

The Superyacht

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REPORT

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report

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Technical Report

YOUR OWN PERSONAL INTERFACE

Partnering with human-computer interactions researchers Ergosign, Bond Technical Management has developed customised onboard AV and IT user interface systems. Is this the future of interactivity and the superyacht experience? By Don Hoyt Gorman.

When all else has been considered in the build process: the paint and fairing, the furniture and colour palette, tenders and toys, the galley and engines and bridge design; all of it, there remains the simple matter of onboard entertainment of the audio-visual kind. A yacht's TV, video and audio systems are key components that most owners expect to work flawlessly and be part of their digitally integrated floating home. However, with each yacht build frequently incorporating TVs, amplifiers, and music and film libraries from multiple manufacturers, as well as onboard data (like vessel speed, heading, outside temperature and more), and actions (like managing lighting or calling a steward) from still other systems, integrating them all into a single user-interface (UI) is sometimes left until rather late in the build.

Will Faimatea of Bond Technical Management saw room to improve the process of installing a consistent UI, and providing owners with a well-designed, customised system. "What we're looking to provide is a predictable and repeatable user interface, and we're looking at protecting that unique design on behalf of the owners."

Working with integrators on previous jobs, one of the problems Bond was encountering in the AV integration was ensuring the user-interface for all the AV systems was clean, clear and predictable from the start of planning.

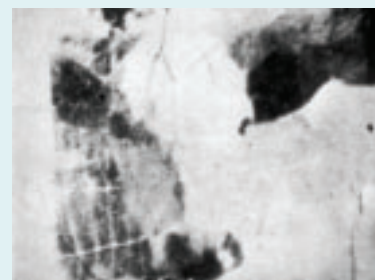
"We'd only have a rough idea of what that user-interface was going to look like at the outset of a project: we'd get a printout of what the last user-interface was that the integrator had done, but that wouldn't represent the full functionality of the complete design," Faimatea said.

"Dealing with several projects for one owner, we were finding it difficult to repeat an interface from one integrator to the next. One project in the US, and another in Europe for the same owner, ran the risk – unless we used the same integrator – of having a different design. Designers of one UI might not want to hand over their icon designs for another project.

Bond saw the opportunity to provide a solution to both planning and elegant usability: they would provide the graphical UI build service as early in the process as possible, and deliver to the integration team a "style guide" that not only clearly laid out the functionality of the interface for the owner and his guests, but was also unique. The owner receives the service and the style guide: once installed, anywhere, the exact same interface can be installed aboard another yacht, in a jet or in a home. The owner is buying the style and design of the interaction.

"We're selling the UI and a style guide to an owner as a service. So the owner gets the design and usability custom-made for them, and they get the ability to hand the interface to any integrator

Superyacht owners love to have their yachts customised. With each owner, how do Bond and Ergosign make the UI special while remaining inside the realm of good design? The trick, as ever, is to know as much about the user as possible. Take the image, below. Look at it. What do you see? Can you see a cow? Now turn the page to the next image in the lower right-hand corner. Do you see the cow now? Now, look at the image below again, and try to ignore the cow. What this classic optical illusion illustrates is the presumptions that UI programmers can make when designing interfaces: because they use them every day, they may have lost their ability to approach the design as for the first time. Ergosign works to find ways to step into the shoes of each new user and get their perspective.



TECHNICAL REPORT | BOND INTERFACE SYSTEMS

– whether for a yacht or a home or other, and know that the system will look and operate exactly the same way in each place.” To protect the ownership of the UI, Bond is looking at putting digital watermarks within the icons themselves.

User interaction is, like many things in life, simple on the surface, yet complex underneath. Dr Dieter Wallach is the managing director of Ergosign, a specialised provider of user interface design services based in Germany that has worked on systems for everything from small-screen mobile devices to entire network operations centres. Dr



Wallach is also professor of human-computer interaction at the University of Applied Sciences, Kaiserslautern, Germany. He and his team’s understanding of how the human mind perceives information is based on studies with clients like Nokia, SAP and Lufthansa.

