

Welcome to the **DESIGN** section

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Rethinking electronics design

Do you know Boldport? Someone I value recommended it to me, so I took my virtual plane and discovered an amazing and inspiring universe. I landed on a strangely shaped printed circuit board sporting traces that were neither straight nor snapped to a grid as we do where I come from, but instead were smooth curves winding like roads. Later, I learned that it is the map of Boldport with its sinuous mountain tracks in the West and its straight connector blocks in the East. Traveling further I passed small boards and colorful assemblies I had never seen before; I met the tiny engineer superhero emergency kit where parts are buried in the board. Then slowly the landscape started to change and became more familiar. A sign stated “we also know about signal integrity”, I noticed a link to a Bluetooth IoT module, and I even discovered references to FPGA design. The language spoken in Boldport is unfamiliar to most of us rectangular PCB folks. Their language is called PCBmodE and it is a mix of JSON, Python, SVG and Gerber. You are invited to learn and practice it, and everything you need to do so can be taken home for free.

Saar Drimer is the Ruler of Boldport. He agreed to leave his country to meet me in person to explain Boldport’s customs and habits, their way of life and how they see the future. www.boldport.com



oped his own way of creating printed circuit boards. Since PCB design is essentially drawing he prefers to use the drawing tool InkScape instead of a clumsy old-school CAD program with a steep learning curve. Using the EMACS text editor Saar creates JSON files to describe component footprints. Python scripts translate these into a scaled vector graphics (SVG) file representing the PCB. The drawing is finalized in InkScape before more Python scripts transform it into PCB production standard Gerber files. His suite of scripts is called PCBmodE, it is open source and available for anyone to download and use.

<http://pcbmode.com>

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Saar Drimer rethinks the way electronics design is done today. According to Saar the traditional design paradigm of schematic — net list — PCB with all its back annotation problems is obsolete, a relic from the past. We work like that because we have always done so. However, it is the end product that contains all the information and therefore it should be the starting point from which the design documents can be generated. It sounds like a paradox, but it is not. It boils down to top-down thinking instead of bottom-up.

Combining his passions for painting and electronics Saar Drimer devel-

