



Report on Student Games 2017 at SAIT, Calgary, Canada

Date:16-19, March ,2017

Venue: Southern Alberta Institute Tech. (SAIT), Calgary, Canada

Visiting team: Brijesh Gupta CR, Viraj Puntambekar, Dr.Veena N.Hegde

It was first of its kind where two students from two institutions , Brijesh Gupta C R, Final year student from E&I, B.M.S College of Engg. and Viraj Puntambekar , II year E&I, V.I.T Vellore , could take part in 5th edition of annual Games 2017, at Alberta, Calgary, at SAIT. They were accompanied by the ISA-BMSCE faculty advisor and student Liaison ISAB, Dr. Veena Hegde.

SAIT is known for its exclusive laboratories on control automation and it witnessed a great footfall of 13 teams with 5 members team from four countries, during Games 2017 . DCS programming scenarios, online flow measurement, valve/positioner assembly/calibration, process load response, and instrumentation calibration and measurement were the challenges put forth for the participating teams . Visiting students were separated and placed on teams where all team members were not of their own college/university, to thoroughly promote soft skills within these newly minted, technically trained teams, emulating the true work force environment. A second year, SAIT IJET student was added to each team of visitors, to take away “home ice advantage”. This also promotes the larger networking aspect and opportunities that an institute versus institute modeled games unintentionally discriminates against.

We reached Calgary on 16th of March. Then we went to SAIT Getaway Pub, where we met all the participants for the International Games who had come from different parts of America, Canada and Brazil. It was a great interaction session. With this, we ended the day and got started for the International Games.



Introduction dinner at Getaway Pub,

The next day, 17th March, we had our breakfast by around 8am and were pretty excited to start the very first task for the day. The first task was based on DCS programming scenarios where students had to design a control system for a water tank. The software used for this purpose was Delta V and the flow valves were programmed by using devices that operated on HART protocol. The time limit for all of these tasks was 3hrs within which the students had to program the PID controllers, send the data through fieldbuses, program the valves and meters and perform all the test cases given to them.

This was followed by lunch and learn where students were introduced to Mdbus, a software based on MODBUS protocol. Using this software students were taught to send basic commands to a motor such as start, rotate clockwise, rotate anti-clockwise, etc.

The second task was a Loop tuning task. This task required students to tune a level controller for a liquid tank. The tank consisted of an inner and an outer parts. Students had to calculate gain, proportional, integral and derivative constants and then perfect the controller design through trial and error to meet the specified error requirements.

The MacGyver task was the third one. In this task, one of the problems faced by the field engineer was simulated. The battery powering one of the valves has failed. The task was to power this valve using the ordinary ac source. Students had to build a rectifier circuit to convert

ac to dc and also bend the tubing to allow the fluid to flow into the valve. The valve then had to be programmed to open and close at the desired speed and angle using HART device.

The last task was Field device troubleshooting. In this task, students were taken to a lab filled with lots of meters, valves and devices. Some of them had different types of errors introduced into them. Our job was to correct these errors and make sure that everything worked perfectly.

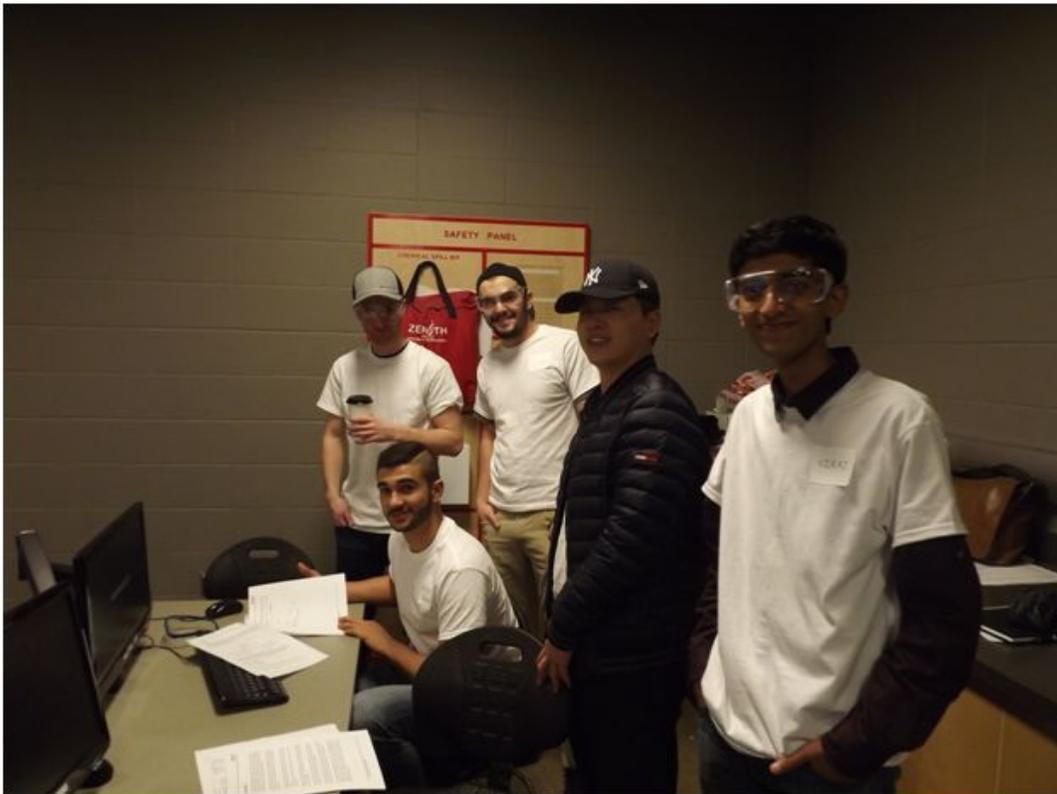
Although we did not win the games, the experience gained during the course of the games was priceless. ISAB took a great initiative for partially funding our flight tickets and we are very thankful to them for it. The fact that these International Games became a doorway to huge source of interaction, participative skills, knowledge influences us to recreate something similar here in India. Although we may lack the kind of equipment and labs that they possess, we can still make do with what we have. If not as a separate event, we can consider including something like this in the next iACT. This will benefit not just the entire ISAB section, but also all the student members of ISA India.



