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Workshop on "LabVIEW for Graphical System Design" Department of ECE

Report for Workshop on "LabVIEW for Graphical System Design"

Overview

A workshop on **LabVIEW for Graphical System Design** was organized by the Department of Electronics and Communication Engineering on 05th October 2024 from 08.30AM to 4.00 PM for the 3rd Semester ECE students and the resource person for the program was **Dr.M.Thilagaraj,** Associate Professor, MVJCE

The welcome address and Inaugural speech were given by the HoD / ECE **Dr. Shima Ramesh Maniyath**. The Venue was NI LabVIEW academy (Room No 203).

Session 1 (08.30AM to 10.30AM): Introduction and Applications of LabVIEW

All sessions were handled by Dr.M.Thilagaraj for this workshop. He started the first session with basics of programming in LabVIEW with Introduction and Applications of LabVIEW. The other topics that were discussed related 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 workshop was providing all the students with the graphical programming environment. All students were able to relate the modularity of LabVIEW and they were interestingly involved in developing solutions to the tasks by using different logic.

Session 2 (10.30AM to 12.30AM): **Core I Programming Concepts in LabVIEW**

The second week session handled 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 this week all students involved themselves in developing many programs using LabVIEW.

Session 3 (1.30PM to 2.30PM): Hardware Interfacing and Data Acquisition using LabVIEW

In this session the Dr.M.Thilagaraj demonstrated the concepts of real time data collection using looping structures and he demonstrated the ELVIS II+ interfacing using multisim. Some practical applications of how digital and analog experiments were done was practically demonstrated for the students. He gave the students to do practise the analog and digital experiments.

Session 4 (2.30PM to 3.30PM): 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.

At the end of the session 4, Q&A was answered and feedbacks were taken from students regarding the sessions and to progress further using this workshop.

Figure 1: Students actively involved in Session.

Figure 2: Students practicing during the workshop

Overall, 28 students participated in this workshop. This workshop was a good learning experience for all the participants. They had the opportunity to learn and discuss programming using LabVIEW.

In the conclusion, the several tasks were solved, and I developed an immense interest in the applications. A brief introduction to the CLAD question model was explained to all the students.

OUTCOME:

Out of the 28 students who attended, all gained insights into LabVIEW Programming, and they were able to utilize LabVIEW for their career growth. Many students also gained ideas for various projects, and plan to undertake projects and internships soon.