

Document and Drawing Annotation Web-Application

User's Guide

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Overview

The providers use drawing/sketches to record findings of patient's examination. Document and Drawing Annotation Web-Application provide a means to create such drawings and tools to annotate them efficiently.

This is how the drawing editor looks like. User can free draw on the canvas using mouse/touch or use other tools to create shapes or import images. Along with this, user can also embed media files directly in the drawings and can view it later by double-clicking the icons on the canvas itself. More details are available in next chapters.

Document and Drawing Annotation Module Web APP

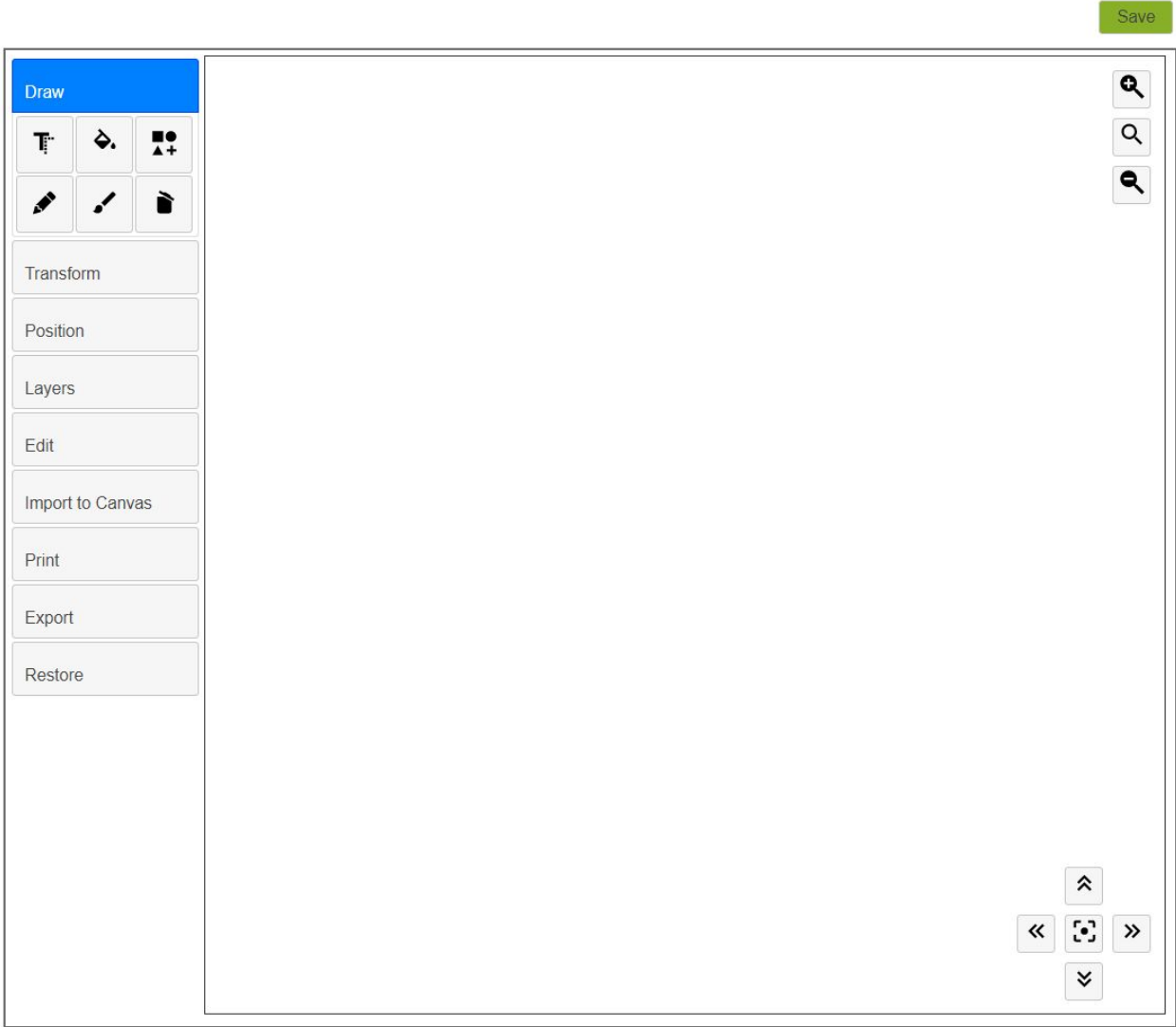


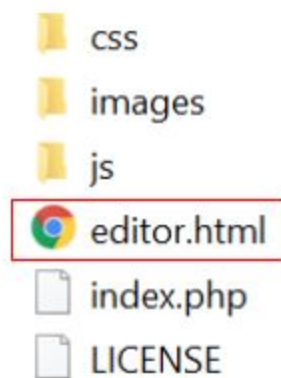
Fig. 1 Drawing Editor

Drawing & Document Annotation Web-Application

The Drawing and Document Annotation Web Application module allows users to record drawing and sketches and add additional contextual information to the drawings in the form of images, audios, videos, etc. which can be embedded directly in the drawings itself.

The web app can be downloaded from the github repository.

<https://github.com/AbhijitParate/DrawingModule-HTML>



To run the web app, use any modern browser to open “**editor.html**”.

Note: FireFox is recommended. Camera and Microphone related features are not available in other browsers.

Drawing Editor

The primary / main feature of the web app is the Drawing Editor. The editor enables user to draw sketches and drawing and annotate them. It also provide multiple tools to help in creating drawings and annotating it efficiently.

Document and Drawing Annotation Module Web APP

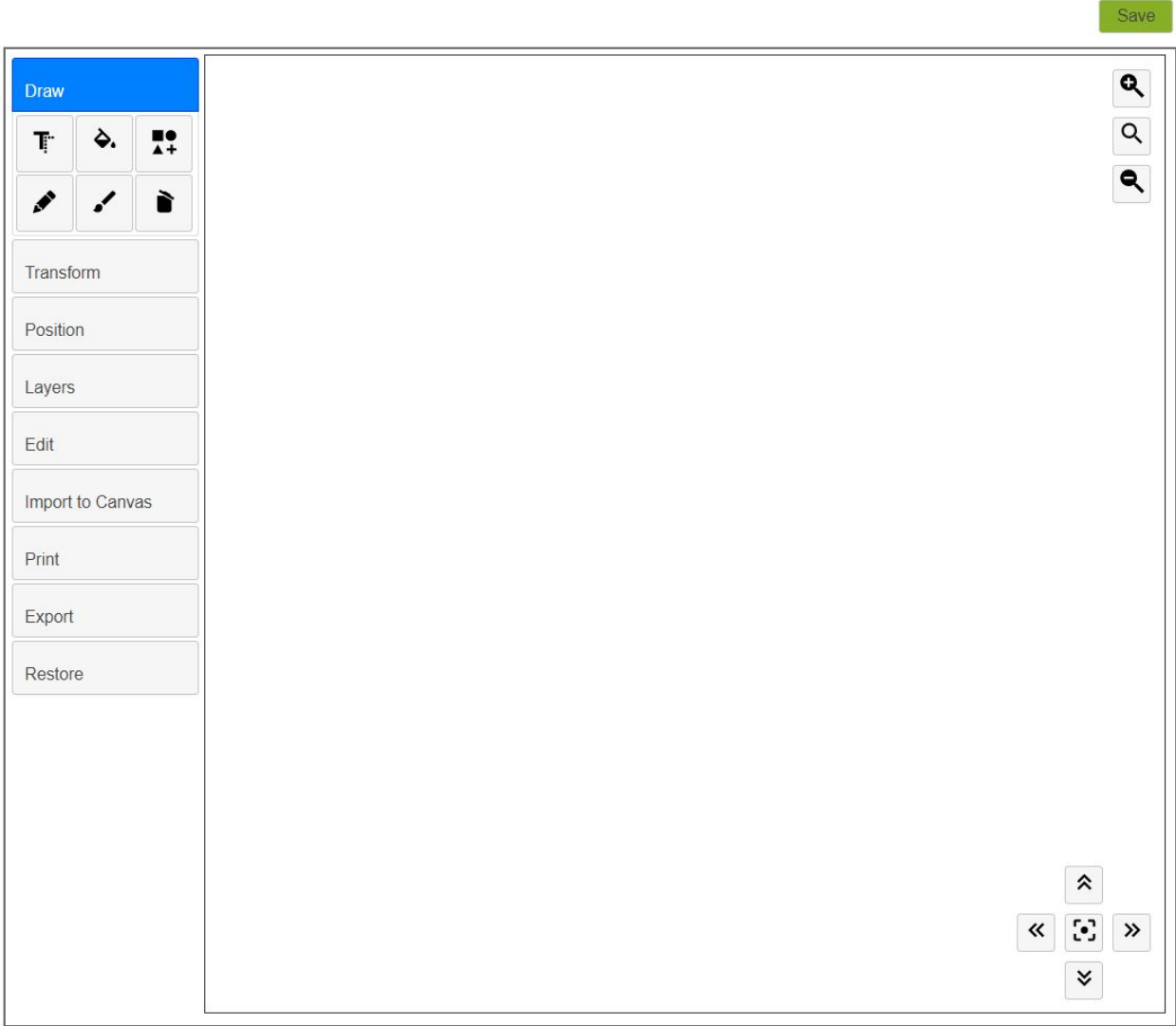


Fig 2 Drawing Editor - Add Drawing

The editor has mainly three regions, as follows...

