

The term “Internet of Things” (IOT) is well known. It refers to the digital link to – and between – physical objects. While IOT would mean that objects become smarter and able to optimize and share resources intelligently, the information which represents the *design* of these objects is all but intelligent. Design strategies are business secrets and designs are proprietary things.

What if, on the contrary, designs were open source, conceived as an open, web-based process? A process taking place on an equally open, web-based platform: On the *Internet of Digital Design*.

- It sounds complicated – but really it is not. A lot of great software is developed like that today – and a lot of innovative designs are designed using novel design strategies such as parametric and computational design.
 - *The problem is that both the designs and the software suites used to develop it are proprietary and static.*
 - We need to radically change the way designs are made. We need to develop a design tool which uses the power of the internet.
 - We need to start make both the design process and the resulting design open source, parametric, dynamic in order to create designs which are better suited to adaptation, optimization and evolution, as defined in the following statements:
- a) The design tool itself should be open source, free and run in a browser. Using JavaScript and HTML5 to endure compatibility with all hardware platforms available.
 - b) Every function of a design tool should be user-created, user-maintained, and user-perfected. Just like the articles of Wikipedia. Example: It should be possible to draw a box. A new script called “Box” is created by a user. The script is located online with a unique url. It asks for three points, and from those a three-dimensional box is made. From the moment this script has been made, everybody can use the command “Box” and thus add a box to their design. The script is versioned, so that nothing can ever break, and evolution of each script can take place.
 - c) Designs should mainly be scripted so that they can be easily adapted and developed. A design (a house, a car, a bridge, is mainly – if not merely - the skillful creating and compilation of scripts, or functions. One such script could be the one creating a box: Typing the command “Box” with the appropriate input immediately produces a three-dimensional representation of a box on the screen – in the design file which may be used as a basis for manufacturing the physical object the box represents.
 - d) Whenever a new design is commenced, it is stored online for all to see, clone, and maybe even modify if the author permits other to do so.
 - e) This strategy should be implemented and tested in four phases:
 - 1: implementing a basic architecture of online scripting, real-time representation and PDF printing in 2d
 - 2: versioned library of scripts / functions allowing online development of both tools and digitally based drawings
 - 3: 3d support and implementation of typical different types of geometry and corresponding manipulation
 - 4: implementation of user driven file-to-factory methods for e.g. CNC routing, laser-cutting, and 3d-printing’
 - f) When the design platform is finished, the workflow of the Internet of Digital Design should look like fig. 1:

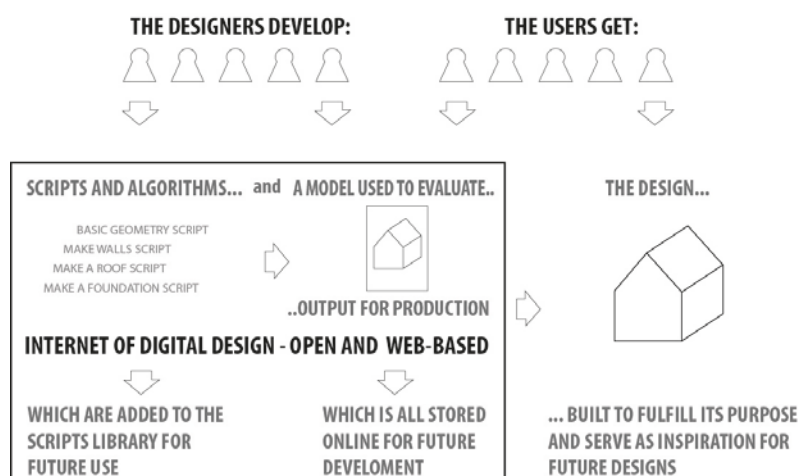


Fig. 1: Concept diagram for the Internet of Digital Design