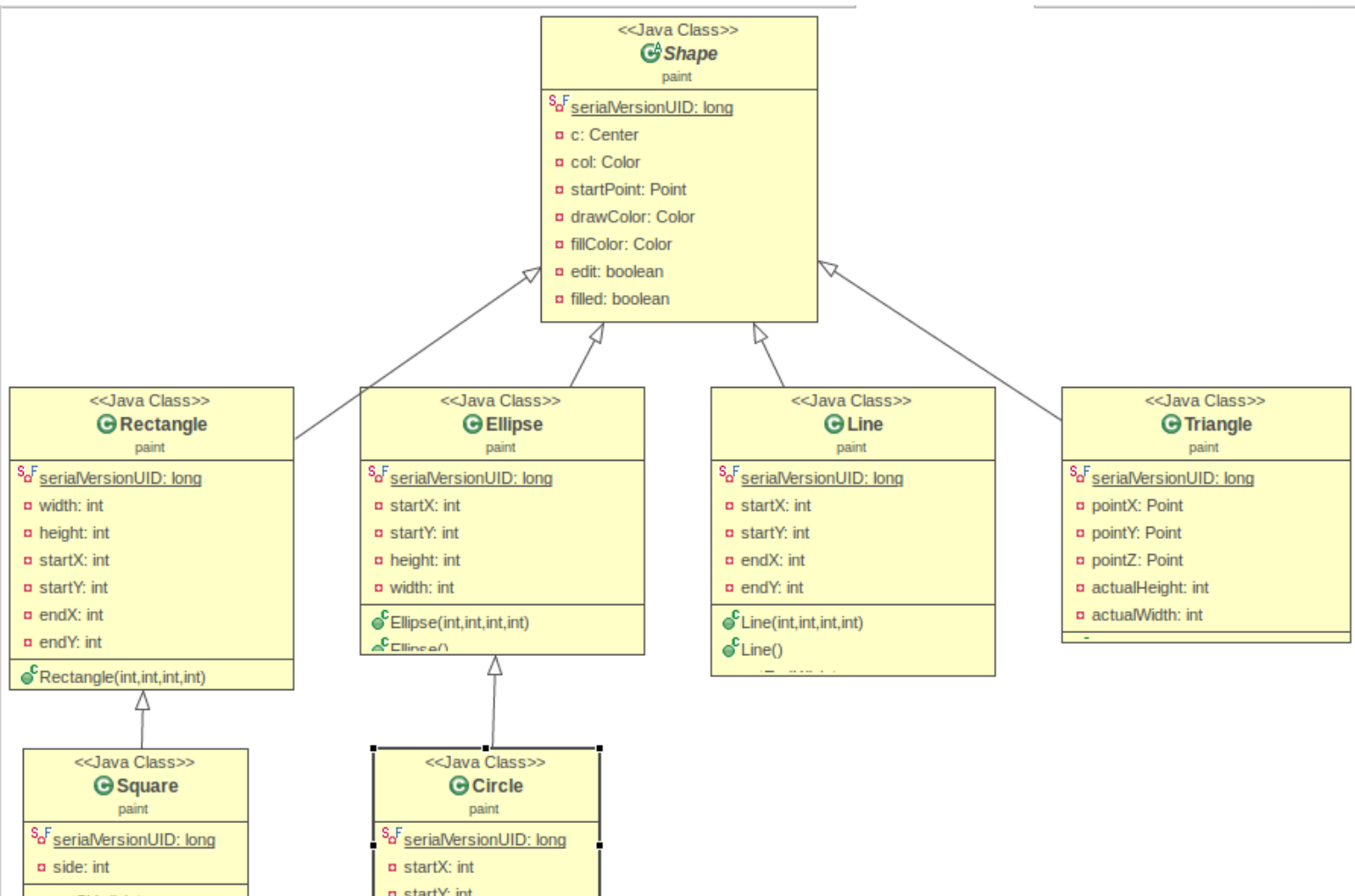
Vector Based Drawing Application.

Team:

Omar Ahmed Mohamed Kassem

Ali Ramadan El-Sayed

UML Diagram for shapes relationship :



Full Design Description :

Shapes Classes:-

- **Abstract Class Shape:**

This class contains all methods which is common between all other shapes, some of them are implemented like :”move”,”getColor”,... and other where left abstract to be implemented in each other classes which inherited from this class.

- **Class Rectangle :**

This class inherits from Shape and is responsible for drawing a rectangle.

Overrides the draw method in Shape. It sets and gets the color from shape

Its Constructor takes 3 parameters {Start Point , Width , Height}

- **Class Square :**

This class inherits from Rectangle and is responsible for drawing a Square.

draw method from Rectangle. It sets the gets the color from shape

Its Constructor takes 2 parameters {Start Point , side}

- **Class Ellipse :**

This class inherits from Shape and is responsible for drawing a oval.

