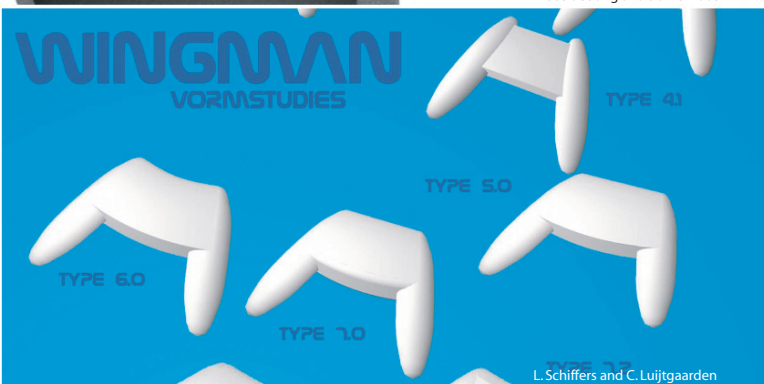


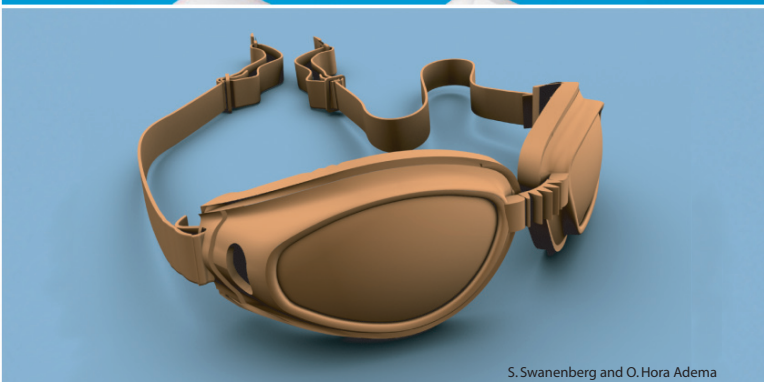
The course "Computer Visualisation for designers" explores the use of advanced computer visualisation tools in the creative process of designing products. A student project starts with modelling a product in a surface modeller, continues with a digital material study and results in a product presentation.



Bas de Jong and Daniël Loot



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modelling

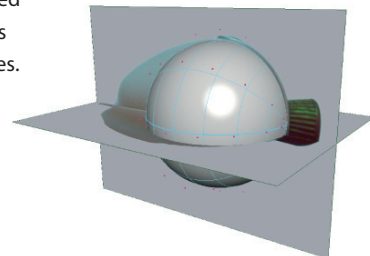
The course starts with choosing a product to visualise in 3D. It can be an existing product or an own design. Typical products are small handheld electronics. A physical model or the product itself is used as a reference to create a digital copy of the product's shape. 3D design software provides a broad range of tools for modelling shape in various stages of the design process.

surface modelling

In this course we use highend modelling and animation software which allows designers to freely explore and define 3D curved surfaces and transitions. The surface modelling approach differs from solid based modellers which are generally more strict and limiting in defining shape. Comparing the two modelling approaches results in insights in the practical use of surface modelling in the design process.

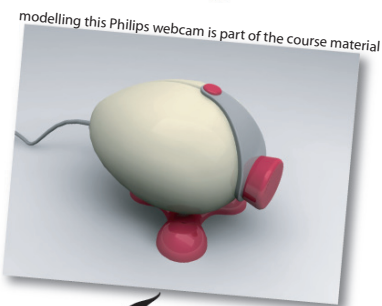
photos and sketches as templates

Models are drawn based on proportions rather than measured to the exact millimeter. Sketches and photos are used as templates. This relates more to the design practice and speeds up the drawing process.



level of detail

Modelling 3D models can be a time consuming process. Determining what level of detail is required to convey a believable product is an essential step in modelling for visualisation.



