

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

1. Application Overview

This document describes best practice for using Movicon Editor 11.6 to program buttons for smartPanel HMIs. This document will detail what is known to slow down the response of smartPanel HMIs and the options the programmer has to circumvent these delays.

Products Used:

Component	Product and Model Number
HMI	smartPanel 4.3", 7" and 10" & Panel PC 10.1", 15.6" 21.5"
Software	Movicon Editor 11.6

2. Application Solution and Benefits

- Efficient code that has minimal delay from user input to motion of the intended machine.
- Correctly formatting buttons in Movicon so that any graphic can be used and the user won't incur a delay.
- Best practice with the currently available Movicon button libraries.

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

3. Screen Creation

The first step of creating a functioning HMI screen is to add a screen to the project. This is done by right clicking the “Screens” button (Figure 1) and selecting “add a new screen”.

From here you begin designing your HMI screen.

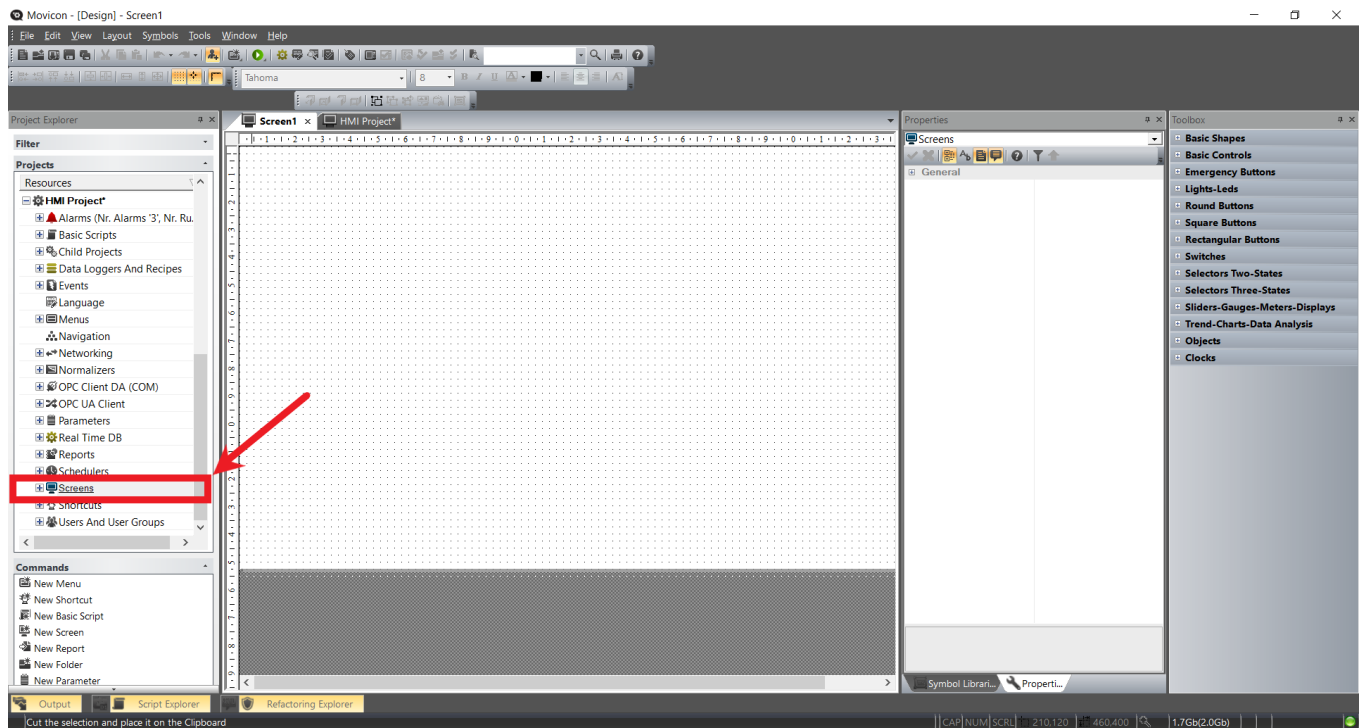


FIGURE 1: LOCATION OF THE "SCREENS" BUTTON IN MOVICON EDITOR 11.6

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

4. Button Creation

Although delays can occur when using any of the button types, it is preferred that the user utilizes the push button feature. This feature allows for the most amount of execution customization (See Figure 2 and Figure 3). The Push button allows for 3 execution types (Execute Commands, ON/OFF, and Impulsive), while buttons created using the “basic shapes” toolbox only have one execution type (Command on Click).