Overrides the draw method in Shape. It sets and gets the color from shape

Its Constructor takes 3 parameter {Start Point, Width , Height}

- **Class Circle :**

This class inherits from Ellipse and is responsible for drawing a Circle.

draw method from Ellipse. It sets and gets the color from shape

Its Constructor takes 2 parameters {Start Point , radius}

- **Class Line :**

This class inherits from Shape and is responsible for drawing a Line.

Overrides the draw method in Shape. It sets and gets the color from shape

Its Constructor takes 2 parameters {Start Point , end Point}

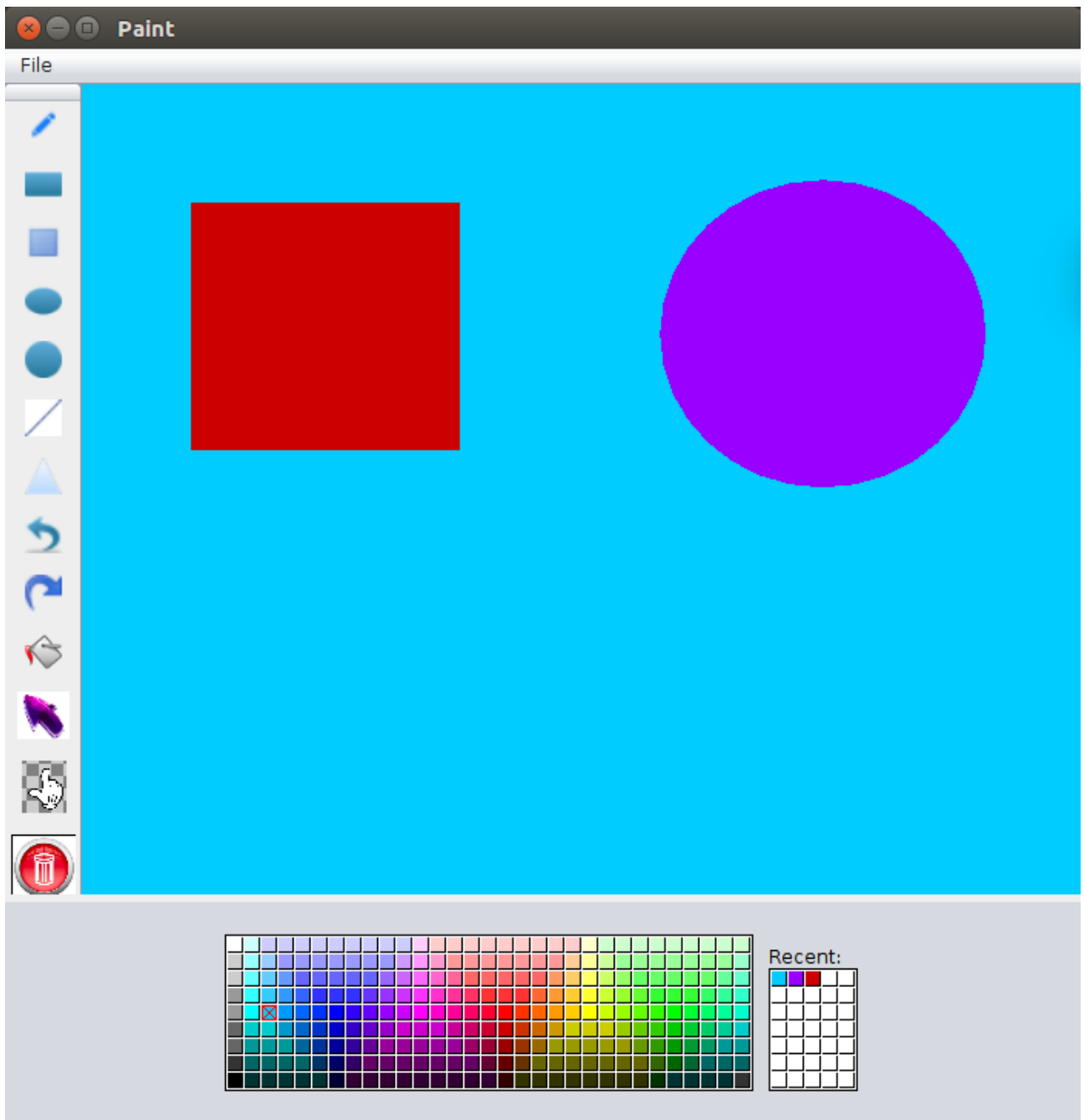
- **Class Triangle :**

This class inherits from Shape and is responsible for drawing a Triangle.

