



GUJARAT TECHNOLOGICAL UNIVERSITY

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CIRCULAR

Interested faculty members and students may register for the following webinar which is going to be held on Wed, Jul 13, 2016 3:30 PM - 4:30 PM IST.

Virtual Academy: Integrated Course projects in Automotive Electronics and RTOS

Wed, Jul 13, 2016 3:30 PM - 4:30 PM IST

Registration URL: <https://attendee.gotowebinar.com/register/3843929308904091652>

Description:

It is seen that the number of Electronic Control Units (ECUs) in the automotive has grown significantly in recent years. In today's luxury cars, up to 2500 signals are exchanged by up to 70-80 ECUs. The number communication channels implement required realize such systems is about n^2 , here n is the number of ECUs in the automobile. This complexity requires the use of communication networks between them and to manage the functionality of these ECUs the Real-Time Operating Systems (RTOS) is used.

This real world scenario has motivated us to give the hands on experience to students by introducing integrated course projects, which includes the use of Real-Time Operating Systems (RTOS) in automotive embedded systems. This activity also involves creating an industry like environment for execution of the project. Deployment of more advanced control strategies and integration of sub modules were the major technical outcomes of the activity.

For executing this activity, the problem statement given was divided into sub-problems and each sub problem is converted to sub module/ECU depicting the industry scenario. The concepts of automotive embedded systems were used during sub module development and during integration the concepts of RTOS were used. The activity provided the method and tool to facilitate the integration of different electronic subsystems coming from various suppliers.

The activity created the feel of real world industry environment amongst the students and enabled to achieve various technical and professional outcomes of ABET. The processes of achieving these outcomes are discussed.

Presenter:

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