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material study

Visualisation tools allow designers to create visual material expression. Colors, plastics, metals and textures can be explored in subtle ways and reviewed on the 3D model. This gives a clear advantage over using material samples and color only studies.

context

Inspired by moodboards and ambiances in advertisements, series of material style are explored and evaluated in the created context.

visual material properties

In digital media there are no real word constraints; material properties as gloss, roughness and translucence can be varied independently. Creating digital equivalents of surface finishes like spark erosion provides insights in the visual properties of real world materials and shows the flexibility of expression in material use.

lighting

Light, shadow and reflections influence a product expression dramatically through the strong graphics on curved shapes. 3D visualisations are used to prototype the material shape interaction under various lighting conditions.



Cheung and Durville



J. Schoofs and J. Visschedijk



G. Sanders and K. Maltha



A. Los and A. Hartgring



F. Roukens and M. Santbergen



M. Koppen and T. Sengers



P. Costerus and H. Jacobs



posters

The final part in the course consists of presenting the product in a poster like format. The focus is on rendering style and the composition of 3D images with traditional 2D media.

product placement

The product is composited in the context of its use or in a surprising advertisement. The material expression completes the fit. The mixture of real and virtual media brings the complexity which counter acts the cold digital look of computer graphics alone.

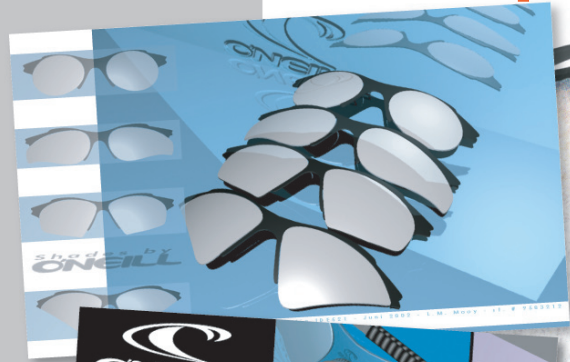
rendering images

Visualisation software allows designers to experiment with lights, shadows and camera views like a photographer. The environment setup gives insight in how to express an atmosphere and to match an intended mood. The rendering style can vary from traditional raytracing with a technological feel to warm soft shadowing or cartoon style techniques.

more information

visit our website to learn more about the course or browse through the hall of fame with students work.
studiolab.io.tudelft.nl/compvis/

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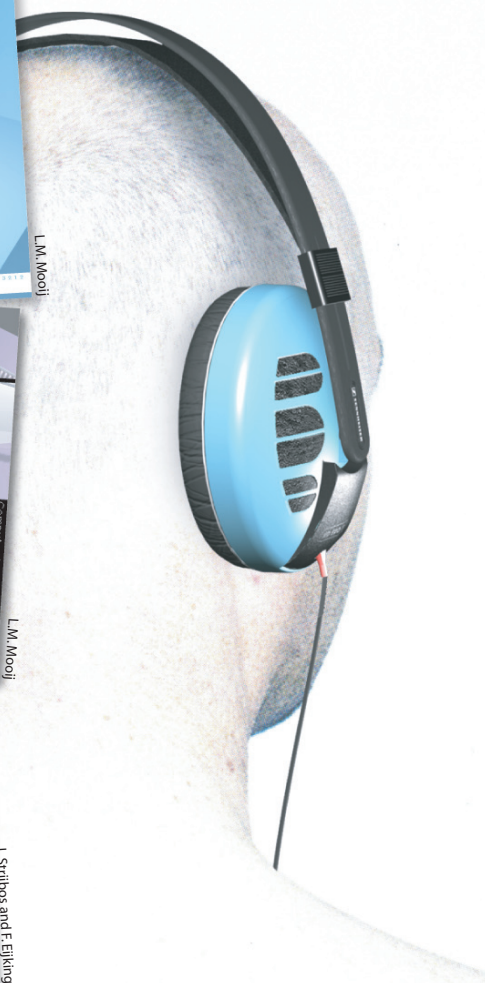
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J. Wester and S. de Jong