

Biography

Michael Davis, Industrial Designer



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1977-1980



I started my career graduating San Jose State University with a BSID (Bachelor of Science Industrial Design) and a minor in Behavioral Science. It was a Friday graduation. After watching the first Star Wars film on Saturday night with my soon to be wife Patty one day before flying up to Seattle to start my new job with John Fluke Manufacturing in the summer of 1977 I was off with a start, having landed the job two months ago while still in school.

One of the more interesting products I designed during my 3 year stint at Fluke was an industrial design solution for an instrument controller (the 1720A) which really was a personal computer for commercial MIL applications in '78-79.

They sold it as a software driven instrument controller, but the product was the size of an IBM PC (not yet in existence as this was 1978) had a structural foam free floating low profile keyboard (the first low profile keyboard I do believe, which I worked with Keytronics to develop), a Siericin built touch panel over the 4 ¾ x 9" CRT mounted in the front to a structural foam part for robust protection, a floppy drive, a 32 bit system architecture (years before PCs moved to 32 bit), bubble memory (a precursor to a flash memory drive, just now being introduced, 28 years later) The product was the brainchild of John Fluke Jr, and was sold for fifteen years by Fluke, it was that ahead of its time. Other products designed for Fluke included systems voltmeters and data loggers.

1980-1983



From Fluke, I went to work for Applied Research Laboratories division of Bausch & Lomb in Sunland, California and ended up managing product designs and doing product designs in both Europe (Switzerland-ARL SA and England-Luton group) and North America, working in Boston (Diano Division in Woburn), Ottawa (Semco Divison) and Los Angeles (ARL). We rebuilt the whole product line of scientific equipment and instruments, mostly ICP spectrometers and Xray elemental analysis spectrometers.



I coordinated designs in all of those manufacturing and engineering facilities, working with on site engineers and hiring contract designers in some cases and in others doing the designs myself; I used a lot of hybrid processes for the enclosures, structural foam doors, prot panels, pressure formed tables and steel structures and covers.

All of ARL was sold off by Bausch and Lomb in the 1980's after an unrelated failure of a matrixed management scheme which tried to combine the B&L sales force with the diverse instruments divisions. ARL CH was acquired by Thermo Electron Corporation. See my portfolio archive here for a summary link which includes a history of work from 1977-1995:

