



Image courtesy of Oneoffdesign.

## Dreamboats by design: oneoffdesign finds creative freedom to float new creations with Autodesk 3ds Max and AutoCAD

Boat building is a true mix of artisan craftsmanship and engineering and Brent Philp's use of Autodesk design software has led him to a creative enterprise that has improved industry efficiencies.

The 38-year-old began work in Australian shipyards, but emerged this year as an accomplished and awarded design student from the Queensland College of Art. His final year project, a futuristic and environmentally friendly canal boat, earned him a commendation by the Royal Institute of Naval Architecture at London's Boat Show in 2005 and an award of merit in this year's Queensland Design Awards.

Philp has now established his own concept boat design business, oneoffdesign, and is utilising traditional hand drawings and his new skills in Autodesk® 3ds Max® and AutoCAD® software to make his mark in this lucrative industry niche.

"While contracting to the mega yacht industry in Perth, I became really interested in design development," said Philp. "I met some of the world's best boat designers and spent a lot of time talking to the CAD design teams. I had been thinking of what I wanted to do with the rest of my working life and decided design was the way to go."

To hone his technical and creative skills, Philp embarked on further studies at Curtin University, and then two years at the Queensland College of Art. After initial graphic design training in photography, Photoshop, Quark and Freehand he moved to AutoCAD, 3ds Max and Autodesk® Cleaner®.

"I could always draw but the Autodesk programmes took me to the next level and gave me an avenue to digitally develop what I had always had in my mind's eye."



His practical experience showed him that thorough computerised concept design and development provided several paths to saving time and money in boat construction.

"I see AutoCAD as the foundation of every project—it is fast, accurate, and I complete 70 percent of each job with it. Because we are thorough with our design and we actually use AutoCAD to specify materials and colours from catalogues, the large teams involved in shipbuilding aren't held up making those choices. You can be very accurate with AutoCAD, and we combine that with research into materials to produce complete drawing sets."

From there Philp imports the AutoCAD files into 3ds Max to complete the visualisation process and produce further efficiencies.

### Computer precision sets the sail

"3ds Max is the first programme that I have come across that is truly limitless in its application—you can deal with 2D and 3D images and you've got 4D, which is the addition of time or animation. The realistic detail you can obtain using the lighting, shading, and other tools that come with the program is astounding. Which brings me back to what we do—by creating good concept models up front we can show the teams building the ship what they are required to create, which allows for a smoother construction process and involves them from the beginning," said Philp "And that's where 3ds Max comes into play—our work doesn't leave a lot to the imagination."

"When you are paying a lot of money for something you don't want to leave a lot to the imagination!"

3ds Max also provides a big part of Philp's competitive advantage by enabling the marketing of concept designs before construction.

He is keen to utilise the Cubicspace rtre (Real Time Render Engine) plug-in that allows his clients to interact with his 3D models on their own computers, without the need to install AutoCAD or 3ds Max.

"It opens up a wonderful world for the clients, where they are able to go into their proposed boat, have a look at it from every angle, and make decisions early on—its saves expensive decisions at the end of project." His use of 3ds Max also enables the 'reverse engineering' and construction of components.

An example is the development of metal or composite forms where a mesh panel is deformed in 3ds Max to match a part of a model boats structure. Philps then works backwards, by exporting the data out of 3ds Max and back in to AutoCAD to create drawings, specifications and instructions for the part to be cut out and formed.

"At the end of the day Autodesk software is used by the majority of those in this industry. It is the base from which they write their plug-ins and move files in and out of. As much as Adobe attacked the graphics market, Autodesk has successfully targeted design and visualisation. 3ds Max is a wonderful programme that goes far beyond product visualisation—it can do anything I want it to do!"