

## Can we order ships on the Internet?

*Professor Kai A. Olsen, Molde University College and University of Bergen, Norway.*

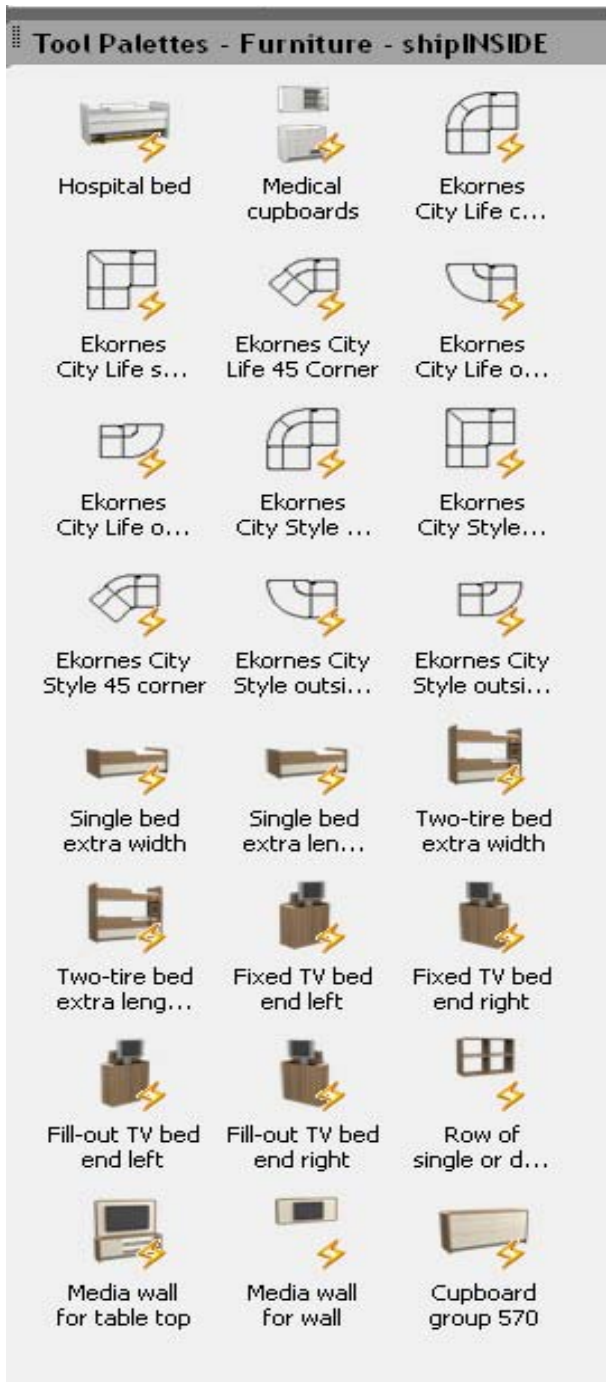
Many of us use Internet for booking tickets and for bank transactions. With a PC, Internet and simple to use software these services have been moved from the physical to the digital world, from offices to our homes. The advantages are great. Cost extensive intermediates are removed at the same time as customers get better services. When I plan a trip today I perform a complete booking for each alternative, but without hitting the “confirm” button. This gives me an overview of prices including extras, data on flight times, etc, while recognizing that not all information is on the display. Some providers may offer extra service, such as free meals, better punctuality, etc.

Digital services such as these may also be used for other applications. Close to Molde on the North West Coast of Norway, we find one of Europe’s largest manufacturers for maritime furniture, Maritime Møbler AS (MM). With highly skilled personnel and an effective production line they are able to compete in the world market. By engaging clever designers they offer a modern set of furniture using quality materials, at costs that are comparable to products from low-cost countries. That is, in many ways they can be called a maritime IKEA, except that MM uses quality materials in all products.



A cupboard broken down into simple components ([www.a2bdesign.no](http://www.a2bdesign.no))

MM has been able to combine standardization with flexibility and customization. It is no longer Henry Ford’s “any color as long as it is black”. The customer can choose color, finish, and a number of sizes and variants. In production this is broken down into standardized components that can be manufactured effectively by computer controlled machines. This breakdown of a bill-of-material into components is performed automatically, here as in many other companies.



Palett (a2b Design)

However, MM has taken a few steps further. Traditionally, it has been a cumbersome process to convert the customer's wishes into a complete specification. The process is often started by requiring furniture brochures from different manufacturers. The ship designer will then go through these together with the owner, finding the best choices.

The next step is to register the furniture in the general assembly (GA) plan. For this task a palette, with drawings of tables, cupboards, bunks, etc is often used. The designer could then simply move the representation of the component into the drawing of each cabin. When finished, the GA is submitted to the supplier, for example to MM.

