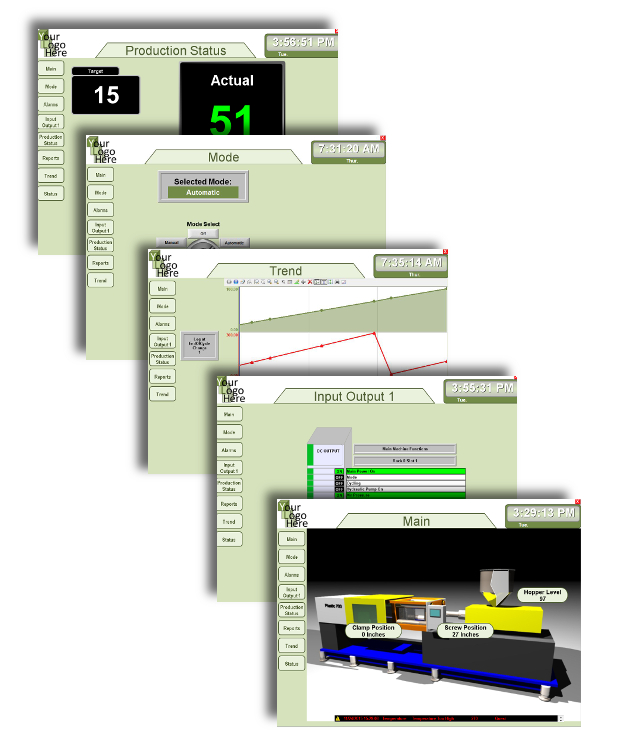
**Machine Builder Template for InduSoft Web Studio**

Revision 1.1 January 6, 2016



**Summary**

This template was developed to give machine builders a “head start” when using InduSoft Web Studio to create an HMI for their machine.

The template provides:

1. A “header” screen that includes:
   1. Company Logo
   2. Current Screen
   3. Clock
   4. Exit button
2. Navigation screen so you don’t have to recreate a menu on every screen
3. Main Screen:
   1. Machine image (easy to replace)
   2. Alarm banner
   3. Value displays (as examples) including a semi-transparent cut-away bar graph on the hopper
   4. Note, the Screen Group called “Startup” contains the Header, Navigation, and Main screens and is set to be the Startup screen when the project starts.
4. Alarm screen:
   1. Simulated alarms
   2. Switch between Online and Historical alarm object (using visibility)
5. Input Output screen:
   1. Symbol showing I/O status
   2. Create extra copies to show many different I/O modules
6. Mode screen:
   1. 3 position selector switch symbol
   2. Example message display showing current mode
7. Production Status:
   1. Target number
   2. 2 different symbols showing the actual values
8. Report screen:
   1. Creates Production report header and body using Report() built-in function
   2. Allows user to view the current day’s report
   3. Allows user to delete the current days’ report showing an example of status feedback
9. Trend screen:
   1. Trend control object showing markers at end of cycle samples
   2. Works with Trend Logging Task saving to disk (easily modified to save to database)
10. Status screen
    1. Uses included symbol to display project and PC information

**How to install**

1. After installing Wonderware InduSoft Web Studio, unzip the projects to the folder where you selected to have your projects stored. The default location for this folder is C:\Users\Your.Username\Documents\Wonderware InduSoft Web Studio v8.0 Projects\. Where “Your.Username” is your username.
2. There are 2 different projects. MachineTemplate4x3 and MachineTemplate16x9. Choose which aspect ratio you need. This is based on the aspect ratio of the Runtime PC you will be using. You can modify this later, but we wanted to give you a good head start.
3. Copy the folder and paste it back into the same folder. Rename the folder from MachineTemplate4x3 (or 16x9)to your own name something like Fixture123, or WeldCell. Then go into the project folder and rename the .APP file to match the name of the folder.
4. Now you can start using (modifying) the new project

