Engin 103 May 5, 2010 back to e-syllabus	Topics: Project 3 Part I Presentations Project 3 Assigned Improvements for Day 2 Logbook questions

back

Project 3 Part I Presentations
Section 1 (9:30 AM)

Team #	1) Describe the problem you are implementing with LabVIEW 2) Insert a snapshot of your Front Panel, resize to 2in. tall	1) What are the important elements in the Block Diagram, and why. 2) Insert a snapshot of the Block Diagram here, resize to 2in. tall	Explain the modifications your team you will need to implement
1 section 1			
2 section 1			
3 section 1			
4 section 1			
5 section 1			
6 section 1			
7 section 1			
8 section 1			
9 section 1			
10 section 1			

Section 2 (2:00 PM)

Team #	1) Describe the problem you are implementing with LabVIEW 2) Insert a snapshot of your Front Panel, resize to 2in. tall	1) What are the important elements in the Block Diagram, and why. 2) Insert a snapshot of the Block Diagram here, resize to 2in. tall	Explain the modifications your team you will need to implement
1 section 2			
2 section 2			
3 section 2			
4 section 2	1)	1)	
5 section 2			
6 section 2			
7 section 2			
8 section 2			
9 section 2			
10 section 2			

back

back

Project 3

Project	Description		Part II Assigned Modifications
A	Predict the max. temp. for the next day using previous thirty days' temperatures, using polynomial and other models		Add a graph for data and model; also output parameters and standard deviation for both the polynomial and exponential models
B	Predict the oil price for next week using previous thirty weeks' prices, using polynomial and other models		Add the exponential model; allow the user to control the order in the polynomial model; Add a graph for data and model; also output parameters and standard deviation for both the polynomial and exponential models
C	Detect the frequency spectrum of a given signal (in wav format) using Fourier Transforms, output the number of frequency components of the signal		Apply a low-pass filter on the spectrum (allowing the user to control the cut-off frequency), then do an inverse FFT and sound the filtered signal
D	Say the decimal number for any four-digit binary number		
E	Make a 16 keys piano		Add a button so it plays all 16 sounds up and down: 1 to 16 to 1
F	Solve the quadratic equation with distinction of the three cases for the discriminant. Provide solutions including: double roots, different roots, and complex conjugate roots.		Add a graph of the quadratic polynomial
G	A VI that inputs sound via a microphone, when the sound amplitude is above certain limit it will display the waveform, replay the sound, save it into a file, and present results of a tone measurement including amplitude, frequency and phase of the signal		Acquire a second sound wave, then insert a button to make it play both waves at the same time
H	A VI that will produce and display an html file containing the front panel (with a description of problem solved, inputs and outputs), block diagram, and notes. The html file will be saved as p2p2a.html		Make it to combine the Front Panel with an existing file, then output the new report to a file
I	A VI that produces two or more		Produce two chirps and display their

		chirp sounds, that is, a sound whose frequency is changing with time		spectra as a case of a Case Structure, the other case will sound the sum of the two chirps and show its spectrum	
	J	Make a "sound recording utility" that can record voice from a microphone, display it and its FFT, then save it into a file. When a 'playback button' is pressed it will play the recorded sound.			

back

LOGBOOK: <u>example of a logbook page</u>

-Use a quadrille notebook; number all pages; date all entries
-Write your notes for all activities, thoughts, problems and solutions, and learning conclusions related to Engin 103. You should write down progress, outcomes, and conclusions on projects and teamwork; conclusions from class work (including LabVIEW) and homework.
-In addition you should answer in the logbook all questions listed in these notes in blue, as shown below:

53) Describe two other projects (presented by other teams), include information about their Front Panel and Block Diagram (what elements did they use and why)

54) Describe the modifications required for your team Virtual Instrument. Explain how this can be done.

back