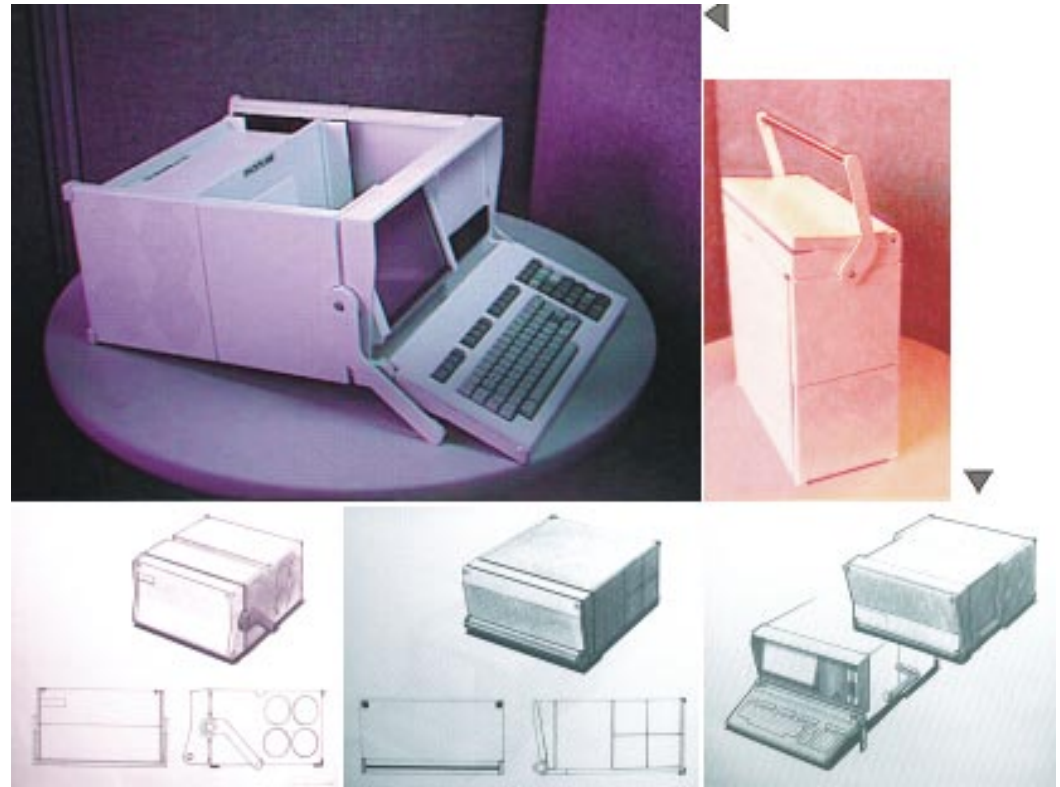
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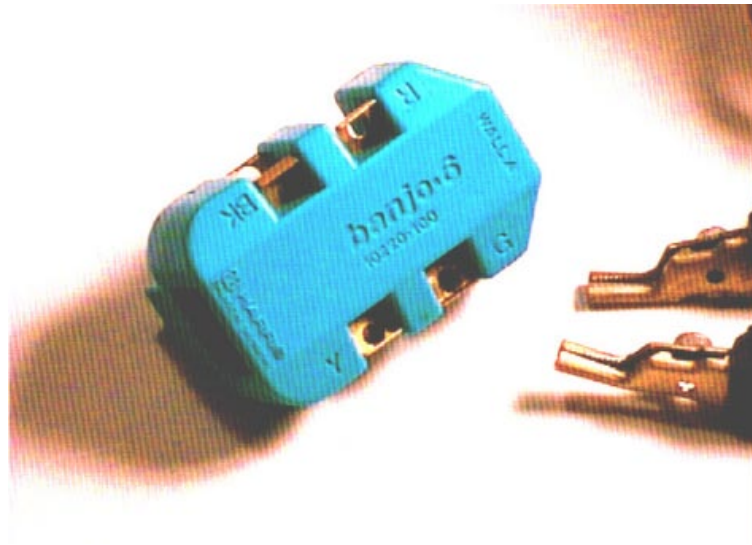
1983-1989

I began consulting after that which was a difficult direction for me being in Los Angeles where I was never really accepted by the industrial design community. I ended up running my company with about 7 employees in Hawthorne, CA (across the street from Northrup) doing a lot of wafer furnaces, (Tylan Corp.), scientific instruments (Sciex in Canada) and software and computer testing systems (word generators and bus analyzers (Interface Technology) as well as a number of other clients. I designed products from consumer product categories like vehicle security remotes to wheelchair design (Kuschall of America in Camarillo, CA) to entertainment industry communication devices for use on movie sets (RTS Systems in North Hollywood).

The Interface Technology products were interesting because it focused my skills from my early days at Fluke, where I learned how to design very hot tightly packed electronic enclosures and how to keep the components cool. And it was an opportunity in 1984-85 to perfect my Computervision 3D wireframe engineering skills.

The product shown here is a flightline analyzer (foamcore concept model) designed to be used on complex remote location electronics systems, such as systems test for a jet fighter for example.





1988-1990

In 1989 I started managing the mechanical design department at Harris Dracon Division working on products like Telco linemen test sets and Telco tools to intercom systems.

Shown is my design for a simple Telco lineman's connection tool. The design is a standard product still used today by most Telco linemen. What was unique about the Dracon experience? Having to design electronic product enclosures that would survive a drop from the top of a telephone pole. Learning how to make electronics survive extreme impact is a significant piece of professional knowledge I still use today.

