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Faculty Development Program on "LabVIEW for Graphical System Design"

Department of ECE

Report for six Days FDP on "**LabVIEW for Graphical System Design"**

Overview

A Faculty Development Program on **LabVIEW for Graphical System Design** was organized by the Department of Electronics and Communication Engineering from 16th January 2023 to 21st January 2023 and it was presided by Principal **Dr. P. Mahabaleswarappa** and the resource persons for the program were

1. **Dr.M.Thilagaraj,** Associate Professor, MVJCE,

2. **Ms.P.Monica**, Testing Engineer, Electrono Solutions, Bengaluru and

3. **Mr.M.Sabari Saravanan**, Senior Test Engineer, Tessolve Semiconductor Private Limited, Bengaluru were the resource persons for this workshop.

The welcome address and Inaugural speech was given by the Principal **Dr. P. Mahabaleswarappa**. The Venue was NI LabVIEW academy (Room No 201) (9.30 AM to 4.00 PM).

Day 1: Introduction and Applications of LabVIEW

First day was conducted by Dr. M.Thilagaraj. He started the session with basics of programming in LabVIEW with Introduction and Applications of LabVIEW, The other topics that were discussed relater to LabVIEW were numeric and Boolean palettes, data types and data flow programming, modular programming, In-range and coerce function, Select function, Task Sheet Solving on Day 1. This FDP was providing all the faculties with the graphical programming environment. All faculties were able to relate the modularity of LabVIEW and they were interestingly involved in developing solutions to the tasks by using different logic.

Figure 1: **Dr. P. Mahabaleswarappa / Principal** delivering the Inaugural speech.

Day 2: **Core I Programming Concepts in LabVIEW**

The second day session also conducted none other by Dr. M.Thilagaraj who explained key concepts like Polymorphism, Structures - Case structure, Sequence and timed structure, Debugging techniques and coercion dot, Formula node and expression node, Variables - Local and Global, Customizing Front Panel Controls - Controls, Type def, Strict Type def. In both the days all faculties involved themselves in developing many programs using LabVIEW.

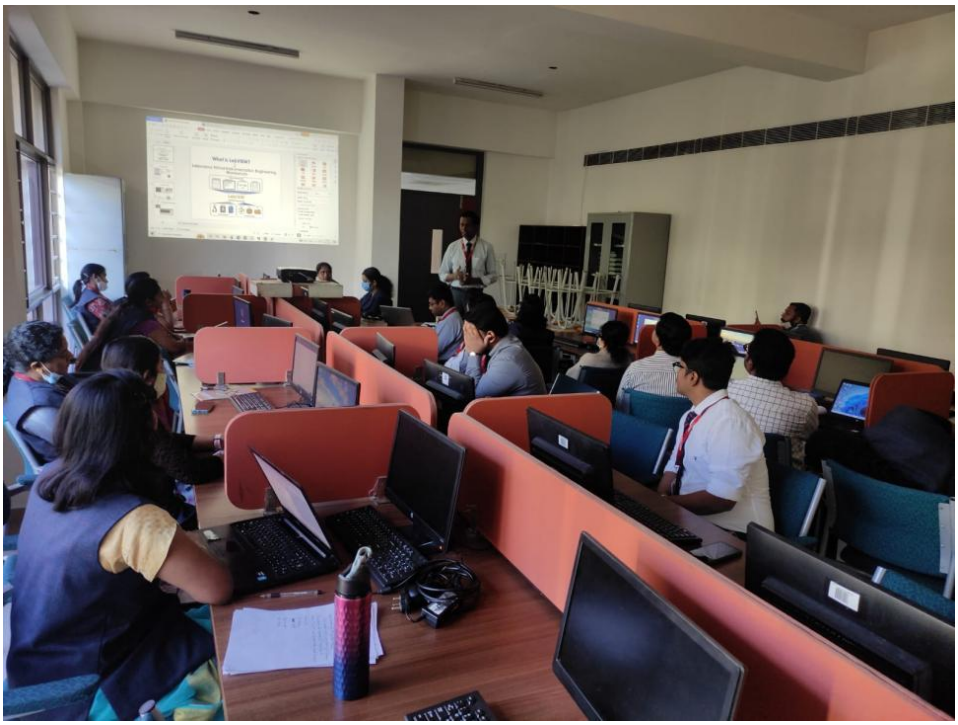

Figure 2: Discussion on Core I Programming concepts of LabVIEW

Day 3: Hardware Interfacing and Data Acquisition using LabVIEW

In this session the trainer Ms.P.Monica demonstrated the concepts of real time data collection using NI MAX and also she demonstrate the hardware interfacing using LabVIEW. Some practical applications of how data's are collected with different samples was practically demonstrated for the faculty members.

