

Webinar on Internet of Things

Dear Students,

Still pondering which field to explore? Here comes a great opportunity in Internet of Things (IoT) by the expert in this field, Mr. Sudesh Morey, the Managing director and founder of DRMZ System Innovations Pvt. Ltd.

DRMZ System Innovations private limited is an Embedded System Solutions and Educational services provider company based in Bhopal, founded in 2010.

Being the Head of DRMZ, he is the source of inspiration for the whole team. Commonly known as Techno-manager, he completed his B.Tech. from National institute of Technology, Bhopal (MANIT, Bhopal) and did his Post Graduation Degree in Management (PGDM) at Indian Institute of Management, Indore (IIM, Indore). He is a well-known speaker and mesmerizes the crowd with his soft spoken but effective speech. His main strength lies in explaining complex things in a very simple language with least jargon and by coming to the understanding level of the audience.

He is an expert in Robotics, Circuit designing, Image processing, MATLAB, Embedded system and Internet of Things. Besides, he has keen interests in current affairs, macroeconomics and marketing. He is a budding entrepreneur from IIM, Indore. Presently he is working on many latest technologies and related products like the Internet of things (IOT), Industrial Robotics, Industrial Automation, Home and Office Automation, Smart wireless modules for IOT, Smart attendance system, Smart Solar power generation management system, etc.

The detailed description of some of their products are as under:

- **Automated Guided Vehicle** : (Product Category: Industrial Robot) This product can autonomously pull a trolley with a weight up to 300 Kg and follow a magnetic line from start to end. It has an obstacle detection feature to detect any obstacle in its path to stop itself and give a warning with a siren. The link for the video is as below :
<https://www.youtube.com/watch?v=pU30jfwTFbk>
- **IOT based Solar power generation monitoring system** : (Product Category: IOT) In this product we developed electronic hardware which can communicate with Solar inverter through RS485 port and send it to a remote server where we can monitor live and historical data.
- **RFID and IOT based school attendance system**: (Product category: IOT) In this product we developed an RFID based standalone product (Not connected with computer or wifi) enabled with IOT to mark attendance of school students. Attendance data was sent in real time to server and parents were informed by SMS from sever confirming that their child has reached the school.
- **6LOWPAN based Smart Meter Reading Module**: (Product Category: 6LOWPAN) They have been awarded a tender from MPMKVVCL Bhopal (Electricity Distribution company of MP) for this product and delivery is completed. In MP, all energy meters are being

replaced by advanced Smart energy meters. These meters can be remotely accessed wirelessly by encrypted 6LOWPAN technology based protocol developed by MPMKVVCL itself. So we developed a Small Module of a size slightly bigger than a USB Pen Drive, that can read metering/meter tamper data from all energy meters (up to 100 energy meters) within its range (100m line of site). With the help of their module, MPMKVVCL can generate electricity bills of its consumers using a mobile app.

- **IOT based Solar Pump monitoring and controlling device:** (Product Category: IOT) This product can be installed on remote Solar pump station. It has many Analog Inputs, Digital Inputs and Digital outputs to monitor and control various parameters and working of a Solar Pump station. This product has been designed as a replacement of PLC (Programmable Logic Controller).
- **Automatic Packaging machine:** (Product category: Industrial Automation) This product can autonomously pack besan/rice/rawa or similar items in a plastic bag with accurate weight correct up to 1% error. The mechanical hardware part was developed by their partner vendor, they developed all electronic and controlling part.

Other Areas of research:

They are also working on many other interesting research areas

- **Home Automation and Office Automation:** With increasing Indian middle class and fast growing business segment, Home/office automation will be next big need in the consumer segment. Though there are already many products available in the market in this segment, but unfortunately all of these are products and not a solution. Common Consumers find it difficult to install and use. Further service of such products is a big concern. They will develop many products in this segment like PIR based automatic fan and Lightings, automatic door/curtain openers, voice command based device controls, smart switchboards with remote control option through mobile app and energy monitoring, etc. But they will provide these as a solution and with service support.
- **Power Electronics:** Power electronics is an area which is in huge demand for a long time and will be in demand for future times to come. Their main focus here is to develop microprocessor-based power electronics devices like Converter, inverters, active rectifiers, etc. Their main focus here will be developing customized products as per consumer need because though there many players in the market but most don't work on customization problem.

IoT is emerging as out as a new technology, with lots to explore and invent. This session would be fruitful for all and sundry, those who versed in it and also those who are naïve at it. The session is open to both IIIT Bhopal and MANIT students.

Date: Friday, 29-May-2020

Timing: 3:00 – 4:30 PM

Google meet link: <https://meet.google.com/crc-pvcq-rmh>