What is Happening to Electronic Engineer?

Dorel Picovici

Department of Electronic Engineering, Institute of Technology Carlow, Ireland

[*]**Corresponding author**: Dr. Dorel Picovici, Department of Electronic Engineering, Institute of Technology Carlow, Ireland, Tel: +353-59-9175438; fax: +353-59-9175401; E-mail: Dorel.Picovici@itcarlow.ie

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Once upon a time there was an electronic engineer career path much different than the one many of us are taking today. Let's go back approximately two decades. When I trained as an electronic engineer, I was learning about vacuum tubes. They were easy enough to understand and were doing what was "written on the box". No hidden functionality and it was easy to debug the circuits that were built with them. Actually, at that time a good electronic engineer needed just a screwdriver and personal skills to debug such circuits. The screwdriver was used to open the enclosure while the personal skills were used to debug the circuits. Those skills were based on vision, sound and smell. Vision: good visual inspection of the circuit would reveal possible problems such as too much current through a device, broken circuit tracks, swollen capacitors, burned out fuses and in case of vacuum tubes, no light indicating that the tube is not powered or it is faulty. A good electronic engineer would have a spare set of tubes and used them as a quick replacement. Given the accepted tolerances for the voltage and currents in most of the cases there was no need to measure voltage or currents. Sound: being familiar with some circuits one would quickly learn the sound m‘ ® w¾7 ® " circuĪ it " ięM " t o^debug t woulǫy. A³ ᴀᴰM toleMt ’ for thmos o^debubuy.