

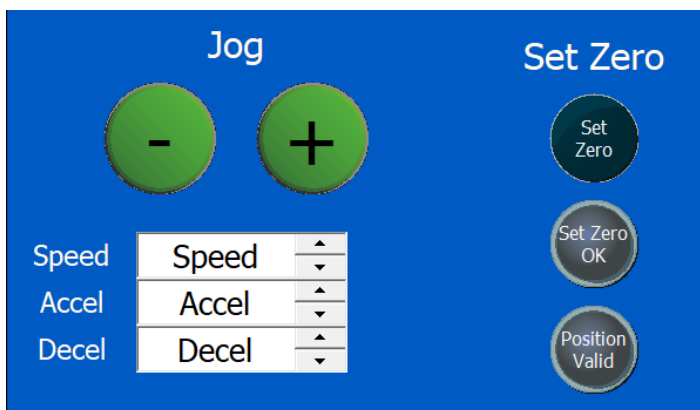
## Jog-Zero Screen

### Mini-Lab

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#### Requirements

- MP3300iec Demo
  - Control Panel with Servo On
  - Main screens or placeholders exist



#### Lab Overview

This lab document will guide the participant through the following steps:

- I. Create Tab Screen Placeholders and Tab Group (10 min)
- II. Build and Verify X-Axis Screen (25 min)
- III. Copy-Search-Replace to Y-Axis and Z-Axis (10 min)
- IV. Verify functionality for all axes (10 min)

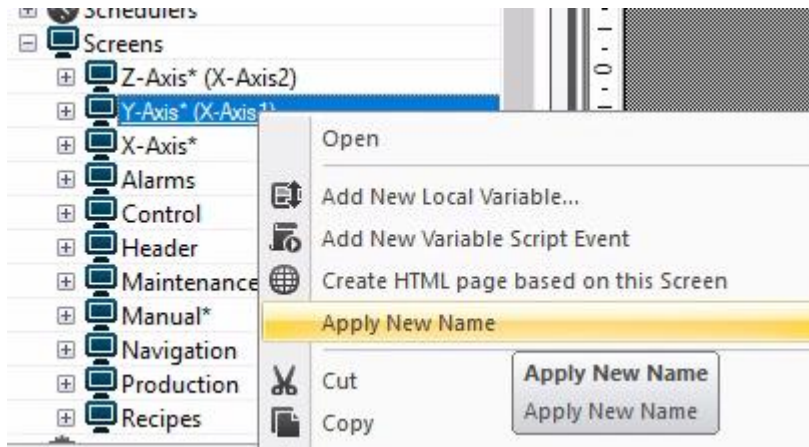
#### Lab Goal

- One functional Jog-Zero tab for each axis
- Jog and zero set for each axis

## I. Create Tab Screen Placeholders (5 min)

*These screens will contain the objects for X, Y, and Z*

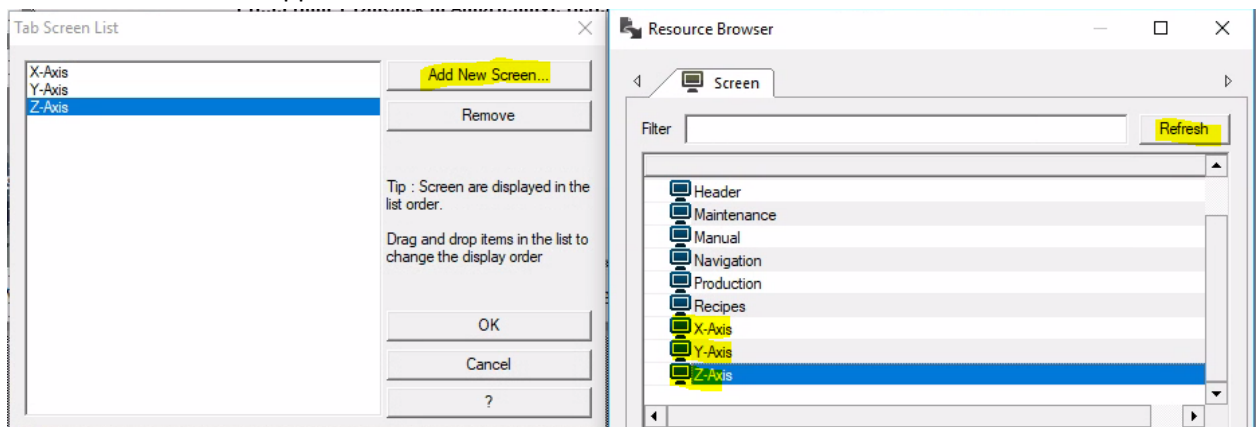
- B. Project Explorer→Screens, Right-click
- C. Make a screen named “X-Axis” with dimensions 600 x 350
  1. Or any dimension and resize later
- D. Copy/paste the screen to create 3 screens named X-Axis, Y-Axis, Z-Axis
  1. Project Explorer → Screens
  2. Right-click to apply new name of copied screen



