
Report on the Workshop “LabVIEW for Graphical System Design”

Overview

A workshop titled **LabVIEW for Graphical System Design** was organized by the Department of Industrial IOT Engineering on 22nd and 23rd November 2024 from 08.30AM to 4.00 PM for the 3rd Semester IIOT students and the resource person for the program was Dr. M.Thilagaraj, Associate Professor, MVJCE and Mr.K.V.Arunraguram, Captronic systems Pvt Ltd, Bangalore.

The welcome address and Inaugural speech were delivered by the HoD / IIOT by Dr. M.Thilagaraj. The Venue was NI LabVIEW academy (Room No 203).

DAY 1 - Session 1 (22.11.2024 - 08.30AM to 12.30PM): Introduction and Applications of LabVIEW

All sessions were handled by Dr.M.Thilagaraj for this workshop. He started the first session with the 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 provided all the students with a 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.

DAY 1 - Session 2 (22.11.2024-01.30PM to 04.00PM): Core I Programming Concepts in LabVIEW

The second 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.

DAY 2 - Session 3 (23.11.2024 - 08.30AM to 12.30PM): Hardware Interfacing and Data Acquisition using LabVIEW

In this session the Mr.K.V.Arunraguram 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 practically demonstrated for the students. He gave the students to do practice analog and digital experiments.

DAY 2 - Session 4 (23.11.2024 - 01.30PM to 04.00PM): Programming concepts of Loops and Arrays in LabVIEW

In this session the speaker Mr.K.V.Arunraguram 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 the models of CLAD exam-based questions were also explained to all.

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



Figure 1: Students actively involved in Session.



Figure 2: Students practicing during the workshop

Overall, 32 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 conclusion, several tasks were solved and developed immense interest in the applications. Brief introduction on CLAD question model was explained to all the students.



Figure 3: Students with the resource persons of the workshop

OUTCOME:

Out of the 32 students attended all got insights about LabVIEW Programming and they were able to take LabVIEW for their career growth and many students had gotten ideas to do different projects and they will do projects and internships in near future. Overall, the importance of developing the skills for today's industrial needs was highlighted to the students and how a programming language is most essential for their career development was also highlighted in the workshop.