Startups & MSMEs working in Embedded Systems in West Bengal

Date: February 6th, 2020

Venue: K.P. Basu Memorial Hall, Main Campus, Jadavpur University

No. of attendees: 70

Dignitaries:

- **Mr. Amarendra Kamak: Proprietor, Micro System Foundations**
- **Dr. Monotosh Das: Engineering Manager at Videonetics**
- **Mr. Pulak Mondal: Founder at Himanju Technologies**
- **Mr. Rohit Sarkar: Founder at Distronix**
- **Dr. Swarup Mandal: General Manager-Business Leader at APAC, WIPRO**
- **Mr. Nilabja Moitra/ Mr. Somnath Mukherjee: Founder at Nexgentics**

Brief description of the event: The seminar began with an introduction of the speakers for the day, which comprised of eminent industrialists, entrepreneurs, business experts and analysts. All the speakers faced a lot of questions from the enthusiastic crowd, which majorly had students of Electronics and Communication Engineering. The event was inaugurated by **Prof. Chiranjib Bhattacharjee, Pro Vice Chancellor, Jadavpur University** and **Dr. Sayan Chatterjee, Startup   Co-ordinator and Conveyor, IIC, Jadavpur University.**

The proceedings began with **Mr. Amarendra Kamak** as the first speaker. He set the ball rolling, by explaining the meaning of IoT (Internet of Things), its protocols (encryption, HTTPS and MQQT) and cloud. He explained how cloud is indispensable, citing the term "IApps." He described how embedded systems use IoT and cloud, for their working. He also threw light on the importance of knowing C programming language, since embedded systems usually take instructions in this language only, owing to space and speed restrictions. He illustrated the importance of development boards, mediums of communication (like Modbus R5485 and LAN Ethernet) between the different segments and why Instrumentation engineers are vital. He concluded with applications of embedded systems, in wearable devices, estimation of energy consumption and health of motors.

Dr. Monotosh Das played a short video on how the company he works at, that is, **Videonetics**, creates embedded systems, with the application of Artificial Intelligence, to ensure safety of passengers in a "vehicle on a highway." This, he said, included checking whether the passenger was wearing a seat-belt, whether the biker was wearing a helmet and, whether the driver used his smart phone while driving. He reiterated the importance of C language, and even revealed that JavaScript is being used too, as of late. He talked about Deep Learning using Python programming language and OpenCV(and its open-source BSD license). He ended his speech with a mention of PubNub.

Mr. Pulak Mondal began with a request, of addressing the audience in Bengali. He shared the story of his inspirational introduction in the world of embedded systems, during his MCA degree studies. He has worked on solutions to various problems he saw at his home, all on his own. These include, but are not limited to, automation of the water pump, RFID-based automatic door maintenance and "Pocket-Switch" (for which he has filed a patent). He uses the domain www.himanju.com. Addressing the crowd, he stressed on importance of getting hired in a product-based company, if at all, compared to working in a service-based company. He introduced the term "arduino" in the discussion and its significance in embedded systems, which he had created.

Mr. Rohit Sarkar began with an introduction of the firm he works at, called "**Distronix**", which solves problems faced by companies around India, by the application of embedded systems. He enlightened the audience by underlining difference in Brownfield and Greenfield investments, which were of prime importance in the problem faced by Mars Chocolate Company. He decoded the problem faced by Berger Paints, and simultaneously, explained how their suggested solution included the use of Edge Intelligence. He talked about "hot zone" in malls and departmental stores, which are eyed by beverage and snack companies. He concluded with the information of advent of fog computing.

Dr. Swarup Mandal , who is the General Manger-Business Leader for APAC, WIPRO, talked about the "POC(Proof of Concept) Syndrome" in tech-giants, which do not let their employees, who handle technicalities of embedded systems, adopt a "hit and trial" approach to solve problems. He talked about mobility services, smart drivers (using IoT) and of its failure, in the past, in Silicon Valley itself(A Tesla car hitting a woman in dark, due to colour-recognition algorithm's shortcoming). He talked about problems like Day Zero, and opportunities like Smart Cities' construction, which will cause an unprecedented rise in usage of embedded systems. He shed light on the plight of workers in steel factories and how an embedded system may be used for solving it. He ended with the point he began with- how entrepreneurs solve technical problems better, compared to big companies.

Mr. Nilabja Moitra, who has the experience of working in Silicon Valley startups , for more than 25 years, talked about thinking in a simple manner. He stressed how he, with one of his friends,

Mr. Somnath Mukherjee came up with a startup called **Nexgentics** which was so elementary that it didn't cost them anything initially. They concentrated on piles- of files, in an office, of products, in a grocery store, of drugs, in a medicine store etc and how they envisage utilising embedded systems so that one doesn't need to break a sweat "while searching for one of them in a collection of 500." He urged the attendees to not be in an "internet bubble", since that obstructs clear thinking, in his opinion.

After a food break, a 30 minute-long panel discussion ensued, which was interactive and hence, saw questions mainly dealing with the innovation ecosystem at Jadavpur University and Kolkata and how it can be improved. The consensus among the speakers was that students must prevent thinking exclusively about placements. They must create an entrepreneurial mindset. The startup cell co-ordinator held the opinion that

seminars of this sort will be of large help in this regard. The speakers were pleased to have the organisers of the seminar in the audience till the end. With distribution of mementos, the event reached its end.

Promotional Poster of the event

A speech in progress

Attendance Record

		B	C	D	E	Y
1		Name	Phone No.	Email ID	Department	
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Form Responses 1 ▼ | Sheet2 | Cha | +