- E. Save Project to register new screens

## II. Create Tab Groups (10 min)

- A. Open 3\_Jog-Zero screen
- B. Objects→Tab Group (in the 3\_Jog-Zero main screen)
- C. Shift+Double-click to enter screens (or click Edit Screen List)
  1. Screens must already exist
  2. Name of screen is name of tab
- D. Select screens for tabs
  1. Refresh if screens don't appear



## E. Set Tab Group Properties

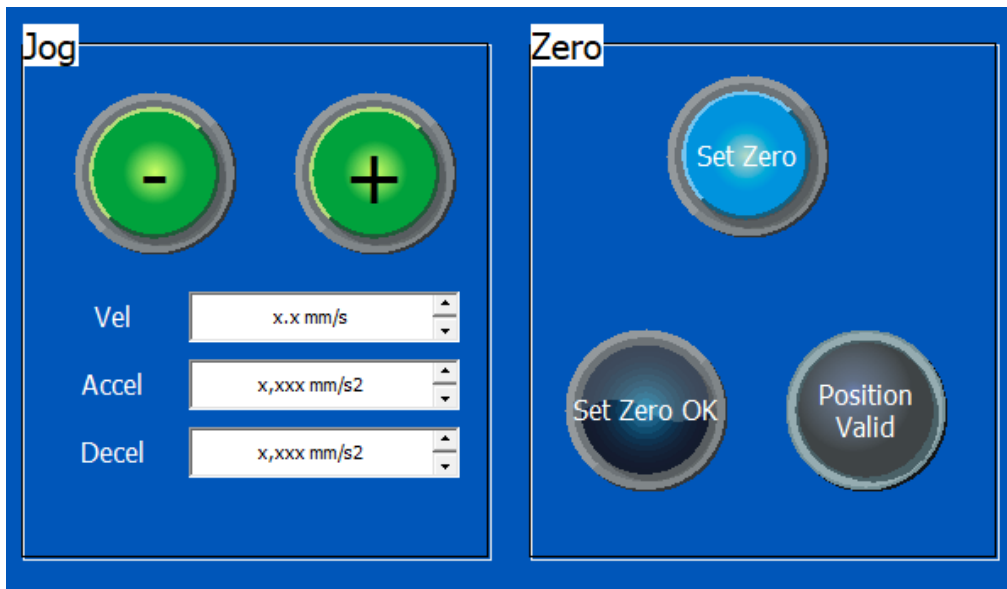
### 1. Adjust Dimensions

- Properties → Position → Width, Height
- Recommend 600 x 380 (30 pixels higher than the tab screens)

### 2. Font: Left justified, size 16 point

- Properties → Fonts → Default Title Font = Tahoma (16) Text Align = left
- Font size affects tab height and therefore the visible area. 16-point font uses about 30 pixels.

## III. Build and Verify X-Axis Screen (25 min)



A. Lay out the objects as indicated or use your own layout

B. Assign Variables to the objects.

### 1. Refer to the table of variables that apply to this screen

Variable	Description
HMI_X_JogAccel	Acceleration rate for Jog
HMI_X_JogDecel	Deceleration rate for Jog
HMI_X_JogMinusRequest	Jog in reverse direction
HMI_X_JogPlusRequest	Jog in forward direction
HMI_X_JogVel	Velocity (Speed) for Jog
HMI_X_PosValid	Actual position is valid after setting zero position
HMI_X_SetZeroOK	Axis is ready for Set Zero Request
HMI_X_SetZeroRequest	Set zero position

C. Consider Properties → Style for Editbox-Displays

- Spin step,
- Min.Value, Max.Value,
- Engineering Unit
- Format Value

D. Buttons should be impulsive with Impulsive Time = 0

## E. Verify functionality for X-Axis

1. Servo on
2. Jog speed, accel, decel
3. Set zero, ok, valid

## IV. Copy-Search-Replace to Y-Axis and Z-Axis (10 min)

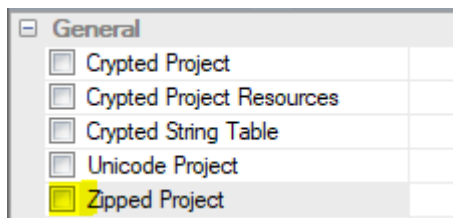
*The axis specific variables in the MPiec program are exactly the same except for the axis name **\_X\_**, **\_Y\_**, and **\_Z\_**. This lends itself well for search and replace*

## B. Copy all the objects from the X-Axis screen and paste to Y-Axis and Z-Axis screens.

## C. Turn off Zipped Project option

*Zipped Project compresses the files such that they cannot be viewed in Notepad.*