The task for MM, and all other suppliers, would then be to convert the information in the drawing into a complete unambiguous specification. Not an easy task. For example, a drawing of a table may describe a generic 104 centimeter long table – not in the standard collection. The supplier would then have to convert this to one of the standard types of table offered, and to a standard length, e.g., 100, 110 or 120 cm. The final specification could now be returned to the designer, the yard and the owner - now also with prices. The designer would then have to consider if each choice made by the supplier was according to her original wishes. Often the process would go through many cycles.

Some of us may recollect the times when we booked all tickets through a travel agency. We stated our wishes, the agency came back with a suggestion for flights and hotels, and we would then give feedback, get another alternative and perhaps never knowing if we ended up with the best solution.

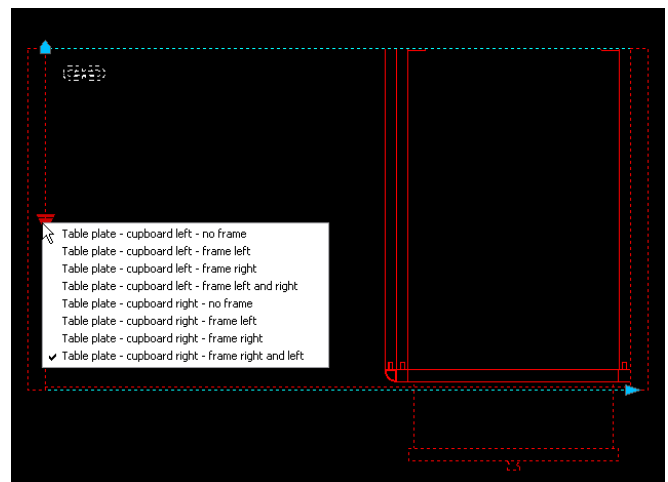
Today, with a new software system, MM offers the same features to the designer as the Internet booking systems offers to passengers. Now the designer will chose furniture from a palette, just as before. However, this time the palette items are smarter - not the dumb drawings as before. Each item is represented as an *object*. The object has a drawing, but will also have embedded many other attributes. A table-object for example have a unique ID, it will know what sizes the table comes in, for example 100, 110 and 120 cm. The designer can click on a corner of the table, can increase or decrease the length and width, but the system will ensure that the table is always within the standard sizes. Thus we are guaranteed that only standard components are used (the supplier can deliver table in all sizes, but non-standard alternatives will come at a much higher cost). The object also comes with a 3D picture of the

component. Thus, at any time the designer can view a 3D representation of the cabin. The process is so simple and intuitive that the skip owner may participate.

In addition to the palette the ShipInside system designed by MM can offer a more traditional module for specifying needs. The designer may therefore chose if she want to use the drawing tool described above or this specification module. With many similar cabins the latter method can be the most effective, especially as one here has the possibility of applying standard cabin furniture. Thus the furniture for a large numbers of cabins may be specified in no time. If none of the predefined standards are suitable, the designer can develop her own “standard”.



A cabin with furniture components.



The advantage of an object-oriented approach is that now the drawing or the specification will include all necessary information. When MM receives this information, for example with the GA drawing as an attachment to an email, the order can go directly into production. At the same time the system can retrieve information on deck and cabin numbers, allowing for a detailed location marker on each package that is sent to the yard.

This process is identical to the one we use when performing a booking on the Internet. As there, MM can offer exact prices for all

items specified. MM's system can also offer all the other information that the designer may need, such as total weight and fire specifications. By connecting the system to the internal planning programs that are used at MM, MM will be able to offer data on delivery times as the GA is developed. The main discrepancy between booking a flight on the Internet and ordering furniture at MM is that today only MM can offer these services. Envisage the competition between British Airways and Ryan Air, if only Ryan could offer Internet booking.

MM has started the next step in this process. By inviting other companies to participate, Glamox (light) and Ekornes (comfort furniture) has already stated their interest, the designer will be able to specify the complete furnishing of any room from her terminal. This is similar to what is happening on the Internet, where we can book rental cars or hotel rooms directly from the airline's site.



A virtual cabin, the "picture" is taken before the cabin is built (a2b Design as, Ålesund)

Good marketing is important, but it can be even more important to enable customers. Just as we can explore the possibilities for a cheap flight to Rome on the Internet, noting availability and prices, and then make a decision to book or not, the designer and the owner can use this system to furnish cabins, control rooms, mess decks and all other locations on the ship. The results will be presented as 3D pictures, in a later version also with lightning. All data needed to take a decision will be presented. The world has become a simpler place.

*Kai A. Olsen is professor in informatics at Molde University College and University of Bergen, Norway. His research interests are IT strategy and user interface design. He also acts a consultant for industry. You can reach him at:*

*[kai.olsen@himolde.no](mailto:kai.olsen@himolde.no)*