

Expected Behavior Tests

Notes:

- When it says to Save, save as both a .PIX and .PNG unless stated otherwise
- When it says to Export, only export as a .PNG
- Saved projects should also be able to be opened in the program with the specified name and/or dimensions - in the case of dimensions, they should be reflected in the Canvas Spinboxes
- Standard name: project
- Standard dimensions: 100 x 100 px

User story 1: Startup and exiting

Action	Expected Behavior	Pass/Fail
Clicking on exe	Opens program	Pass
Press New button on Main Menu	Takes you to New Canvas page	Pass
Press Cancel on New Canvas	Takes you back to Main Menu	Pass
Press Open button on Main Menu	Opens File Dialog for opening a file	Pass
Press Quit button on Main Menu	Exits program	Pass
Press New button on workspace	Takes you to New Canvas page	Pass
Press New button on workspace, then press Ok	Takes you to workspace with new canvas	Pass
Press New button on workspace, then press Cancel	Takes you back to workspace with canvas previously opened	Pass

User story 2/6/7: File I/O and resizing canvas

Action	Expected Behavior	Pass/Fail
Save project with standard name and dimensions	Saved project shows up in file system with standard name and dimensions	Pass
Export project with standard name and dimensions	Exported project shows up in file system with standard name and dimensions	Pass
Type in name in New Canvas page	Changes project name	Pass
Change width in New Canvas page	Changes x-Spinbox in Workspace	Pass
Change height in New Canvas page	Changes y-Spinbox in Workspace	Pass
Save project with altered name	Project name shows up in file system with altered name	Pass
Export project with altered name	Exported project shows up in file system with altered name	Pass
Save project with altered width from New Canvas	Saved project shows up in file system with altered width	Pass
Save project with altered height from New Canvas	Saved project shows up in file system with altered height	Pass
Change width in Workspace	Changes x-Spinbox in Workspace	Pass
Change height in Workspace	Changes y-Spinbox in Workspace	Pass
Save project with altered width from Workspace	Saved project shows up in file system with altered width	Pass
Save project with altered height from Workspace	Saved project shows up in file system with altered height	Pass
CTRL + S opens Save while on Workspace	Opens Save File Dialog	Pass
CTRL + O opens Open while on Workspace	Opens Open File Dialog	Pass

Opening file from CTRL + O	Opens project with its correct dimensions	Pass
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User story 3: Use pen and eraser tools

Action	Expected Behavior	Pass/Fail
Clicking the mouse on the canvas when the pen tool is selected	Pixels are drawn on the canvas where the mouse is clicked	Pass
Clicking the mouse on the canvas when the eraser tool is selected	Pixels are erased on the canvas where the mouse is clicked and nothing happens on empty pixels	Pass
Dragging the mouse on the canvas when the pen tool is selected	Pixels are drawn on the canvas where the mouse is dragged over	Pass
Dragging the mouse on the canvas when the eraser tool is selected	Pixels are erased on the canvas where the mouse is dragged over and nothing happens on empty pixels	Pass
Click on eraser tab	Switches tool to eraser	Pass
Click on pen tab	Switches tool to pen	Pass

User story 4/5: Customize pen and eraser and access colors from a color wheel to change the pen color.

Action	Expected Behavior	Pass/Fail
Select pixel size for pen	Drawing with the pen draws a square with a pixel size x pixel size square	Pass
Select pixel size for eraser	Drawing with the eraser erases pixels in a pixel size x pixel size square area	Pass

Select opacity for pen	Drawing with the pen reflects the selected opacity	Pass
Select opacity for eraser	Drawing with the eraser reflects the selected opacity	Pass
Select color from the color wheel	Drawing with the pen draws pixels with the selected color	Pass

User story 8: Zoom in/out to better see parts of canvas as needed.

Action	Expected Behavior	Pass/Fail
Clicking the '+' button on the canvas workspace	View of the canvas is zoomed in; pixels are unchanged	Pass
Clicking the '-' button on the canvas workspace	View of the canvas is zoomed out; pixels are unchanged	Pass
Scrolling the mouse wheel down OR placing fingers together then dragging them outwards on trackpad while cursor is on canvas	View of the canvas is zoomed in; pixels are unchanged	Pass
Scrolling the mouse wheel up OR placing fingers outwards then dragging them together on trackpad while cursor is on canvas	View of the canvas is zoomed out; pixels are unchanged	Pass
Executing Ctrl + '+'	View of the canvas is zoomed in; pixels are unchanged	Pass
Executing Ctrl + '-'	View of the canvas is zoomed out; pixels are unchanged	Pass

User story 9: Undo and redo a stroke.

Action	Expected Behavior	Pass/Fail
Clicking the undo button on	Latest stroke or layer	Pass

the canvas workspace	modification is undone	
Clicking the redo button on the canvas workspace	If there have been no undos since the latest stroke nothing is done; else restores undone strokes or layer modification	Pass
Executing Ctrl + 'z'	Latest stroke is undone or layer modification	Pass
Executing Ctrl + 'Y'	If there have been no undos since the latest stroke nothing is done; else restores undone stroke or or layer modification	Pass

User story 10: Use layers so that different parts of the artwork can be edited independently.

Action	Expected Behavior	Pass/Fail
Clicking the 'Add Layer' button on the canvas workspace	A new layer is added named 'Layer {i}' where i is the lowest integer present in a layer name of the form 'Layer {i}'	Pass
Clicking the 'Delete Layer' button on the canvas workspace	Whichever layer that is selected is removed	Pass
Drawing on a layer that is on top of a different layer containing drawings	For every pixel drawn on the upper layer that has a pixel drawn on it from the lower layer, the upper layer pixel appears 'blended' with the pixel below.	Pass
Deleting a upper layer containing drawings above a lower layer containing drawings	The drawing of the lower layer appears unchanged	Pass
Saving a project containing multiple layers as an image	The exported image appears equivalent to the image in the canvas	Pass

Saving a project containing multiple layers as a project file	The project file contains the information of each layer	Pass
Opening a project file containing multiple layers	Each layer is restored in the canvas workspace. The current selected layer is the bottom-most layer.	Pass
Undoing / Redoing	Undo/Redo works across layers	Pass

User story 12: Using a stylus to draw.

Action	Expected Behavior	Pass/Fail
Tap the canvas to place a pixel at that position.	Pixel should be drawn at tapped coordinate.	Pass
Draw a stroke on canvas using the brush tool.	A line should be drawn on the canvas.	Pass
Draw a stroke on canvas using the eraser tool.	Any brush strokes should be erased.	Pass

User story 13: Have a preview of where the mouse will draw.

Action	Expected Behavior	Pass/Fail
Hover the mouse over the canvas.	A shadow should appear under the mouse highlighting the pixel to be placed.	Pass
Draw a stroke on the canvas.	The shadow should follow the mouse while it is moving.	Pass
Move the mouse off of the canvas.	The shadow should disappear when the mouse leaves the canvas.	Pass

