

Default Mode:

Draw point: when user clicks the mouse, a point will be drawn.

Select: drag

Move point: click and drag the point

Multi-select: When the user press shift and clicks multiple things, those things will be selected.

Area select: When the user drags the mouse by area, the objects under the area will be selected.

Modes:

Draw line mode: The user wants to draw a line, and they enter the drawLine mode then drag the mouse to draw a line. The mouse drags from start point to end point, when the motion stops, the newly created line is selected.

Draw circle mode: The user wants to draw a circle, and they enter the drawCircle mode. Then they click on one point (or create a new point if there's no point present at that position) this will be the center of the circle, and then the user drags the mouse for a distance. After releasing the mouse, this distance will be the radius for the circle. Then the newly created circle will show up and be selected.

Actions:

Midpoints: insert a point at the mid position of the selected line segment

Delete: remove the selected object

Connect 2 points: create a line segment between selected points

Invert selections: unselect all objects selected, or select all unselected present objects

Clear: delete all the objects on the canvas

Undo: recovery status before last action

Redo: given an undo action, re-perform the action that was undone

Rotate:

1. rotate the Cartesian space around the origin or around the given point.
2. rotate the object, around the point (midpoint, center of mass)

Create an angle: (given a line segment) click on the button, a dialogue pop up, and enter the angle