It is also not recommended that the user uses any of the “Round Buttons” or the “Square Buttons”

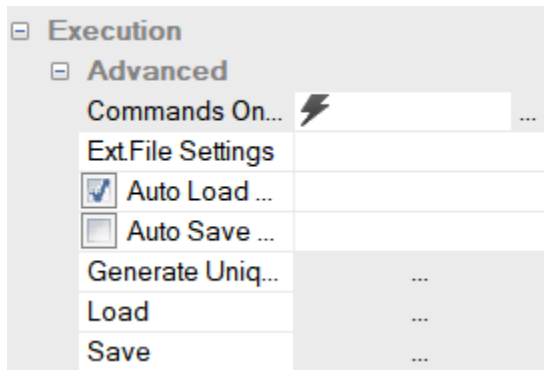


FIGURE 2: EXECUTION TAB FOR SIMPLE BUTTONS.

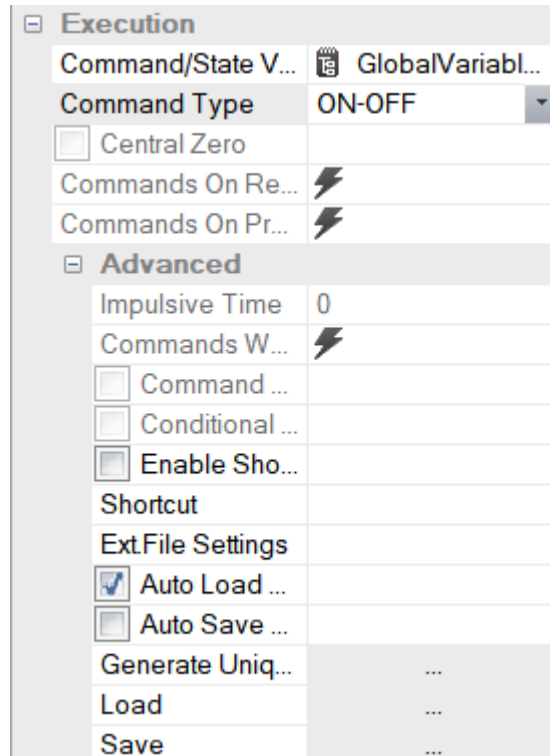


FIGURE 3: EXECUTION TAB FOR A PUSH-BUTTON SHOWING MUCH MORE CUSTOMIZABILITY.

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

To create this type of button, select Push Button (Toolbox>Basic Controls>Push Button. See Figure 4). After selecting an area on the screen, a properties window will appear on the right side of the screen.

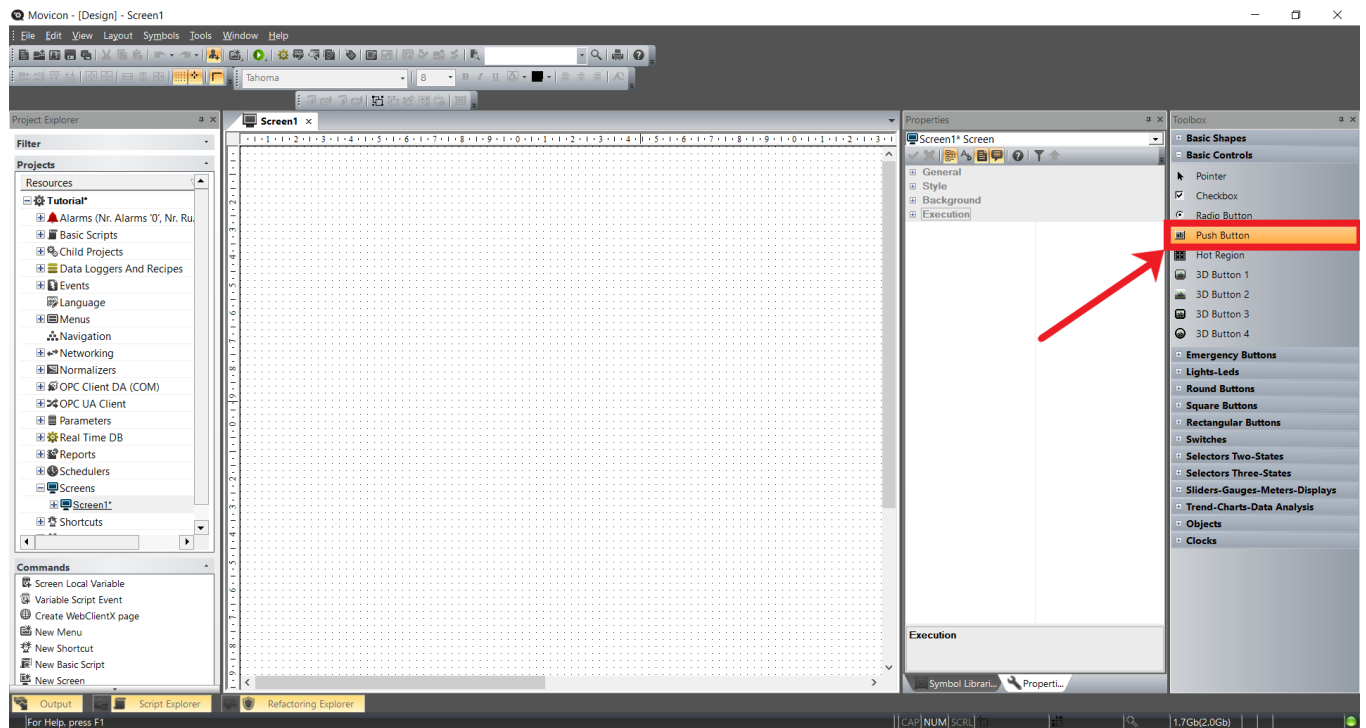


FIGURE 4: LOCATION OF THE PUSH BUTTON IN MOVICON EDITOR 11.6

The desired graphic can then be uploaded to Movicon. (Properties> Background Attributes>Advanced>Image Button _____. See figure 5).

