**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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 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) |  |  |  |
|  | 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 |  |  |  |
| 1st | Draw open polyline with mouse |  |  |  |
| 1st | Draw and close a polyline with mouse, which then becomes a polygon that can be filled |  |  |  |
| 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 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:**