

The Vision of Virtual Furniture Construction

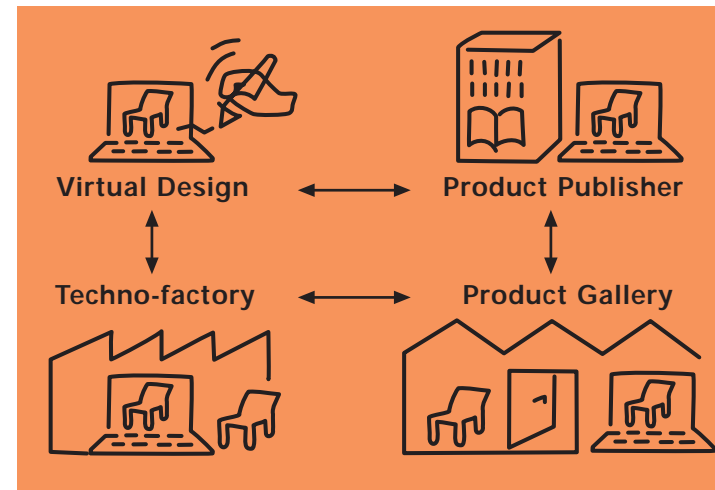
The vision of virtual furniture construction was developed at the C...Lab at the Hochschule für Gestaltung in Offenbach on the basis of the → **model of virtual production**. The economic model of virtual production has been transferred to the field of furniture construction and adapted to its particularities in seminars and projects by professors and students. The vision of virtual furniture construction rests upon four pillars:

→ **Virtual Design**

→ **Product Publisher**

→ **Techno-Factory**

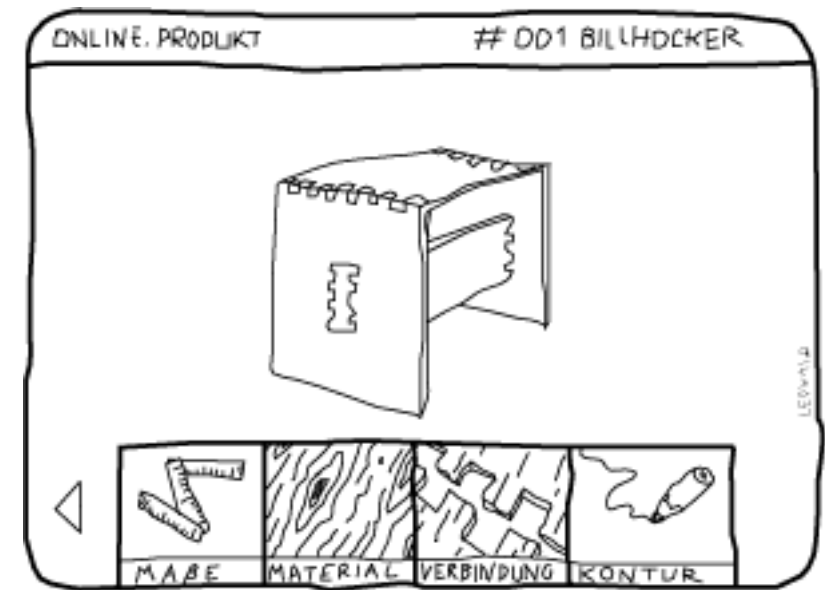
→ **Product Gallery**



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- **Virtual Design** Industrial design impedes the post-industrial production. This is logical: Products that are designed for industrial manufacturing (or for manufacturing in workshops of the traditional craft trade) can either not be produced with the use of CNC-technology, or they do not make full use of its potential. Even if a design can be partly produced with the help of the new technology, it is still not suitable for the model of virtual production, as manufacturing data can not be transferred via the Internet in their entirety, nor can variants be created by the simple use of parameter-controlled software, etc.

We therefore need a design that is adapted to the new production technology from the very start. The virtual design needs not only to optimize the CNC-compatible manufacturing of the products, but also reflect a CNC-friendly aesthetic.