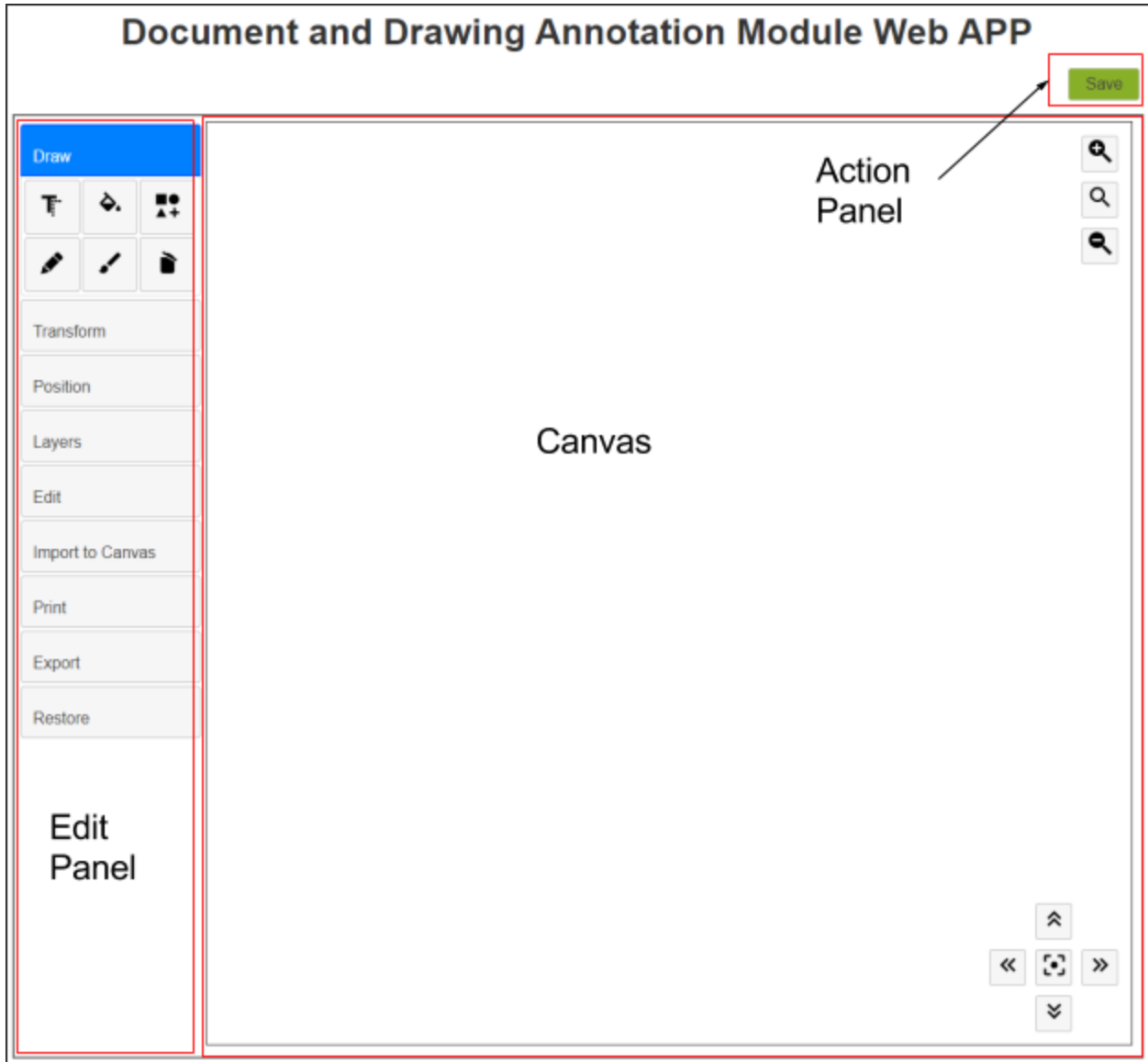


Fig 3 Drawing Editor regions

1. Action Panel

The topmost section of the editor is the Action panel which has a save buttons

- Save

This saves the drawing by creating a ".drw" file. The drw file is downloaded on user's system and can be ported to other systems.

2. Canvas Panel

Document and Drawing Annotation Module Web APP

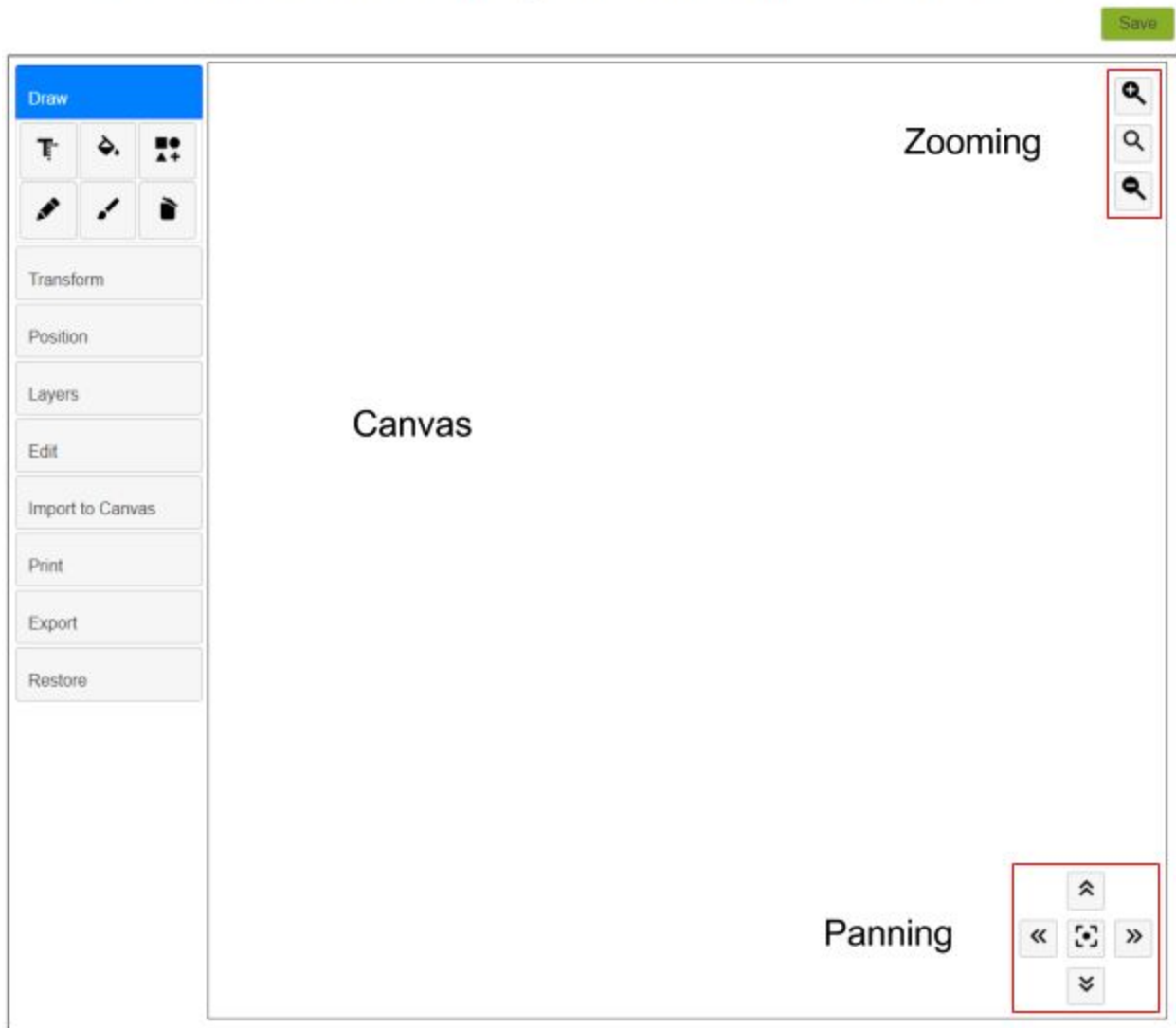


Fig 4 Drawing Editor - canvas region

Canvas

It's the drawable region of the drawing editor where user can draw using mouse or touch screen. The tools to help user draw on the canvas are provided in edit panel. The area of the canvas is 800px in width and 800px in height.