Dr Wallach makes the case that designing a clever UI is like architecture. “Building these interfaces is like building houses: you start with a plan. The architects interview the owners to understand what they need: how the house will look and feel once it’s complete. What are the owners’ needs?” It’s a simple process that should deliver a solution that’s worth the investment of time and money. Dr Wallach explained: “What we try to do is tame the complexity of the user interface by taking into account human perception, learning and memory to enable a positive user experience. From the user’s point of view the interface



is the application. So it makes sense to have these UIs designed professionally.”

The process begins with Bond consulting with the client on functional requirements and Ergosign then designing a wireframe diagram that illustrates the layout of the user interface, in terms of the size and relative positioning of user areas. So, music goes here, TV interaction works this way. The wireframe essentially spells out the basic foundation of how the user will engage with their TV, video and services aboard the yacht.

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There is real applied psychology in the build of these interfaces, as Dr Wallach explained. “We start by developing these wireframes on paper. In fact, it’s essential that they clearly look unfinished at the first stage. With finished-looking examples, you, as the eventual user, would be reluctant to give me feedback. If it still looks very raw at this stage, it’s more likely that you would be willing to give us feedback. So with one of Bond’s projects, we started with paper prototypes, moved to some very early drafts that didn’t include icons or colour cues. We’re ensuring that we’re getting the most useful feedback on interaction, layout and navigation. Colour and icons come after. So we work with these wireframes to define the user’s interaction. For us, from a usability perspective, it’s really interaction that matters. Design has that visual connotation, but if the foundations aren’t set right, it’s like putting lipstick on a pig.”

Bond spend a great deal of energy specifying design solutions. In this case, they’re working to ensure that the UI that the owner gets is predictable from the outset of a project, and easily repeatable and integrated across whatever venues they would need it. It’s intended to be a help to the integrators as well; and to that end, they’ve developed a simple, elegant click-dummy solution, which shows integrators how the client expects their system to work. “The design of the UI becomes part of the project specification,” explained Norman Janneck, one of Bond’s technical

experts who works with the integration companies. “That goes out to tender, and companies can budget based on the level of complexity of the UI: their engineering or programming hours are based on the actual UI that will be installed.”

“Design has that visual connotation, but if the foundations aren’t set right, it’s like putting lipstick on a pig.”

Explaining the click-dummy, Janneck said: “We were looking for a solution to the handover. What we’ve learned from the past is that a few screenshots don’t actually indicate functionality. We want to know what happens when you click on a button, what happens on your TV, what happens on your sound system. The owner often doesn’t look at these things ahead of time. We wanted to give the integrators something they could understand and work to. We don’t want to take over the programming and engineering of the thing; that’s not our job. So we came up with this ‘click-dummy’ that opens in a web browser – Ergosign designed it so it can be emailed easily. The integrators simply open it and browse through the functionality. So we can design the UI with the client, and we can hand the designs over to the integrators to build into any system.”

In the Bond offices, *TSR* was shown a working version of a UI click-dummy, and the smoothness and clarity of the interface were instantly apparent. With

the amount of information that needs to be displayed and actions enabled, we found the system to be quickly understandable and very elegant to use. The example we were looking at was already with its owner, and, Faimatea said, “When we delivered this to the integrator to implement on the yacht, the first question when we finished the project to us from the integrator was, can he use it on the next project?” Clearly, because of the protection Bond provides for the customisation, the answer was “no”.

With Bond stepping into the middle of the relationship between the owners and the integrators, it would be fair to presume the integrators were sceptical. Janneck explained, “The integrators didn’t like it when the project started because Bond had taken away an important part of their job: to decide positions and functionality of the screen buttons. But at the end of the project, the programmer said that he was actually quite happy with the arrangement because he didn’t have the responsibility of these decisions. He was able to do what he was good at: programming what should be behind every button. He didn’t need to worry about the colour of a button, or the size of a button.”

With UIs now appearing on everything from refrigerators to books, the idea that each individual could have a custom UI devised for them to manage all their AV and services is appealing. If that’s where we’re headed, then the new partnership of Bond and Ergosign is indeed a sign of things to come. ■

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