Reconciling accessibility, reliability and safety in the programmable IoT

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By some estimates almost 30 billion devices connected to the IoT already generate more than 2.5 exabytes of data per day. One way of taming this amount of data is to reduce its volume at source, by allowing data scientists to place intelligent filters and aggregators into the edge devices that connect sensors to the network. As these devices are increasingly responsible for managing critical information infrastructure, it is increasingly important that they can be programmed in ways that are secure and reliable. This talk will discuss some of the contradictions that result from this situation, and some of the ways we might leverage programming language technologies to make IoT edge device programming simpler and safer.