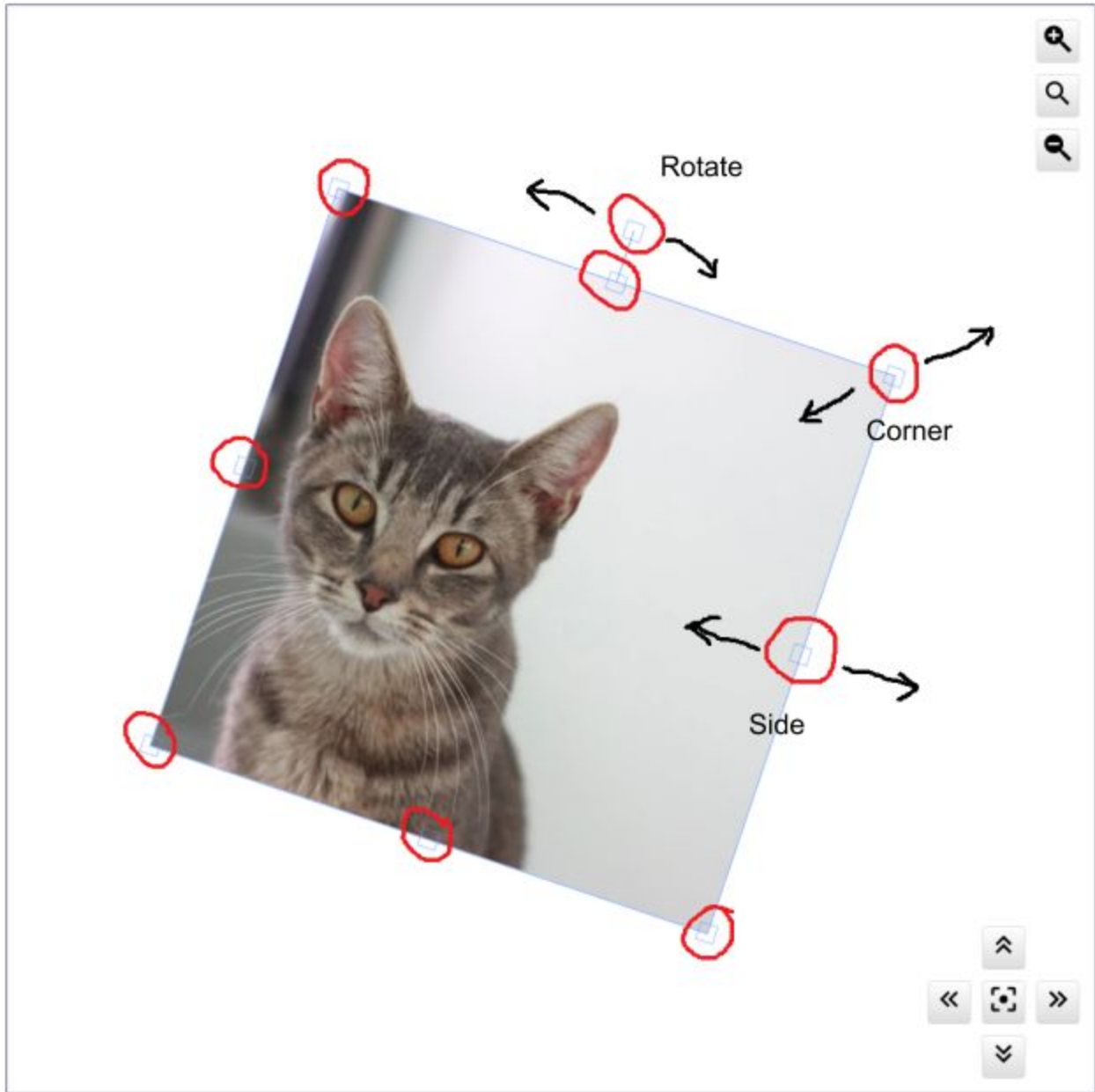


Fig 5 Drawing Editor canvas

Object Interaction

To interact with objects (shapes, text or image) on the canvas, use mouse to select the object. Once the object is selected, several handles are created as shown in above image.

Corner handles are used to alter the size of the object.

Side handles are used to alter the width or height.

Rotate handle is used to change the angle of the object.

Context Menu

Context menu is available on right click on the canvas which can be used to embed additional medias directly into the canvas. There are three alternatives for the medias which can be embedded in the canvas, viz. Images, Audio and Video.

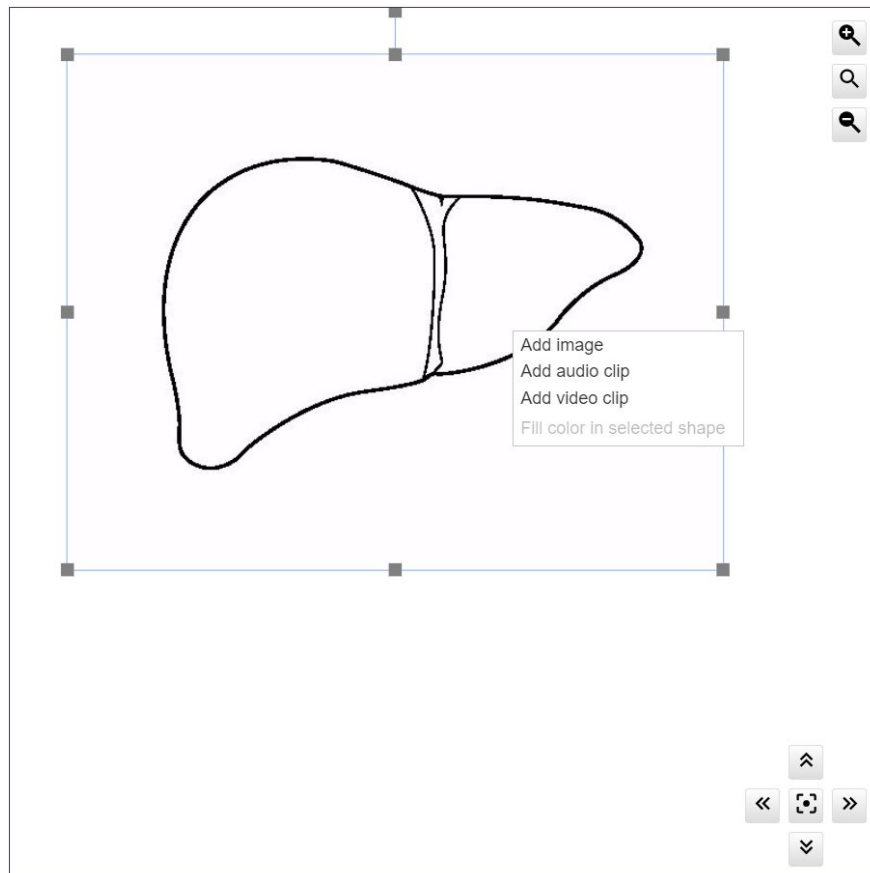


Fig 6 Drawing Editor - context menu sample

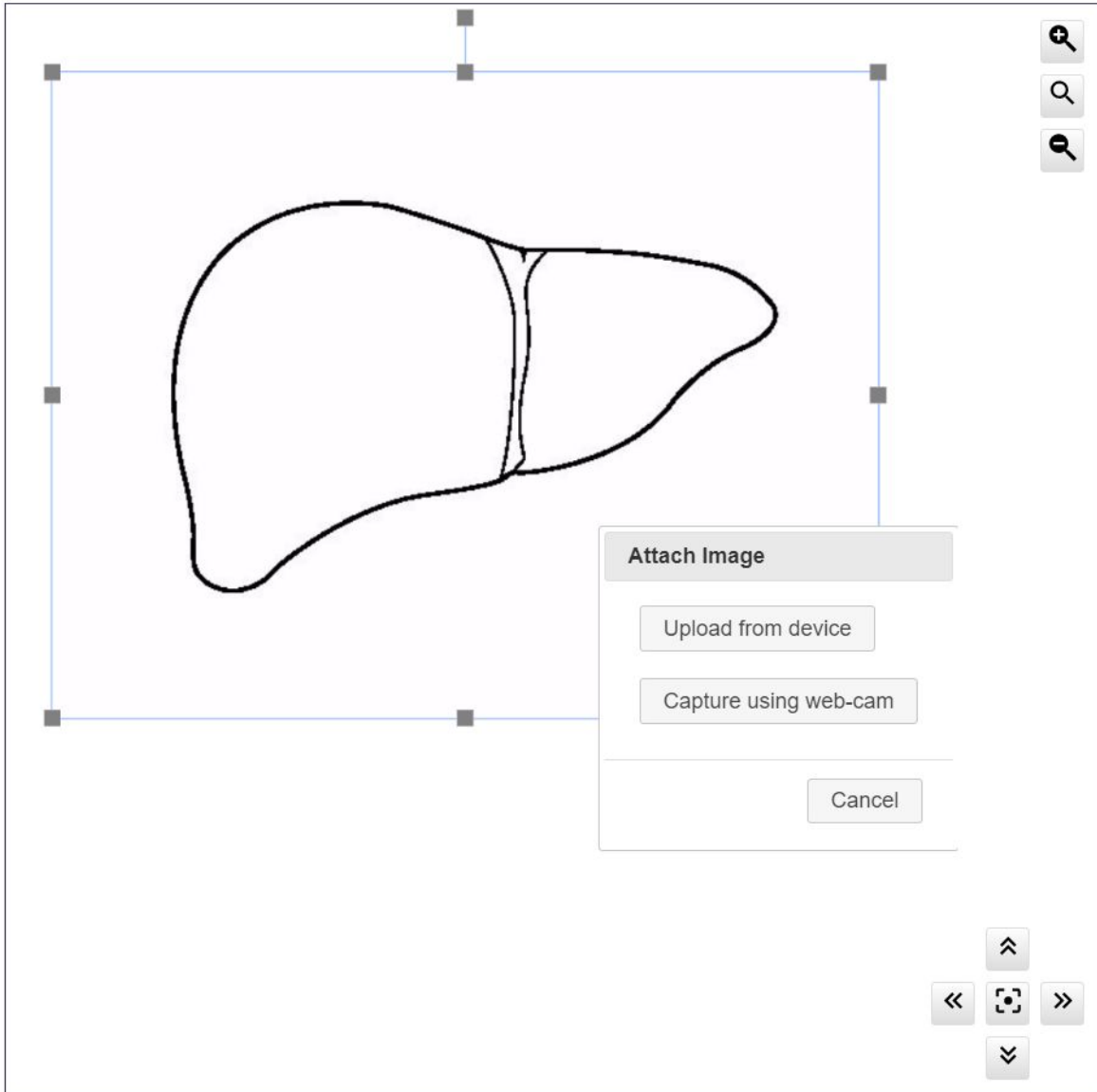


Fig 7 Drawing Editor - Context Menu - Attach Image

On selecting or capturing the image, a small icon is created (Fig 8) on the canvas. On double click on the icon, a preview window is created which shows the embedded media.

