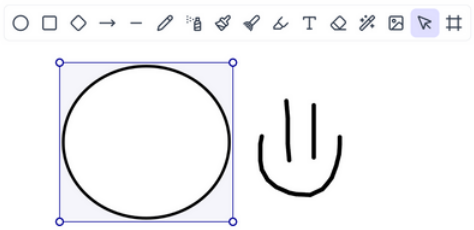
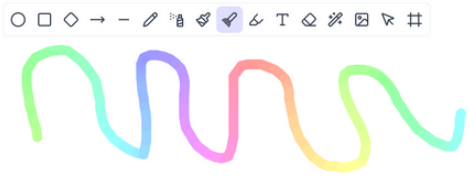
Final Project Submission Q2





For this project, I extended the template by adding various tools and functionalities to enhance user interaction. One significant modification is the **Frame tool**, which allows users to move a frame, with all elements inside it moving accordingly. I implemented **undo and redo** functionality using an undoStack, enabling users to reverse or reapply actions with Ctrl+Z and Ctrl+Y.

I also introduced a **Node-based UI**, which modularizes each tool's behavior. For example, each tool (such as EllipseTool, SquareTool, etc.) has its own function that manages its variables and interactions, like draw, mouseDragged, mousePressed, and mouseReleased. When a tool's draw function is triggered, an element is added to an array called elements. This array is iterated to draw the respective element on the canvas based on its type and properties, such as stroke color and stroke weight. Additionally, selected elements are highlighted by creating a bounding box around them, allowing users to move, resize, or modify their properties.

I also integrated the ability to save the drawing and configuration settings (like stroke color, stroke weight, and size) in local storage. This ensures users can preserve their settings across sessions. To further enhance the app, I added a **Laser pointer tool** and contextual menus to streamline tool selection.

Stylistic changes include drop-down menus, context menus, and the ability to pan and zoom on the canvas, creating an **"infinite canvas"** effect. The background color of the canvas can also be changed.

Overall, the modifications were structured to fit seamlessly into the template's design by following modular practices. Each new tool is encapsulated within its own function, which ensures scalability and maintainability.