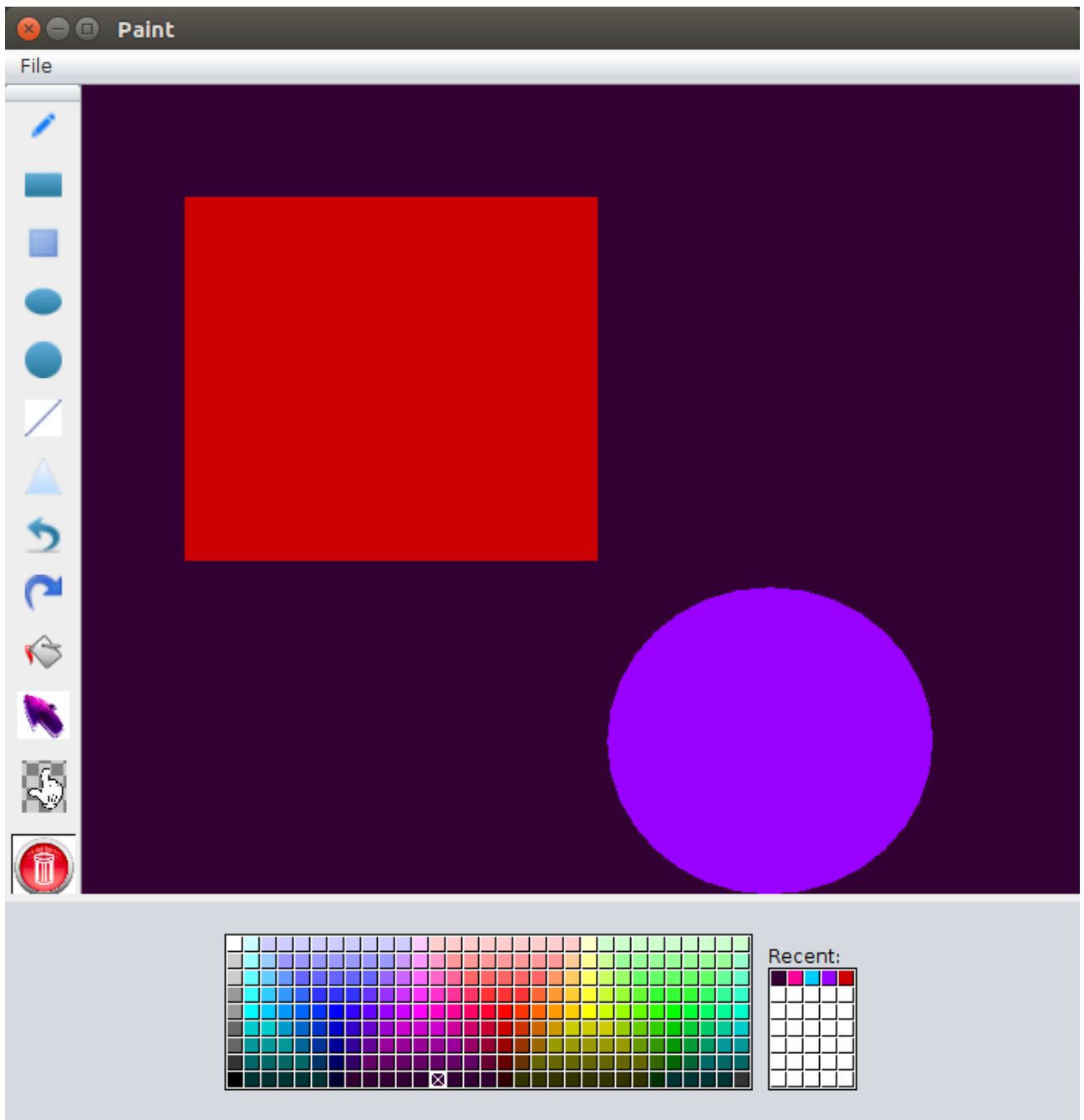
Overrides the draw method in Shape. It sets and gets the color from shape