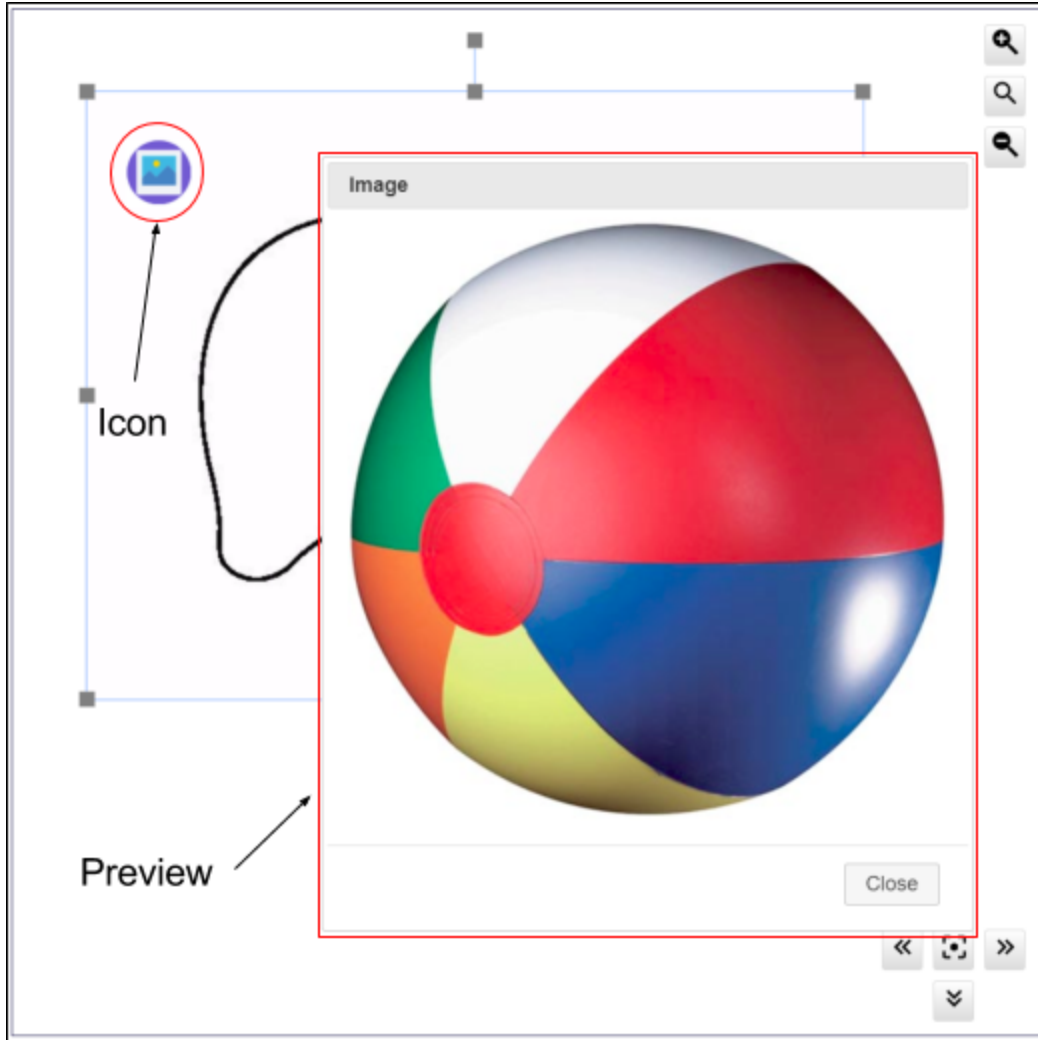










Fig 8 Drawing Editor - Context Menu - Attach Image

Context menu also allows to fill color in the shape. Filling color in shapes will be described later in this guide.

Zooming

The zoom section consist of three buttons Zoom In , Zoom Out  and Reset zoom . The buttons do exactly what they suggest. The whole canvas is zoomed in or out with respect to a static point a the center of the canvas.

Panning

The pan section moves the canvas in 4 directions up , right , down  and left . The canvas pan can be reset using reset button  at the center of the section.

Keyboard Shortcuts

There are several keyboard shortcuts which can be used to interact with canvas.

Key	Action
Delete	Delete object / objects
Ctrl + c	Copy Object
Ctrl + v	Paste Object
Arrow keys	Pan canvas

Table 1: Keyboard shortcuts

3. Edit panel

Edit panel provides different tools to help user draw and annotate drawing on canvas. The tools are categorized in different sections.

This is what the edit panel looks like.

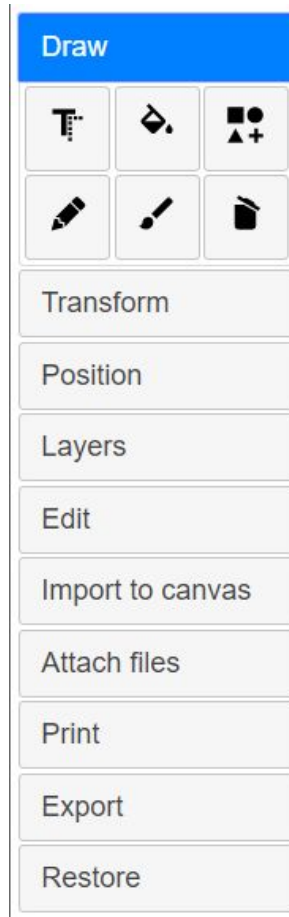


Fig 9 Editor actions panel

Only one section is open at once. On opening new section previous one gets collapsed automatically.

Let's Discuss one section at a time.

Draw

The draw section has tools which can be used to create contents on the canvas.



Fig 10 Draw section

All the buttons have tooltips to help user identify what it does. Some of the buttons open up another panel on hovering over it which have more elements to interact.



Pencil tool : This button acts as a toggle switch between free drawing and selection mode. In selection mode, one or more objects on the canvas can be selected. In drawing mode user can perform free form drawing on canvas. The default color of the pencil is black but can be changed using the draw color picker tool. (details later in this section). The width of the pencil can be altered using the slider which appears in a small panel when user hovers mouse pointer on the button or click the button.



Fig 11 Draw section - pencil thickness

The default thinness (line-width) is 10. The line-width can range from 1 to 99.



Shapes: Used to draw different shapes on the canvas. On hover or click on the button, it opens up a panel which has more button to select a shape.

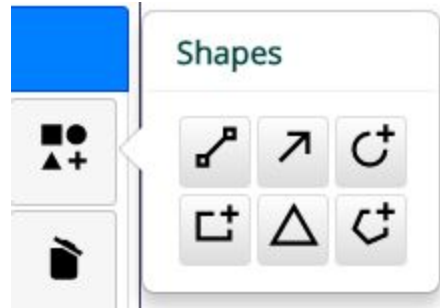








Fig 12 Draw section - shapes

The provided shapes include Line , Arrow , Circle , Rectangle , Triangle , Pentagon .



Delete : This deletes the selected objects from the canvas. Note, the keyboard delete key may also be used to delete the selected object(s).



Text: Adds editable text on the canvas.



Draw Color: On clicking it opens up a color selector panel, which looks like this.