1. Project Explorer, select project
2. Properties → General → Zipped Project = FALSE



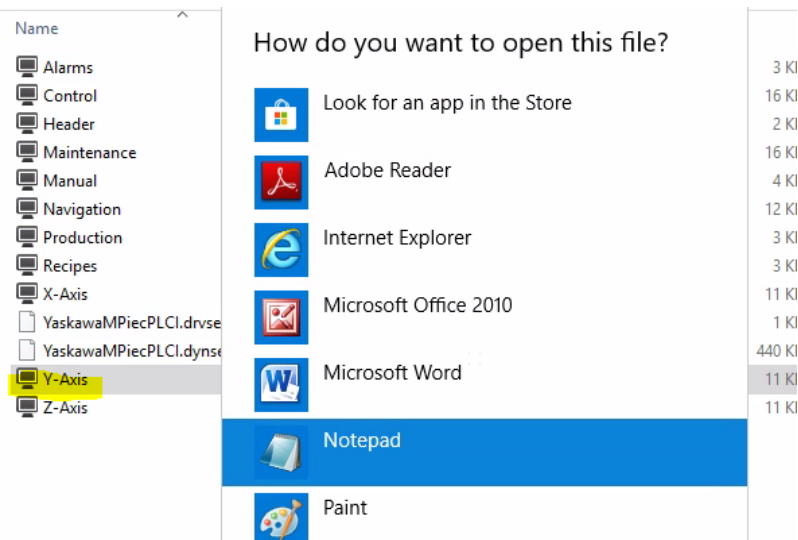
## D. File → Save All

## E. Replace text of \*.MOVSCR file in Notepad

1. Open Project path
2. Navigate to RESOURCES folder

Default Screen Width	800
Default Screen Height	600
Project Path	C:\USERS\MA
Default Screen Color	a6caf0
Get Connected Device Screen Size	

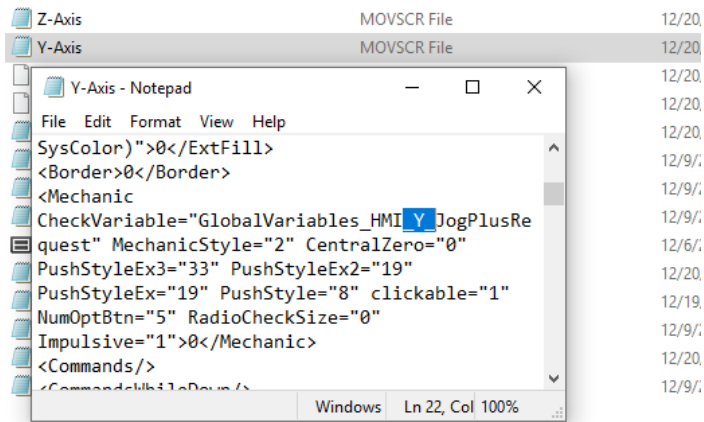
## 3. Open **Y-Axis** and **Z-Axis** in **NOTEPAD**



4. In Notepad, use Edit→Replace

i. Find original axis name \_X\_

ii. Replace updated axis name \_Y\_ or \_Z\_ and save



F. Accept Movicon prompt to “reload”

V. Test functionality on all axes

A. Jog

B. Set Zero

## End Of Mini-Lab

### Troubleshooting Tips

- ☐ The default Max.Value for the EditBox-Display is not high enough for this application.

### Certification Checklist

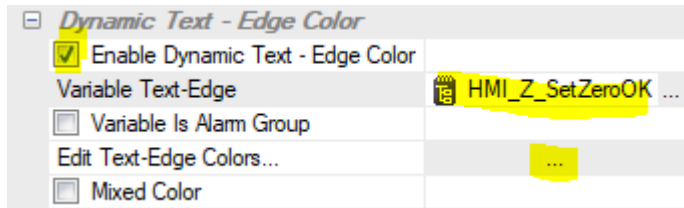
- ☐ Jog buttons function and are impulsive
- ☐ Decimal point for vel
- ☐ Units on vel acc dec
- ☐ vel acc dec Range reasonable
- ☐ Spin reasonable
- ☐ Set Zero functions and impulsive
- ☐ Set Zero OK and Position Valid turn on

## VI. (Optional) Lamp Text Color

*Make the lamp text dark when the lamp illuminates.*

### B. Properties → Dynamics → Dynamic Text – Edge Color

1. Enable Dynamic Text Edge Color = TRUE
2. Variable Text-Edge = <same as command/state variable>
3. Edit Text-Edge Colors → “...” → 0=white, 1=black



4. Notice you can also change the text itself based on the value of the variable

## VII. (Optional) Use an Alias to select axis instead of separate jog screens

### A. Refer to the YouTube video

1. “Demo: Using an Alias when designing SmartPanel HMI screens”
2. <https://youtu.be/nN5d-89e44g>