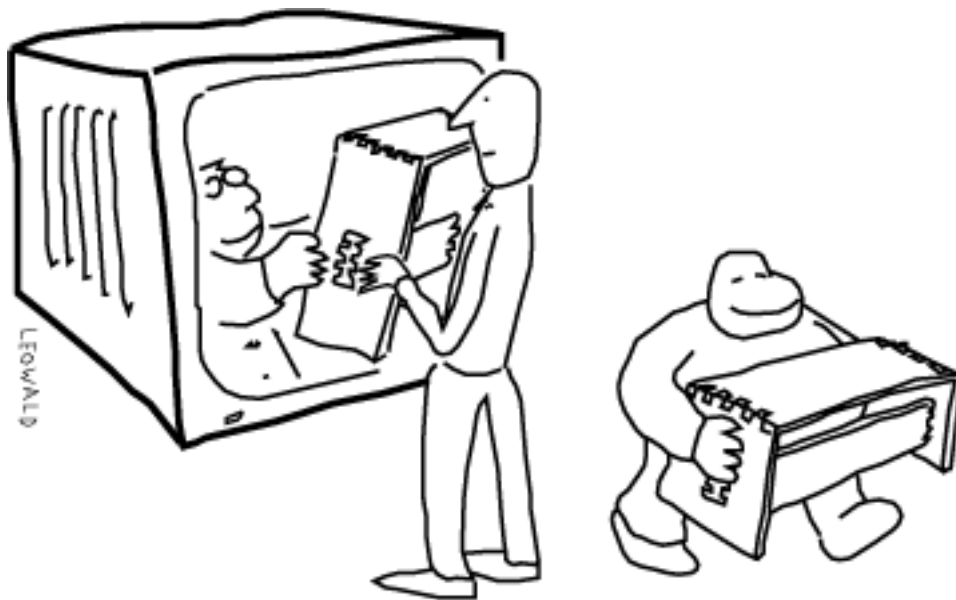


The virtual design results in virtual products, in form of data files. These data files contain the product idea with its technical and aesthetic definition, as well as the program for the manufacturing process. While blueprints and models are the embodiment of the industrial design process, the model making of a virtual design is already identical with its production.



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- **Product Publisher** Theoretically, every designer could market his designs via his personal homepage. However, this entails considerable problems: How to find the product in the cyber space, and what happens when a design does not work, which means that the manufacturer simply wastes his material. There are many advantages to a collective body with quality control: the product publisher.



While industrial design needs a manufacturer, the virtual design turns to a product publisher. Virtual products will thus be published, like printed or other media. This has not been customary for design - unless we care to remember the role of the sample books for the production of the craft trade of the 18th century.



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- **Techno-Factory** It is easy to imagine firms that materialise the “virtual product“, that transform, for example, virtual furniture into real pieces of furniture with the help of computer-controlled technology. Techno-factories are medium-sized companies that use the latest technology, but have a work pattern that is similar to the traditional craft trade.





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These techno-factories can develop from existing business structures. As those firms mostly work one type of material, the virtual design needs to approach by concentrating on, e.g. furniture made out of wood, to start with. The circumstances in this field are particularly favorable as many cabinet-maker's and joiner's workshops are already equipped with CNC-machining centres, and thus already form part of the "electronic craft trade". In principle, these cabinet-maker's and joiner's workshops could download virtual designs from the Internet and manufacture a customized product to order - at the price of comparable industrial products.

The prospects for techno-factories are even much broader. In the future, mastery of CAD/CAM-technology will be in the foreground, rather than working a certain material. The processing of various materials will again multiply the possibilities open to virtual design - in the end, the electronic craft trade could thus store more products on their hard disk than IKEA in their shelves.



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- **Product Gallery** Strictly speaking, there is no need for the intermediate trade in the model for virtual production. This is also the case for virtual furniture construction, but only partly so, as the customer wants to touch and try out chairs, tables and cupboards before purchasing them. However, as the system of virtual production stipulates that products are only made to order, the exhibition consist of product samples, material samples, color charts, etc. Purchasing decisions are not based on the exhibited products, but on information about the designs that still need to be produced.

The product gallery will meet these requirements. It looks more like a showroom than a furniture store. It could be situated in the city center and recommend suitable techno-factories to the customers. The product gallery could also be part of a techno-factory, and thus offer all the benefits that make buying directly from the manufacturer attractive. It is not impossible, that various forms of the electronic trade will get together in the end, just like craftsmen did in the past, settling in one street or in one part of town.

