Drawing Editor (Group) Activity

Members

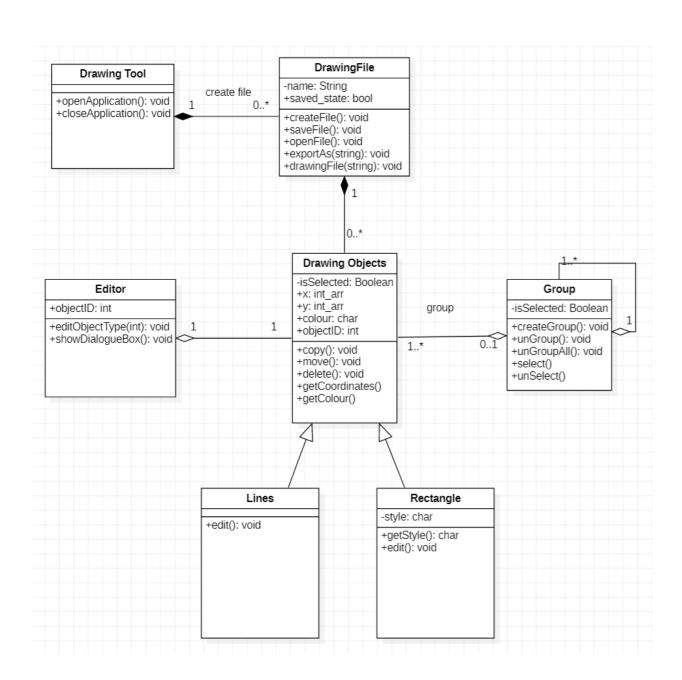
Sudipta Halder (2021202011)

Aviral Sharma (2020201062)

Piyush Attri (2020201009)

Radha Krishna B (2020801013)

UML Class Diagarm



Description

- ❖ **Drawing Tool** is the class which is used for the opening and closing of the application . It has two methods:
 - openApplication(): to open the application.
 - closeApplication(): to close the application.
- ❖ Drawing file: The class which is responsible for the creating, opening, saving, exporting, drawing a file. drawingFile method takes string as command line argument and creates an drawing object accordingly. It has got five methods which are responsible for this and it has also got two attributes, name and savedstate which are of type string and bool respectively
- ❖ The relationship between between Drawing Tool and DrawingFile is composition. There cannot exist a Drawingfile without the DrawingTool. A DrawingTool can have 0 or more drawing files, where as a drawing file can be in one drawing tool only.(multiplicity constraints).
- ❖ Drawing Objects: This class is responsible for manipulating the drawing objects. It has got 3 methods for copying, moving, deleting a file and 2 methods to get the colour and coordinates of the drawing objects. It has got 5five attributes, isSelected which is of type Boolean and tells whether the object is selected or not. It has x, y two int arrays which stores the co-ordinates of the drawing object in 2D. there are also two attributes for colour and object id.
- The relationship between between Drawing Objects and DrawingFile is composition. A Drawing File can have 0 or more objects where as a Drawing Object can be associated only with one drawing file.
- ❖ Lines: This is class is generalization of Line Drawing Object. It has got one method edit which is used to display the properties of line Drawing Object on the edit dialogue box.
- ❖ Rectangle: This class is generalization of Rectangle Drawing Object. It has got one attribute style which is of type char which represents the corner style of the rectangle. It has also got two methods getStyle and edit which are responsible for getting the style of the rectangle drawing object and displaying the properties of rectangle drawing object on the edit dialogue box.
- ❖ Group: This is a class which is responsible for grouping the Drawing Objects. It has a attribute isSelected which denotes whether a drawing object is selected or not. It has also got five methods, createGroup to groupify the drawing objects, unGroup to ungroup the grouped objects, unGroupAll to ungroup all the objects inside the subgroups, select to select objects fro grouping, unselect to unselect objects. It is a recursive class. A parent group can have one or more subgroups and a subgroup can be part of one parent group.
- ❖ Drawing Object and Group share association. A drawing object can exist without a group. A group can contain one or more drawing objects and a drawing onject can be part of 0 or 1 group.
- ❖ Editor: This is class which a attribute called objectID which is used to edit a unique object present in the drawing file. It has also got two methods named editObjectType

- which takes unique object id to edit the object properties and showDialogueBox will show the properties of the unique object id in the dialoguebox.
- Editor and Drawing Objects share relation of aggregation. An editor can edit only one object at a time.