**How to modify**

1. Remove Simulations
   1. This template project simulates some of the values used to provide examples of how you might display different types of data. The values are being initialized or simulated in the following locations and can be disabled or deleted as you modify the project to use your own tags:
      1. Scheduler (Delete Sched001 worksheet to remove the simulation)
      2. Startup Script (you can remove all of the tag assignments in the section “'Set up Report tags for example”
2. Machine graphic (Main Screen)
   1. The example graphic Machine.jpg, can be replaced with your own machine graphic. The original is 700x517, but it can be resized in the development environment, or replaced with a different size completely
   2. Alternatively, you could make a graphic the screen background, then it would not be an object on the screen.
3. Add new screens
   1. Save the “Template” Screen using SaveAs under the file menu. This will create a copy of the screen with the proper size and location, and background color. You don’t have to use this technique, but it makes it easy.
   2. Change the screen script to update “ScreenName” tag to what you want to display in the header.
4. Screen Notes and Modification Suggestions
   1. Alarms
      1. There are two Alarm/Event control objects, one on top of the other. One is set to Alarm Online, the other Alarm History. This allows users to switch between real-time and historical alarms.
      2. In this project the alarms are set to save to disk. This can be changed to log to a SQL Database if desired. On the ribbon, click on the Project tab, then Options in the Settings group, and look for the section labeled “Alarm History and Events”. There you should find a button labeled History Format. Currently it is set to Proprietary and it will save to the Alarms sub folder in your project.
   2. Header
      1. Company logo (Header screen, “Your Logo Here”)
         1. The company logo is located in the project folder, Web sub folder. The file name is Logo.jpg and is 200x100 in size. If you scale your logo to this size or smaller and rename it to Logo.jpg, it will show up in the header. Please don’t stretch your logo, make sure you keep the same aspect ratio as the original logo. The logo can be a different width, just not taller than the 100 pixels. For example, your logo could be 300x100 or 100x100.
      2. The screen name is displayed as a string tag. Each time you open a screen you should assign the tag ScreenName to the text you want to display in the header. If you use the template and SaveAs, you should go into the Screen Script (VBScript) and modify the tag value.
      3. In the upper right there is a small red button with a white X. This will exit the runtime. You could apply security to this button, or hide it (using the visibility and the system tag GroupHiLevel) optionally.
   3. InputOutput1
      1. This screen has a symbol that was designed to look similar to an I/O module in the backplane of a PLC. It has the option to label the module type, what functions it has, and the individual I/O points. The idea is that you could copy this screen several times, add navigation to switch between as many I/O modules as you need. For example open the InputOutput1 screen and do a SaveAs and name the screen InputOutput2, and then add left or right buttons on the bottom of the screen to navigate to other cards in the PLC backplane.
   4. Main Screen
      1. This screen was designed with the thought it would be the screen visible most of the time. You can change the graphic to match your machine, or remove it and put the information you need to keep the machine running smoothly. See notes about Machine Graphic mentioned above.
   5. Mode
      1. This screen uses a 3 position selector switch to change between Manual/Auto and Off. The SmartMessage object displays the current mode. There is an Alarm/Event object that displays a list of events, used to track mode changes.
   6. Navigation
      1. Anytime you add a new screen and need navigation, copy one of the buttons on the Navigation screen and modify the two properties
         1. Label, this is what will appear on the button
         2. ScreenName, this is the actual name of the screen to open.
   7. Production Status
      1. This screen uses a couple of symbols to give examples of how you might display production status. You can use the symbols or add other ways to display the information you need.
      2. If you add text to the screen, you can increase the font size to something larger than the 72 in the Font dialog box.
   8. Reports
      1. This screen gives some examples on how to print a report by printing a header once, then appending many samples
      2. It works in conjunction with the Report sheets created in the Tasks tab
      3. Each “button” is a rounded rectangle, with a regular rectangle on top of it. The regular rectangle has the text and has no border or background. The Command Animation is on the rounded rectangle, but it is behind the text so you may have to move the text (rectangle) out of the way if you want to change the Command animation.
   9. Status
      1. This screen uses a symbol to show the status of the PC and the security login information. An idea for improvement would be to add ReadStatus or WriteStatus from and driver worksheets.
   10. Template
       1. This screen can be opened and using SaveAs, create new screens. As mentioned above, it will easily let you create new screens that have the right size, location and background color to match the rest of your project.
   11. Trend
       1. This screen works in conjunction with a Trend worksheet (found in the Tasks tab of the Project Explorer), it logs data to a file on the hard drive. By default this file is in the Hst folder of your project.
       2. The trend worksheet is set to Save on Trigger using the tag EndOfCycle (which is simulated in the Scheduler).
5. Add a driver (or drivers) of your choice
   1. Start with a few tags and test before adding all of your tags.
6. Add new screens and other data to screens you need to monitor your machine effectively. This template was created to be a starting point. Feel free to modify and use it as your own.

Thank you for using this template, if you have any ideas to improve it, please let us know.

Revision History

|  |  |
| --- | --- |
| Version | Changes |
| 1.0 | Initial Release |
| 1.1 | Removed Append from Report header, improved functionality of View Report button |