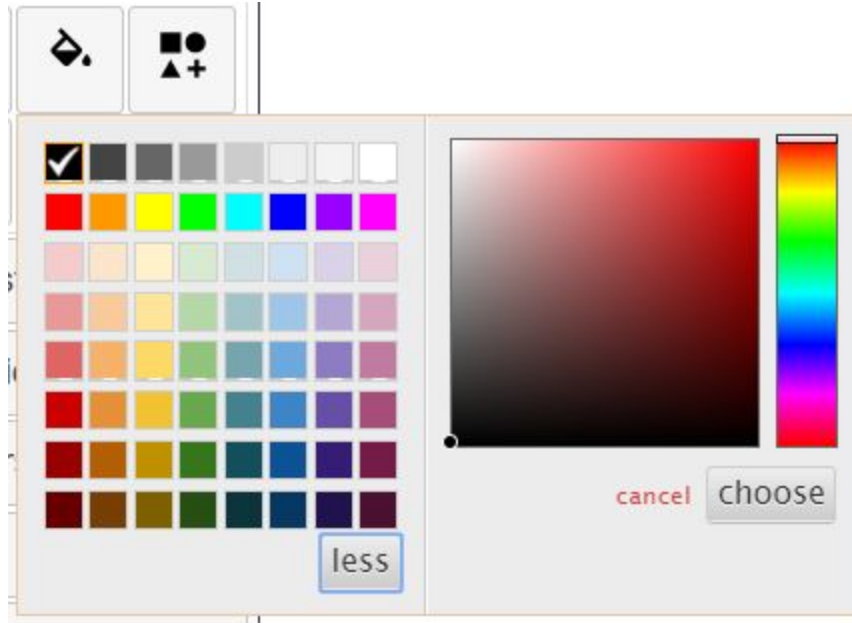


Fig 13 Draw section - fill color

There are two alternatives to choose colors from, a grid of predefined colors (left side) or color generator using color hue.

The draw color is changed either by selecting one of the colors from the color grid or generating color and clicking choose button.



Fill Color: Similarly, user can also select the fill color for the shapes. Fill color option is available only for the shapes created using the shapes panel. Once the desired color is chosen and shape is selected, “Fill color in selected shape” option is made activated in the context menu(Fig 14) and on selecting the option, the shape is filled with chosen color(Fig 15).

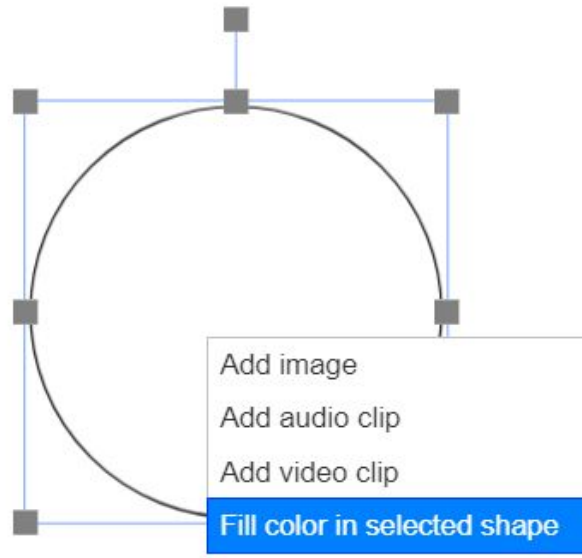


Fig 14 Fill color context menu

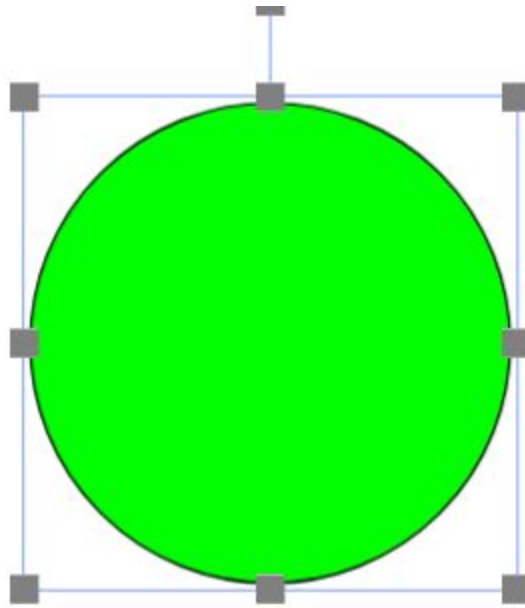


Fig 15 Fill color in the shape

Transform



Fig 16 Transform section



Flip Vertically: Flips the selected object vertically.

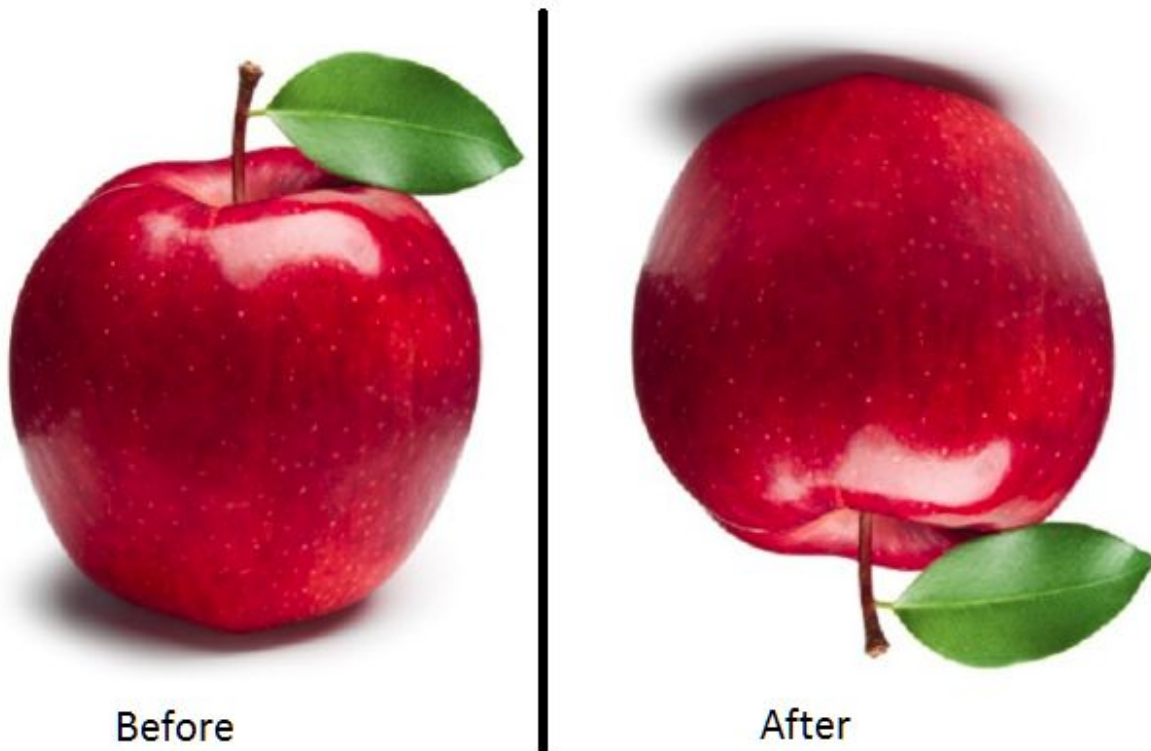


Fig 17 Transform section - flip vertically



Flip Horizontally: Flips the selected object horizontally.

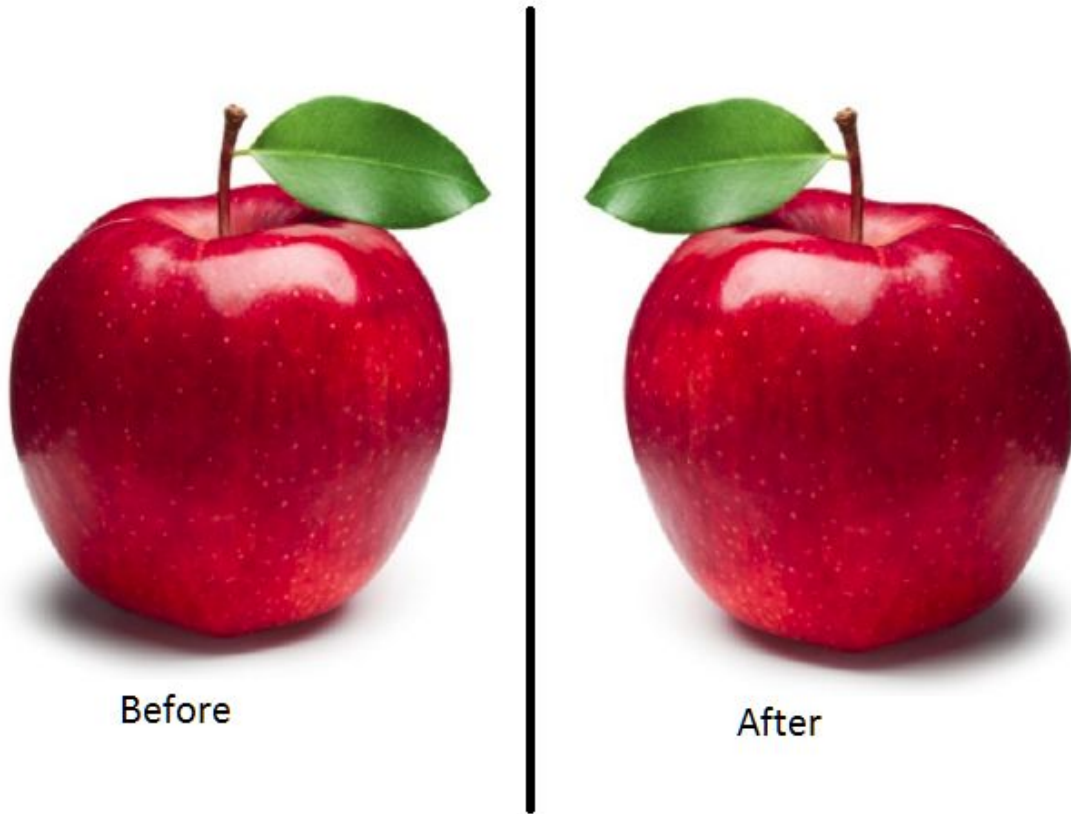


Fig 18 Transform section - flip horizontally



Rotate Counterclockwise: Rotates the selected object counter-clockwise.



