

Project Task: Real Time Process Monitoring

Design, create, implement and test an application window form which will fetch process data including the description of the parameters and their details from as well as the real time parameter values from:

<http://ivlab.azurewebsites.net/>

For example the link to data:

<http://ivlab.azurewebsites.net/tank1>

<http://ivlab.azurewebsites.net/pumpe3>

The requirements of the application includes 2 tabs:

1. In tab "Display", the users can select any parameter (list choice) and the duration (from 1 minute up to 10 minutes, in steps of 10 second), then a button is pressed, and the application will display the value of the parameter in a simple real-time line chart. The chart will include
 - a. The constant max –min display value for the vertical axis.
 - b. The starting and ending timestamp for the horizontal axis.
 - c. The instant value of the parameter is represented by the line.
2. In tab "Export", the users can select many parameters (using e.g. radio button, multiple choice...), then choose a duration (5 minutes, 10 minutes, etc...) as they want, then the application will export the required data into an excel file via a button command. If more than one parameter is selected, then each parameter data value will be displayed in one sheet, naming the same as the parameter.

Example of an export parameter details include: Description, measurement unit, min value (minDisplay), max value (maxDisplay), Current Value (actual), timestamp (format as "hh:mm:ss"). The time step is 10 seconds. The end result should be the similar to the following table for one sheet.

Tank 1	Litre		
Min value	Max value	Current value	Timestamp
1	5	3	7:20:10
1	5	4	7:20:20

Grades:

1	All requirements completely fulfilled, function test passed without errors, good and clear report, and additional operations or interfaces implemented.
2	All requirements completely fulfilled, function test passed without errors, good and clear report.
3	One of two main requirements fulfilled, function test passed without errors, good and clear report.
4	One of two main requirements fulfilled, function test passed without errors, adequate report.
5	None of the function fulfilled or missing report.

I wish you success!

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