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

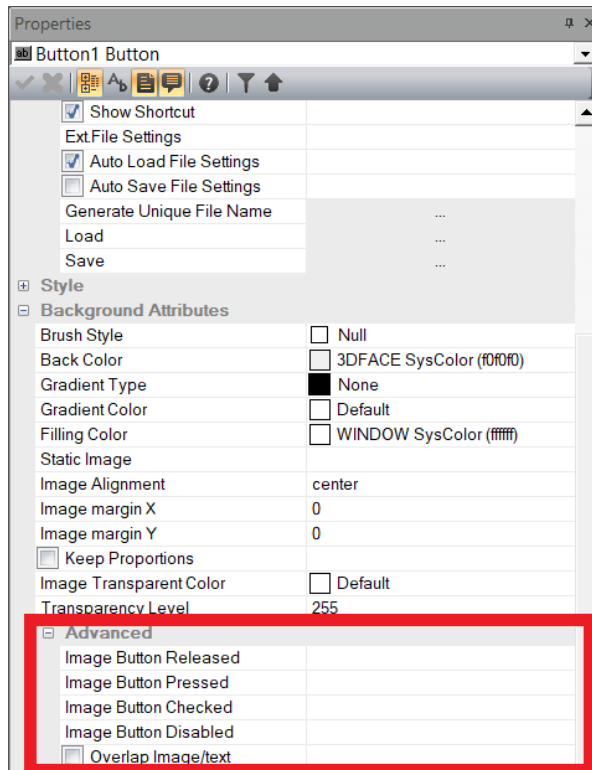


FIGURE 5: LOCATION TO UPLOAD THE GRAPHICS ONTO THE BUTTON.

Using the “Static Image” selection to upload your graphic also works, but is not best practice since the image doesn’t change when pressing and releasing.

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

5. Example of a graphic that would cause delay in Movicon Editor 11.6

When using custom graphics or the preset toolbox of graphics, if the picture in question is stretched to over its pixel size, then delays will occur. Because the graphics in the preset toolboxes are small in pixel size, it is not recommended that the user utilize them. In Movicon, it is recommended that the User uses an image file that is in the BMP file format.

In order to avoid input lag, the user should use an online program to determine the pixel size of the image that is to be turned into a button (On Windows OS: right click image file>properties>summary. On Mac OS: Right click image file>get info> more info). From there the user must ensure that the values of the height and width match or are greater than the values in Movicon (Button Properties>Position>Width and Height). This ensure that the picture is not being stretched.

Title: Best Practice for Using Custom Graphics in Movicon Editor 11.6

Product(s): PanelPC & smartPanel HMI

Doc. No. AN.MoviconHMI.01

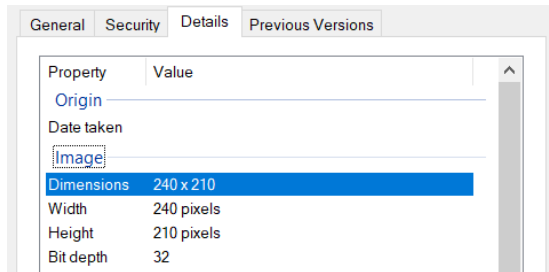


FIGURE 6: WINDOWS IMAGE PROPERTIES SHOWING IMAGE HEIGHT AND WIDTH IN PIXELS

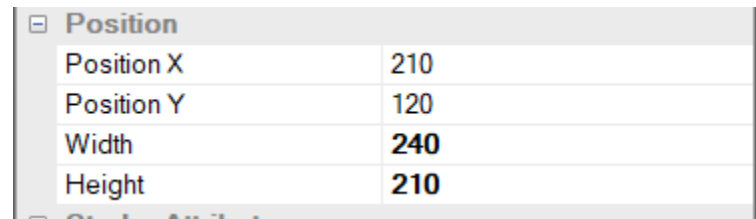


FIGURE 7: MOVICON EDITOR 11.6 POSITION TAB SHOWING HEIGHT AND WIDTH OF THE BUTTON MATCH WITH THAT OF THE ORIGINAL GRAPHIC.

Note

You will also incur an error when you shrink the image size down to less than 25% of the original image's pixel height and width. This will not cause any delays, but the image may be distorted when uploaded to your smartPanel or PanelPC. This will not be detectable in the Simulation feature in Movicon, but will be apparent when viewed on the HMI.