Rotate Clockwise: Rotates the selected object clockwise.



Fit: Enlarges selected object to 700px X 700px and places at the center of canvas.

Note: Available only for objects of type image.



Crop: Discards objects which are not selected.

Position



Fig 19 Position section

We divided the canvas into an imaginary grid of 3x3.

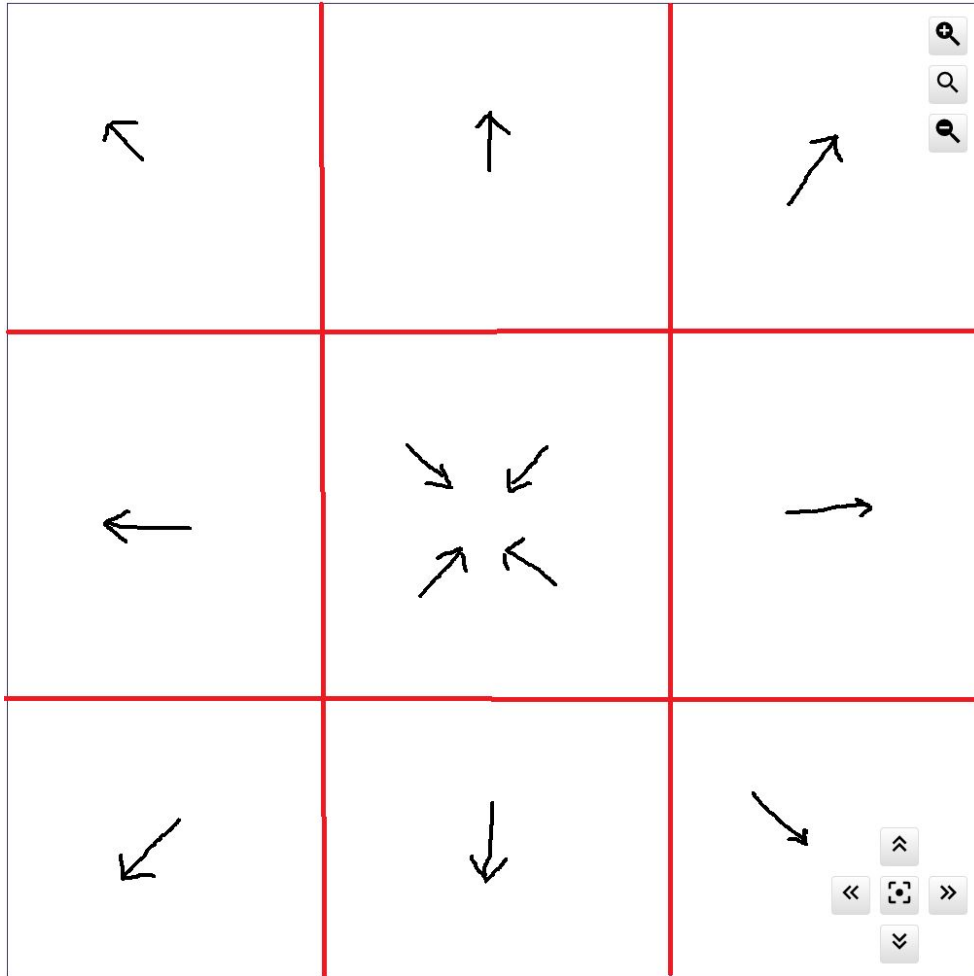


Fig 20 Position section - grid

The buttons in the position section represent the corresponding square in the grid.

Each of these buttons, will reposition the selected object from the canvas at the center of each of the square.

Ex, if we have an circle at somewhere on the canvas like,

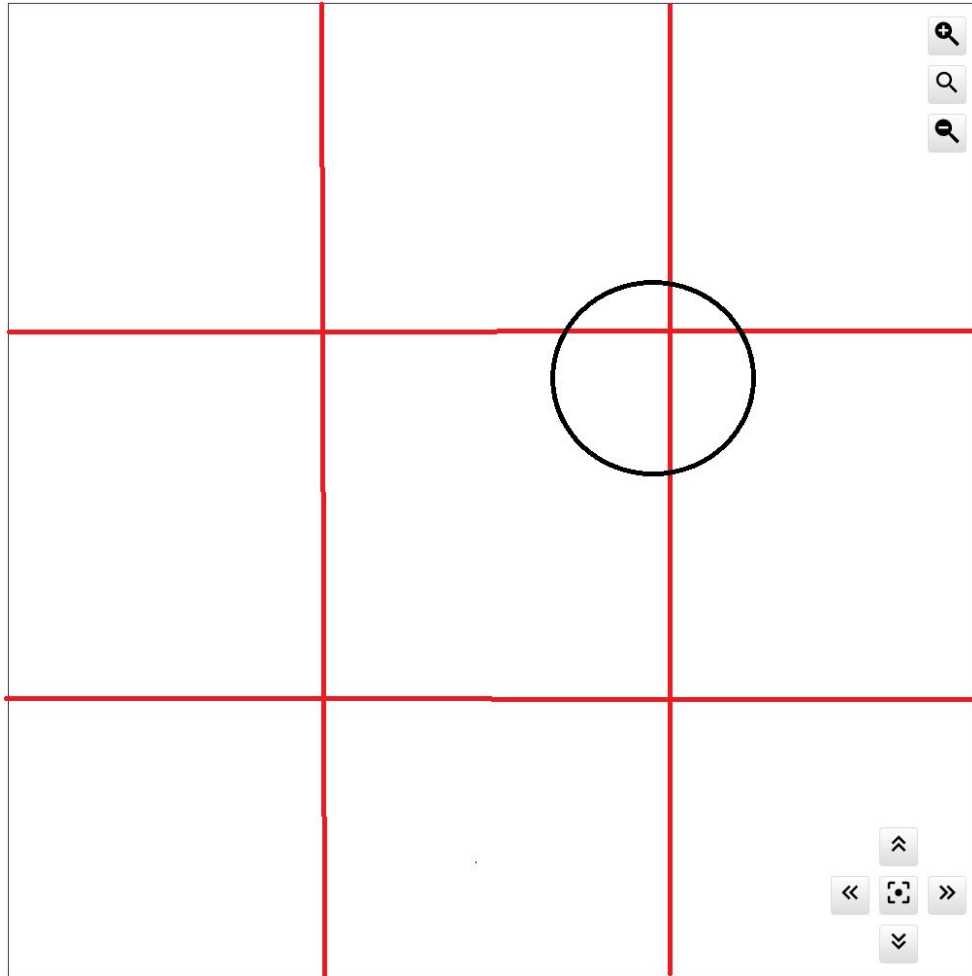



Fig 21 Position section - object positioned in the grid

On clicking top left button  will position the circle at the center of the top left square of the canvas.

