**Software Architecture and Design Patterns of the Sketchpad Application:**

Graphical user interface, application, Teams

Description automatically generated

Fig 1: Document Object Model of the Sketchpad Program developed using the HTML5 canvas object

* The HTML5 canvas object has been used which provides different methods to construct different shapes. Javascript was used to render the behaviour to the objects on the screen.
* A reference to the canvas object named context is created and the methods are used on that.
* The context.beginPath() provided by canvas makes the screen ready to be drawn, starting point of a line is passed through context.moveTo() and end point of a line is passed through context.lineTo(). context.stroke() is used to stroke the current path with the preferred stroke style.
* context.strokeStyle() sets the color of the line for the currently drawn shape, context.lineWidth() sets the line width of the shape.
* context.clearRect() has been used to clear the previously drawn shapes by constructing a rectangle around them and then deleting it.
* context.rect() is used on the canvas object for the construction of a rectangle and it is modified by passing the same width and height to construct a square.
* context.ellipse() is used to construct an ellipse and context.arc() is used to draw a circle by passing in the required parameters.