Team 2



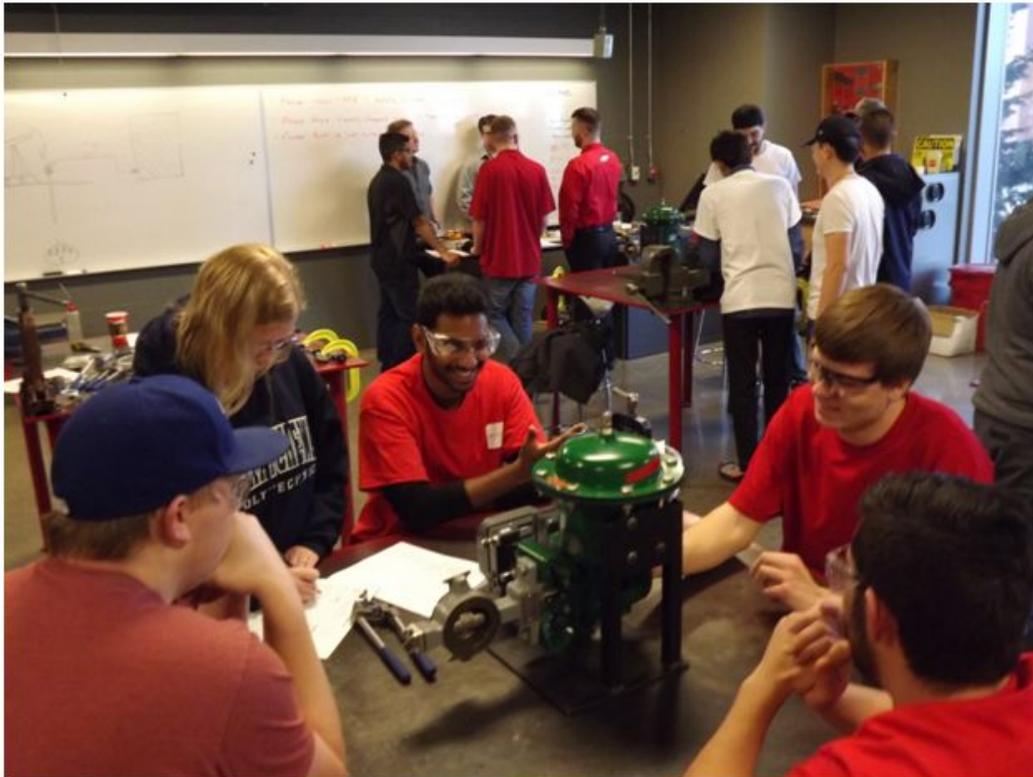
Team 1



Team 1 Getting ready for Task 1



Team 2 at Task on Day 1: DCS programming



Team 1 and Team 2 task on Day 2 :Challenge faced by the Field Engineer



Faculty Advisor Dr.Veena Hegde, BMSCE,ISAB,India- instructor Tony Kuphaldt, Bellingham Technology ,USA, Driver/DCS programming using TCP



Faculty Advisors and Instructors from participating countries in Analysers lab ,SAIT



Process stations inside the DCS Laboratory

The opportunities like this make the individual participants more confident and their experience shared, give others to look up for such or better challenges. Though the infrastructure across countries varies to a large extent based on the employment demand and trends, participation in events like this makes the young graduates to face any challenges and mould them as responsible citizens of the country.

Reported by:Dr.Veena Hegde, Brijesh Gupta, Viraj Puntambekar