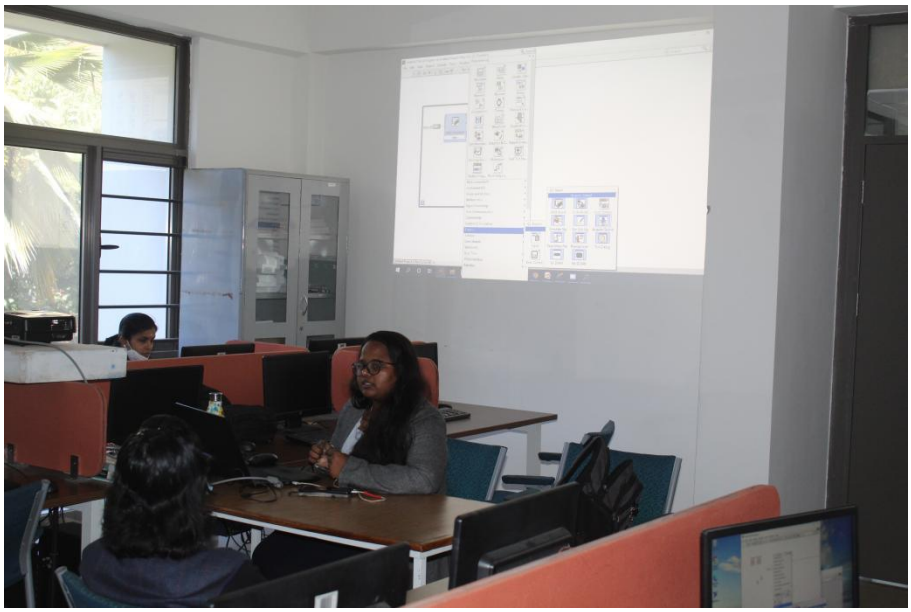

Figure 3: Speaker explain the concepts of Data Acquisition using LabVIEW

Day 4: Programming concepts of Loops and Arrays in LabVIEW

In this session the speaker Dr.M.Thilagaraj demonstrated the concepts of Loops in LabVIEW - For Loop, While Loop,Timed Loop, Automatic / Manual Error Handling. Then related to these many tasks were executed and also the models of CLAD exam based questions were also explained to all.

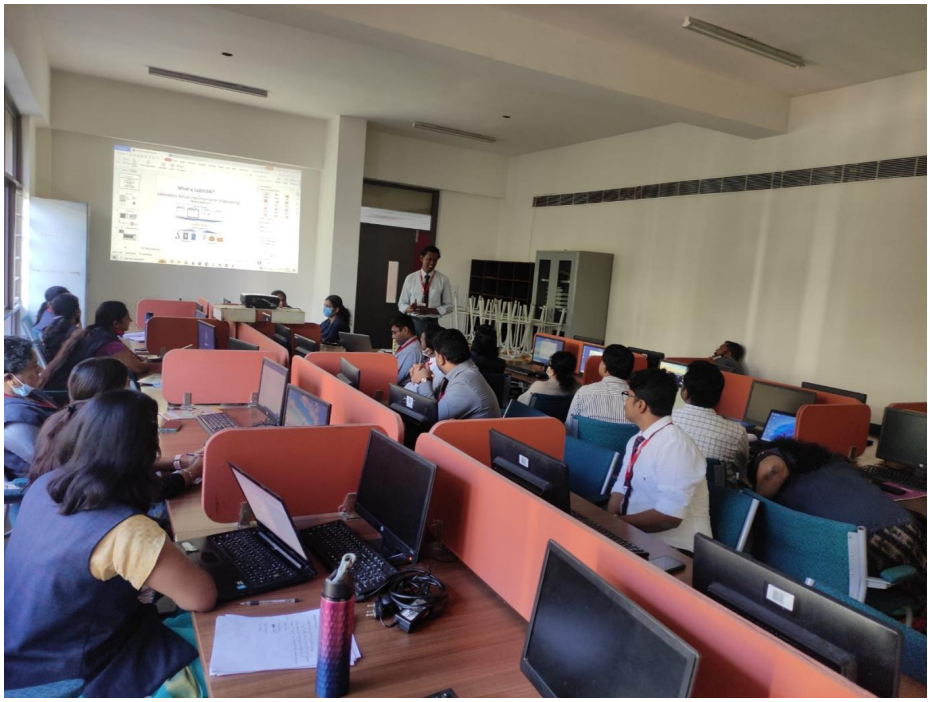

Figure 4: Speaker explain the concepts of Loops and Arrays in LabVIEW

Day 5: Programming concepts of strings, Property Nodes, State Machine Architecture in LabVIEW

In this session the speaker demonstrated the with the advanced topics of how to use strings in LabVIEW programming. Also the contents of this day were Property Nodes, File I/O and its functions, Event Structure, State Machine architecture, Producer - Consumer Architecture, Coding pattern question discussions. Then on this day the faculties started solving many advanced coding level tasks and they were involved in coding questions.

Figure 5: Faculties involving in the Coding Level challenge using LabVIEW.

Day 6: Programming with myDAQ in LabVIEW

This session was handled by the speaker Mr.M.Sabari Saravanan and he demonstrated with the contents of how to acquire and process data using myDAQ. He also explained about the silicon validation done in Tessolve Semiconductor Private limited using LabVIEW.

Figure 6: Session using myDAQ by Mr.M.Sabari Saravanan.

Overall, 25 faculty members participated in this FDP. This FDP was a good learning experience for the all the participants. They had the opportunity to learn and discuss programming using LabVIEW.

In the conclusion, the several tasks were solved and developed immense interest in the applications. Brief introduction on CLAD question model was explained to all the faculty members.

Figure 7: Certificate distribution to the participants. .

OUTCOME:

Out of the 25 faculties attended all got insights about the model of CLAD exam and they were able to take LabVIEW for their research field and many faculties had got ideas to do different projects and they will guide students to do projects in near future. This FDP was concluded with certificate distribution ceremony to the faculties.