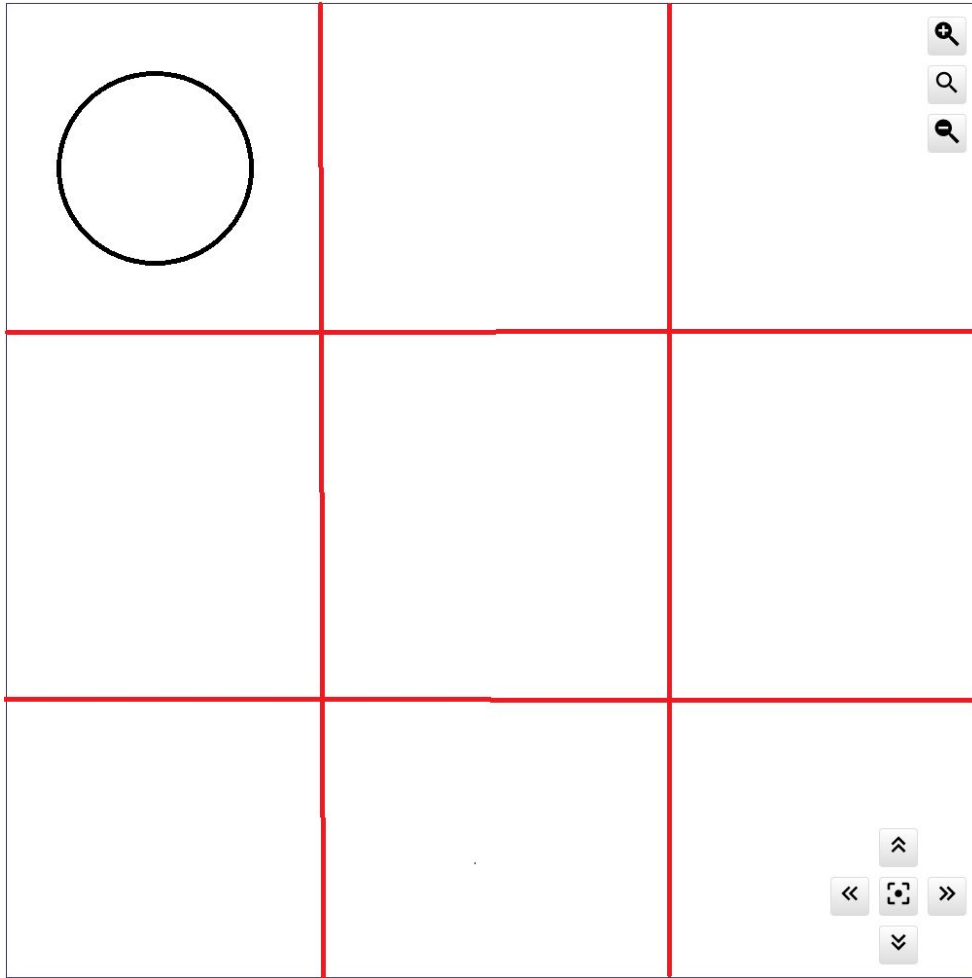


Fig 22 Position section - object positioned in the grid

Layers



Fig 23 Layer section

The objects in the canvas are stacked upon each other in transparent layers. So, the objects can overlap each other. The objects on the top layers can obscure the objects from lower layers.

Tools in this section provide means to handle such situations efficiently.



Move one layer UP: Moves the selected object one layer up.



Move one layer DOWN: Moves the selected object one layer down.

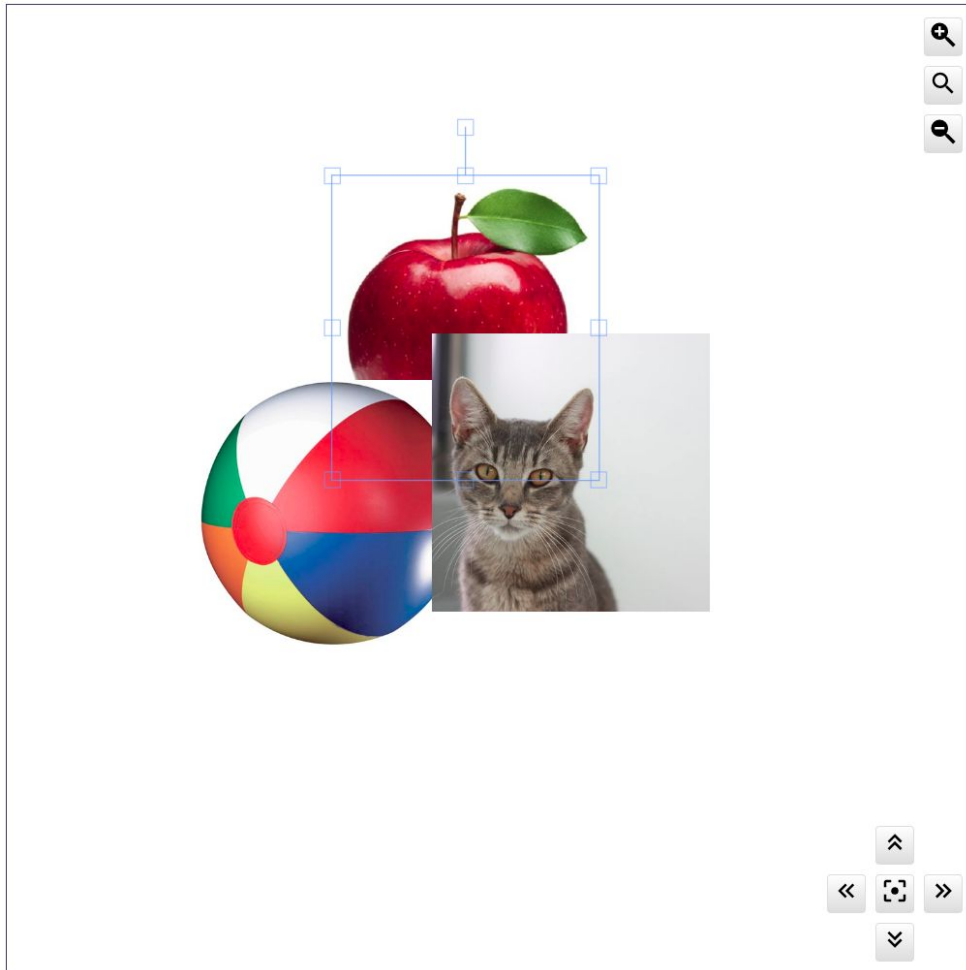


Fig 24 Layer section - Before

Note: Each object on canvas occupy a single layer, if you have multiple objects on the canvas and some of them are not overlapping each other then you might need to click several times to get the desired outcome.

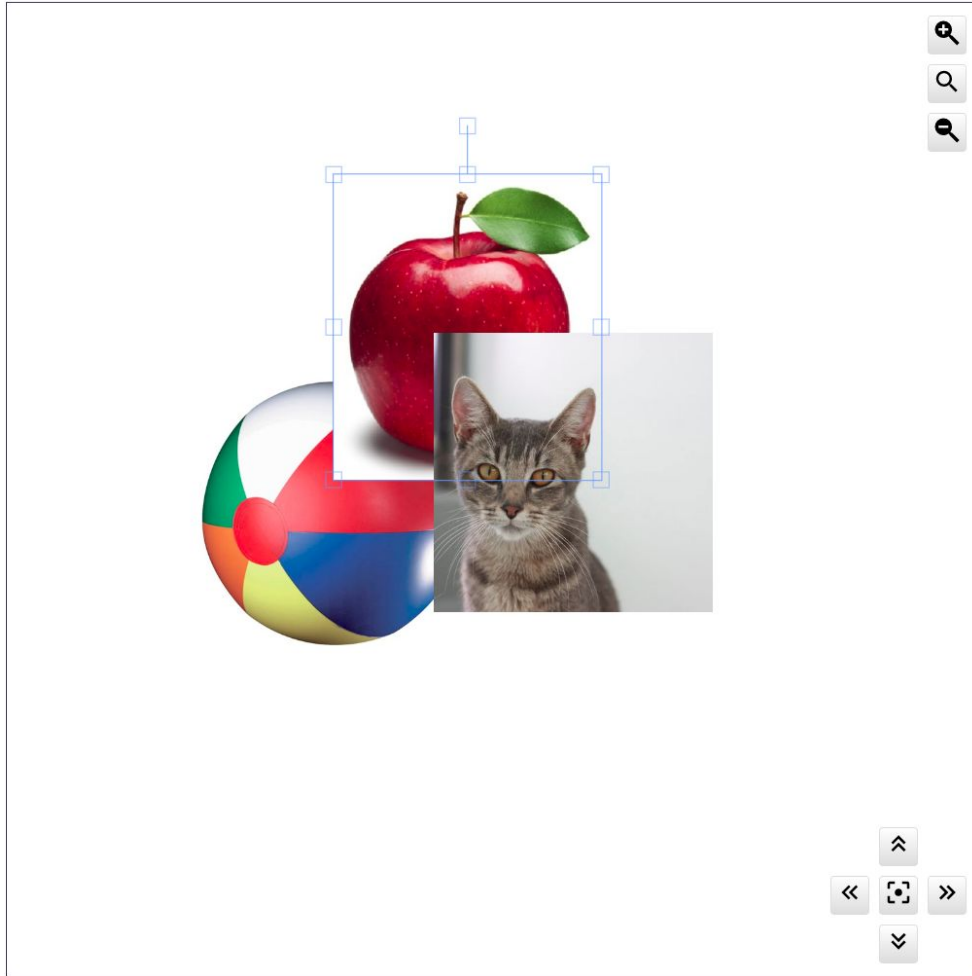


Fig 25 Layer section - After moving apple up

Edit

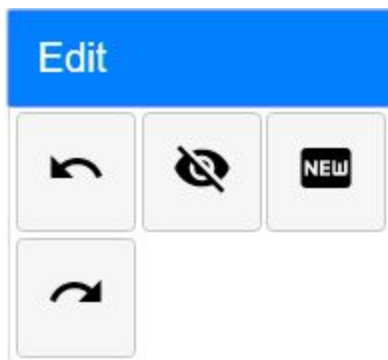


Fig 26 Edit section



Undo and



Redo: Undo and Redo action on canvas



Hide: Temporarily hides canvas panel. This button is used to toggle between hiding and showing the canvas panel.



New: Clears the content of canvas and reset it to blank canvas.

Import

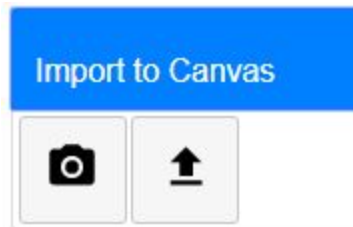


Fig 27 Import to canvas section

This section is useful for importing external content (mainly images) to the canvas which later can be annotated or combined with other tools.

