

Final project

Project Title: Graphics Editor

Project Description: Create a graphics editor that empowers users to generate, modify, and manipulate artwork. This project will encompass the integration of various drawing tools, selection utilities, transformations, and a pattern fill feature. Additionally, you can incorporate animation capabilities to facilitate the creation and editing of paths and shapes.

Key Features:

Drawing Tools:

- 1) Pen: Allows users to create freehand drawings with adjustable colors.
 - 2) Eraser: Permits users to erase portions of the drawing with variable eraser sizes.
 - 3) Shapes: Provides tools for generating geometric shapes like lines, rectangles, circles, and polygons. Users can customize the size, color, and style of these shapes.
 - 4) Fill: Enables users to fill areas of their shapes with selected colors.
 - 5) Text: Empowers users to add text to their designs, including the ability to customize fonts, sizes, and styles.
 - 6) Color Palette: Implements a color picker to select the desired color for drawing, filling, and text.
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- 1] Undo and Redo: Allows users to undo and redo actions to revert changes or redo previous steps in the design process.
- 2] Selection Tools: Enables copy, cut, and paste selected areas.
- 3] Draw vectors based on input points.
- 4] Draw a vector based on input two points and equation.

Transformations: Allows transformations of the selected shape, including:

- 5] Move
- 6] Scale
- 7] Rotate
- 8] Flip
- 9] Animation: Select the moving path using the mouse to create animations using shapes.

- Team Members: 3-4
- The team must **achieve at least 9 features for 3 members team, or 12 for 4 members team**, with the **first six** being compulsory. The team can then select at least four from the remainder.
- Programming Language: **JAVA**
- User Interface (GUI) Development: create a **user-friendly interface**.
- **Deliverables:** A fully functional graphics editor application will be presented in the **10th week** during your practical class.