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EECE 490A

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Webinar

Yervant Zorian gave a presentation about Test and Reliability of the Internet of Things. He started talking about how the tech world has been two basic circles for a long time consisting of servers and "the cloud" circle, and the desktop and mobile device circle. These two layers communicate through the Internet, and that has been what makes the world go around. However we are now starting to see another layer, which consists of the IoT Edge devices. Yervant went on to talk about the business side of the Internet of Things, and how the basic concept is to take an already designed product and making it more "connected".

He went onto explain how all of the Internet of Things devices are increasing the growth of the sensor market because all of these devices use many sensors. He explained how there are four key components in all IoT devices including: sensors, processing entity, communications entity, and energy management system. He then explained how the move to creating IoT devices did not spark the creation of a bunch of brand new functional blocks. Rather using the functional units you already have, and combining your "IP" blocks to create a new system. This idea has lead to a lot of nesting of functional blocks within other functional blocks, and this nesting has made testing these units very hard. He explained how isolating these blocks and making them communicate via IEEE communication standards makes it easier to

debug, and there are many products available that can help a designer with debugging if he uses the IEEE standards.

He went onto talk about the new seven nanometer FinFET transistor technology, and how this move has caused a lot of problems. Apparently the FINFET transistors are 3-dimensional which has brought about a lot of manufacturing defects. I didn't see how this had anything to do with IoT devices, but the webinar seemed to be very fast paced and kind of random.

After ranting about random stuff he started talking about the security vulnerabilities of IoT devices. He went on to say that the actual hardware needs to be developed with security features not just the software. He went onto say how the higher level networking layers are easier to hack, so the security is more sound when it is built into the hardware of the end devices. He then ended the presentation with Q&A.

Source

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