Its Constructor takes 3 parameters {The 3 Points of Triangle }

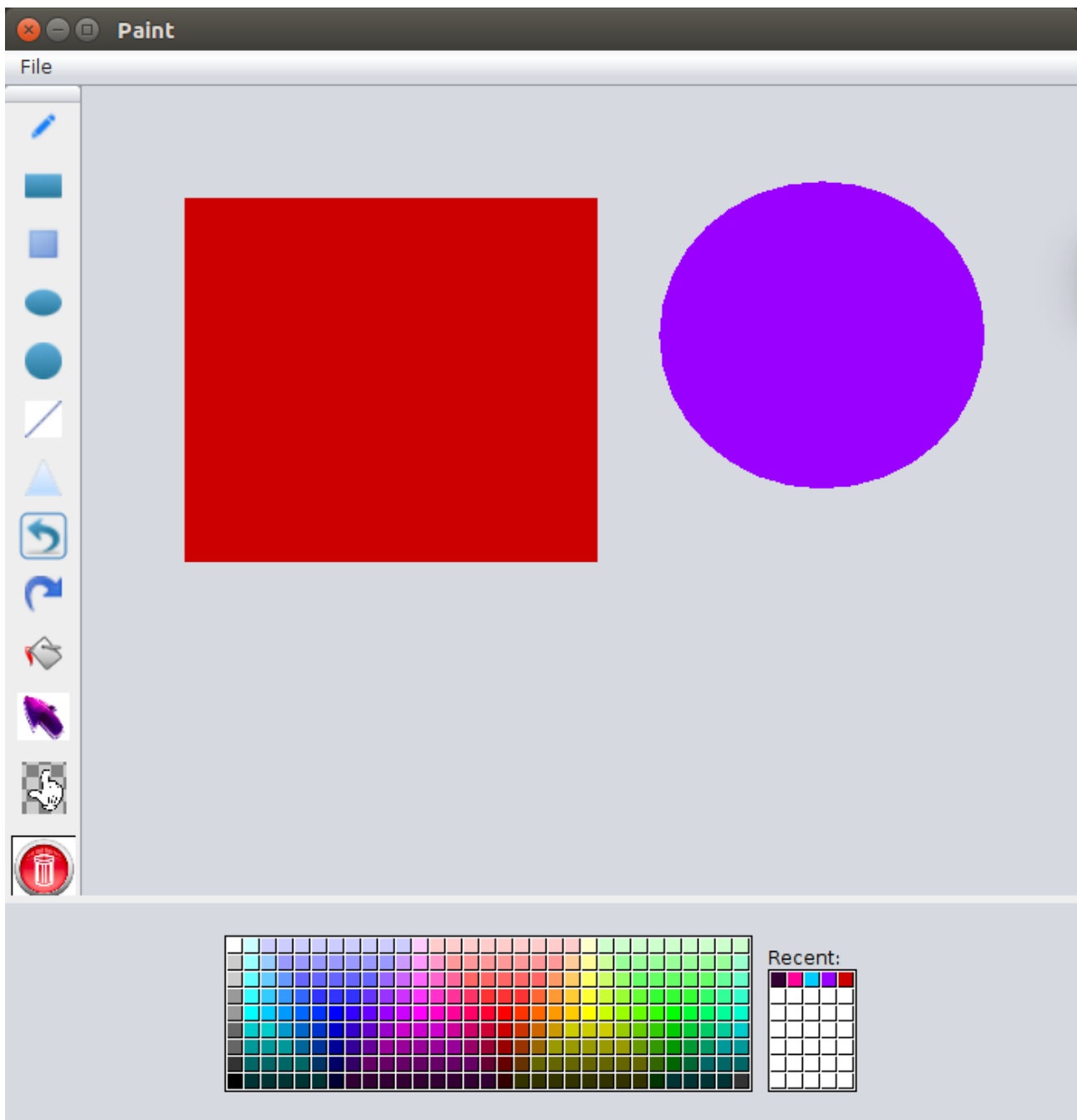
Snap Shot:



after resizing the rectangle and moving the ellipse:



undo the last operation:



DrawArea Class:

This class consider the drawing place for user it controls the action of mouse. It take the decision of the action according to a boolean flag which changes from the tool bar.

EditEngine Class:

This Class controls all edit actions such as filling ,moving,deleting and resizing it save the edit move in a list.

Each shape drawn has its edit history which store all edit moves performed on it.

Resizier Class:

This Class controls the mouse shape when you need to resize the shape and also draw a dashed rectangle around this shape.

Class XMLWriter:

Save the Drawn shapes list{Rectangle, Square, Ellipse, Circles Line Segment,Triangle}

, and Free Hand Lines and Edit Actions that user has made it.

User Guide:

At the left corner there is a tool bar contains all tools used in drawing and all shape.

For filling any shape you must select the fill button and select the color then select the shape to be filled don't drag the mouse just click.

For moving any shape select the move button and then select the shape you will notice that the old one will not be deleted until you leave the shape.

For resizing select the point button then select the shape and start dragging the dashed green rectangle and the old shape will still appear until second change.

For deleting you've just to select the shape and it will be deleted. You can undo or redo any move. And you can also save all moves in json or xml file.