There are several alternatives to import images, as follows:



Using camera: Capture new picture using webcam. On click it creates a new dialog which shows preview from the default camera. It also has Capture / Reset buttons for camera. Once the image is captured, "Use" button gets activated which on click imports the previewed image to the canvas.

There are two sizes available for capturing images.

- 640px X 480px
- 320px X 240px

which can be selected from the dropdown list at top right corner of the dialog.

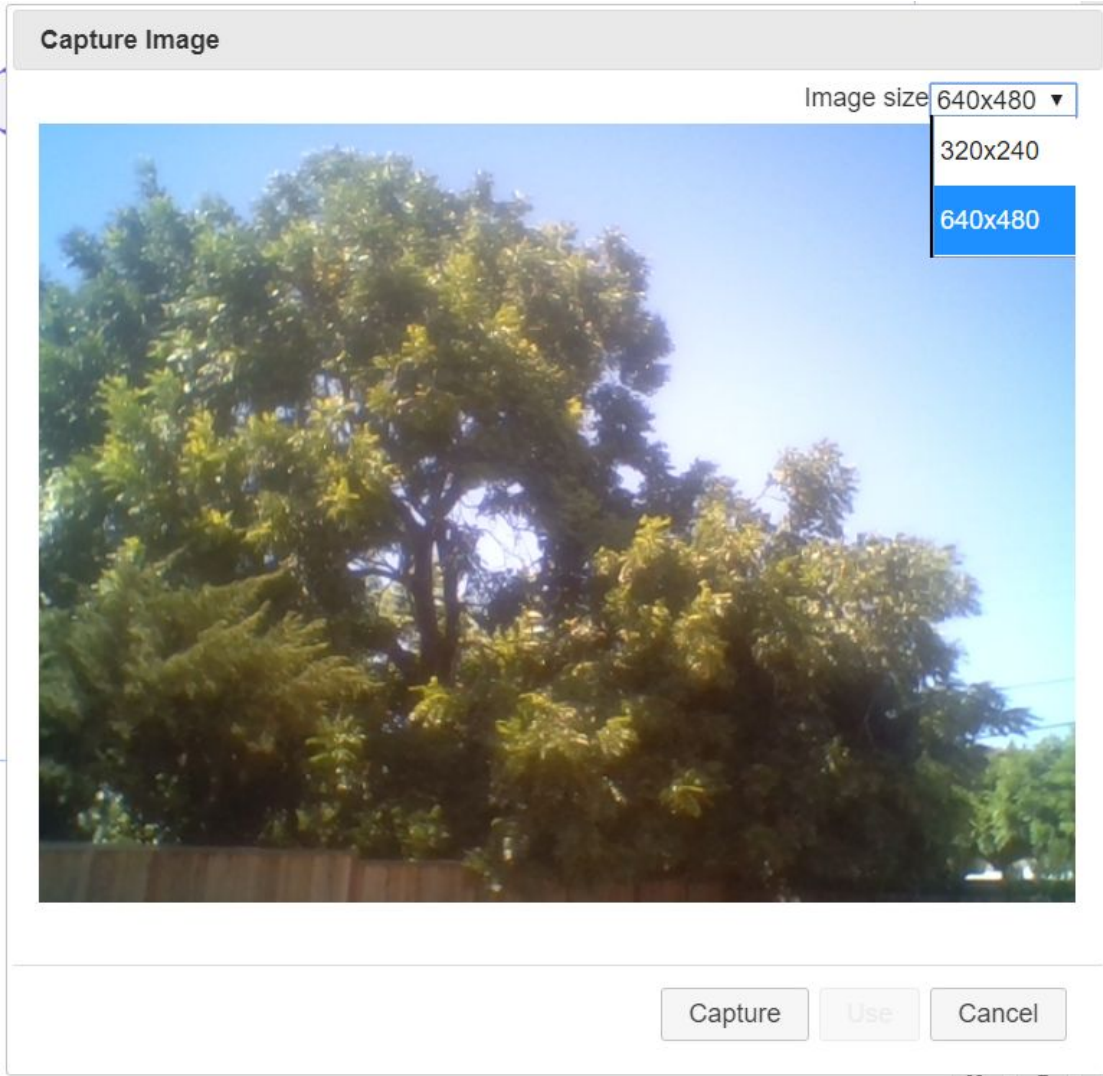


Fig 28 Import to canvas section - Capture Image

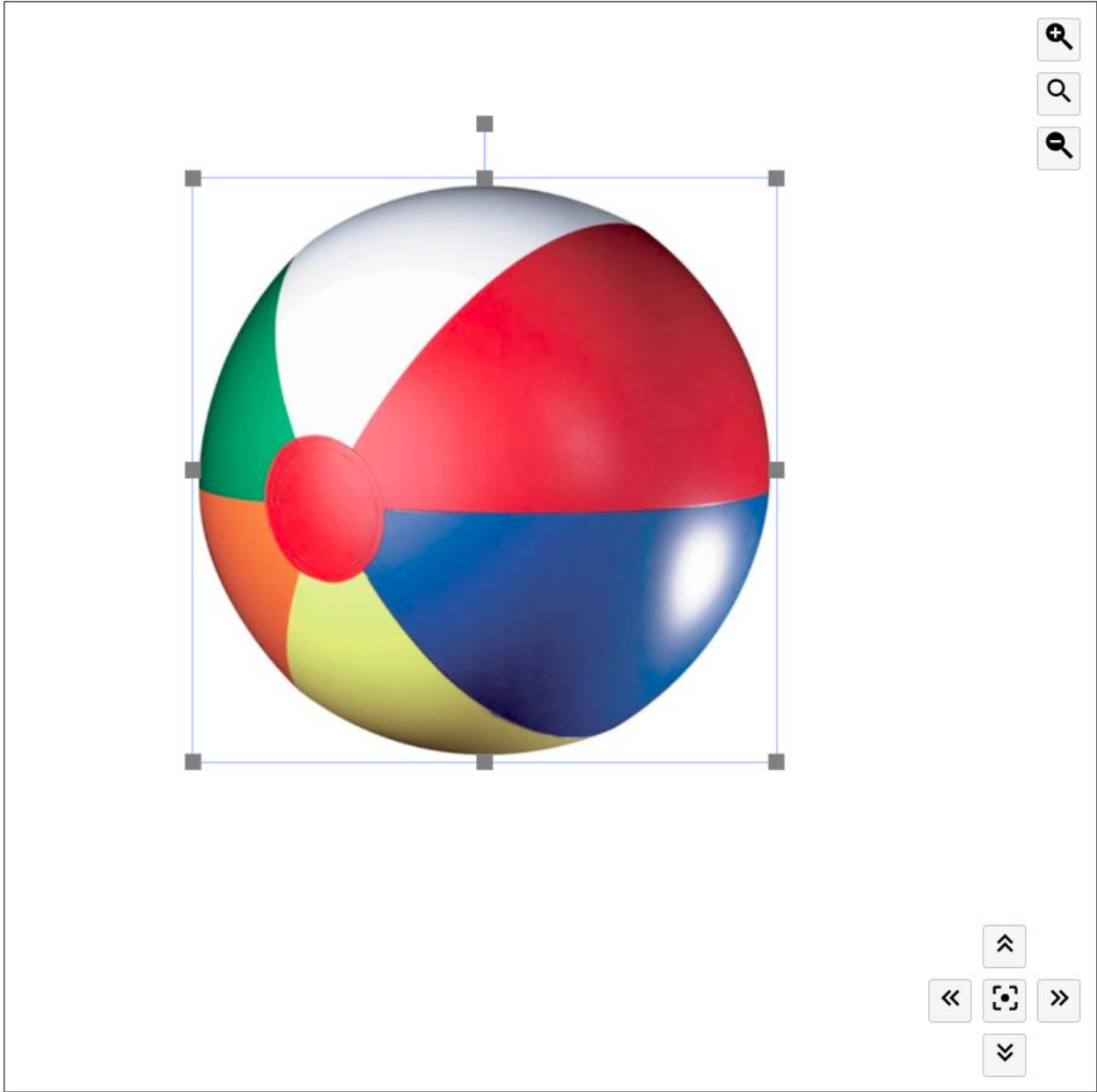
The imported image is then made available on canvas for further editing.

Note: This feature is available only in Firefox browser.



Upload from device: User can also upload image files from the file system of the device.

The imported image is available on canvas for further editing



.Fig 29 Import to canvas section - Uploaded Image

Print



Print canvas drawing

Export

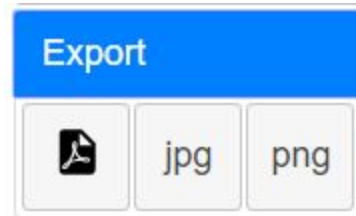


Fig 30 Export Section

The canvas can be exported or saved as popular file formats and can be used with any standard image viewers. There are several alternatives to save the exported file which include,



Restore



The encounter can be backed up and restored using the drawing editor.



Restore: restore the encounter by importing “.drw” file. On screen notification is shown when the backup is restored successfully.

Note: If editor doesn't load the canvas on first try, please try again. You should see a notification on screen when encounter loads successfully.