**Applied Maths and Graphics Functional Checklist for your Graphics Application**

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Please place an “x” in the **Exists**? column if the feature is included in your submission. If accessing the feature is not completely obvious, please add comments in the **Access Tips** column. Please do not edit the Mark category, Features or Conf columns

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| --- | --- | --- | --- | --- |
| Mark Category | Feature category: Images | Exists? | Access Tips | Conf |
| 3rd- Mid 2.2 | Load and save image from/to file using basic Processing | X | Use the load file and save file options accordingly to open the dialogue windows to select a file/save a file |  |
| 3rd- Mid 2.2 | Basic RGB manipulation of image – e.g. convert a colour image to a black-and-white or greyscale versions of the image | X | Use the filters dropdown menu to select the greyscale option |  |
| Mid 2.2-High 2.1 | Implement Point Functions such as brighten/contrast/invert to manipulate image | X | Use the brightness and contrast sliders to alter the values for the image. The invert option is within the filter’s dropdown menu, labelled as ‘Negative’. |  |
| Mid 2.2-High 2.1 | Implement convolution filter to blur, sharpen and find edges | X | Use the filters dropdown menu to select the different filter options |  |
| Mid 2.2- High 2.1 | Implement “Undo” feature, to return image to its original state without a re-load | X | Click the reset image button to revert the image back to its original state |  |
| 1st | Implement image as a “live” object (Can have multiple images, each can be selected for process, moved, and deleted) | X | Using the load image button, a user can load in multiple images onto the canvas.  Then using the select tool to select an image or multiple, choose the move or delete options to either move the image around the canvas or delete it from the canvas. |  |
|  | Feature category: Drawing Shapes |  |  |  |
| 3rd- Mid 2.2 | Drawing “dead” shapes (which cannot be further manipulated) via a single mouse click to place the shape. More marks for drag to size shape. | X | Pick between any of the shapes beneath the ‘Shapes:’ section and click, drag, and release within the canvas area to create a shape. |  |
| Mid 2.2-High 2.1 | Implementing a “Drawing List” to show many shapes simultaneously.  I.e. Achieve “live shapes” | X | Repeat the step mentioned above several times to create multiple shapes within the canvas space. |  |
| Mid 2.2-High 2.1 | “Live shapes” – 3 or more different shapes (line, rect, ellipse +++) | X | There are three different shape options, rectangles, lines, and ellipses |  |
| Mid 2.2-High 2.1 | “Live shapes” – Selecting and Deleting | X | Select the desired shape by clicking on the select button then clicking on the chosen shape, the shape will change colour. To delete a selected shape, simply click the delete button and all selected shapes will be removed.  Alternatively, use the reset button in the shapes category to reset the drawing list. |  |
| Mid 2.2-High 2.1 | “Live shapes” - Set Fill colour, line colour and/or line-weight | X | Use the RGB knobs labelled stroke and fill by simply moving each handle to the desired position then draw a shape. To change the stroke weight, use the stroke thickness slider to increase or decrease the thickness then draw a shape. |  |
| 1st | Moving a previously drawn shape with the mouse | X | First select a shape to move then click on the move button and begin dragged the shape within the canvas space to move it around. |  |
| 1st | Draw open polyline with mouse | X | First select the polyline option then begin by clicking on the canvas and dragging, once your mouse is over your ideal point, press any key on the keyboard to select that point. Then continue dragging and pressing keys to select other points. Once done, simply release the mouse button. |  |
| 1st | Draw and close a polyline with mouse, which then becomes a polygon that can be filled | X | To close a polyline to form a polygon, repeat the steps above but for the final point ensure it’s at least within a 5-pixel radius of the starting point before releasing the mouse button. |  |
| 1st | Drawing Curves of any type | X | Select the curve button under the shapes section then click, drag, and release within the canvas to draw a curve. |  |
|  | Feature category: User Interface |  |  |  |
| 3rd- Mid 2.2 | Basic use of Graphical User Interface buttons to do various actions (process image, load file), mainly adapted from the given examples. | X |  |  |
| Mid 2.2-High 2.1 | Loading and saving image via user interface and file dialogues. | X |  |  |
| Mid 2.2-1st | Good use of User Interface Elements showing independent design beyond those of the given examples. Ease of use taken into consideration | X |  |  |
| 1st | Use of sliders to alter image “live” | X | Use the brightness and contrast sliders to alter the values for the image |  |
| 1st | Use of own colour picker to set line and fill colour of shapes. | X | Using the RGB knobs labelled stroke and fill. Simply move each handle to the desired position. |  |
|  | Stretch Goals  These are examples… add your own if you think they are sufficiently advanced features |  |  |  |
| 1st+ | Change Hue, Saturation of image using own RGB-HSV conversion | X | Click the HSV button repeatedly to cycle through all the RGB to HSV conversion options. Then click the RGB button to return to the original RGB image |  |
| 1st+ | The use of “handles” on shapes to scale |  |  |  |
| 1st + | Linking curves together to form longer curves |  |  |  |
| Others?  You suggest them. |  |  |  |  |

**Overall mark:**

**Feedback Comments:**