1991-1993

US005761298A

United States Patent [19] **Patent Number:** **5,761,298**
Davis et al. [45] **Date of Patent:** **Jun. 2, 1998**

[54] **COMMUNICATIONS HEADSET WITH UNIVERSALLY ADAPTABLE RECEIVER AND VOICE TRANSMITTER**

[75] **Inventors:** Michael G. Davis, Dallas, Oreg.; David G. Harting, Needham, Mass.; Scott F. Burr, Felton, Calif.; Robert V. Davies, Scotts Valley, Calif.; Robert J. Bernardi, Scotts Valley, Calif.

[73] **Assignee:** Plantronics, Inc., Santa Cruz, Calif.

[21] **Appl. No.:** 658,838

[22] **Filed:** May 31, 1996

[51] **Int. Cl.⁶** H04M 1/00; H04R 25/00

[52] **U.S. Cl.** 379/430; 381/183; 381/187

[58] **Field of Search** 379/430, 428, 379/433; 381/183, 187, 68.5, 68.6, 68.7, 69

[56] **References Cited**

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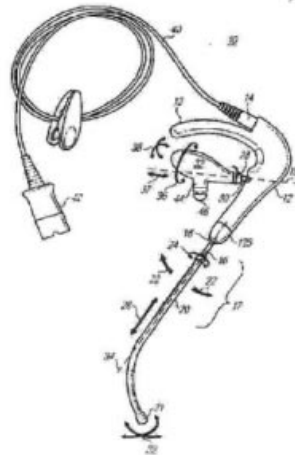
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93 13 223 9 4/1993 Germany

Primary Examiner—Jack Chiang
Attorney Agent, or Firm—Fenwick & West LLP

[57] **ABSTRACT**

A communications headset includes a headset enclosure and a receiver enclosure coupled thereto by various means allowing displacement of the receiver enclosure with respect to the headset enclosure at any of a variety of angles, rotations, and distances. The adaptable positioning of the receiver enclosure allows the headset to be used by a wide variety of users having different ear shapes and sizes, while providing a stable, comfortable fit and ensuring good acoustic performance. In one embodiment the receiver enclosure is slidably coupled to a ball tube having a ball that rests in a socket of the headset enclosure. The receiver enclosure can telescope along the length of the ball tube and can rotate about an axis of the tube. The ball can be rotated in the socket to position the receiver enclosure at any of a variety of angles relative to the headset enclosure. A voice transmitter is also coupled to the headset enclosure so as to allow adjustment of length, angular position, and rotation.

6 Claims, 9 Drawing Sheets



I then took a job at Plantronics in Santa Cruz, closing my consulting business for a while, where I developed headsets, including receiving a couple of patents (design and utility), and other products like a telephone for the visually impaired. The headset design experience was unique as the products patented (Plantronics Tristar) are still primary Telco operator headsets designed to be worn over the ear all day long in a comfortable manner, not wireless at this point as Bluetooth was a brand new technology. One headset patent was a unique award of a utility patent for fit of a headset worn on the ear.

In that time I also managed a \$200,000.00 human factors study of the human ear. At the time it was the most extensive study ever done of the ear, with ear molds of a 1000 subjects (five population groups of 100 males and 100 females) and full head 3D scans. The program was my design and implementation which used a scanning company in Salt Lake City and Virginia Tech students in Blacksburg VA and was primary contracted to Henry Dreyfus Associates in New York. At Plantronics I also managed a number of contracted design projects to Design Continuum in Boston and Vent Design in the Bay Area of California. There were a couple of other contractors as well for a variety of small projects that I managed.

1993-1998



I took a few years off after that, living in rural Oregon, designing only a few products, such as a bioinjection device (Bioject in Portland Or.) and a few other products. I discovered the value of taking a little time off and when I am between contracts, I usually end up in Oregon.

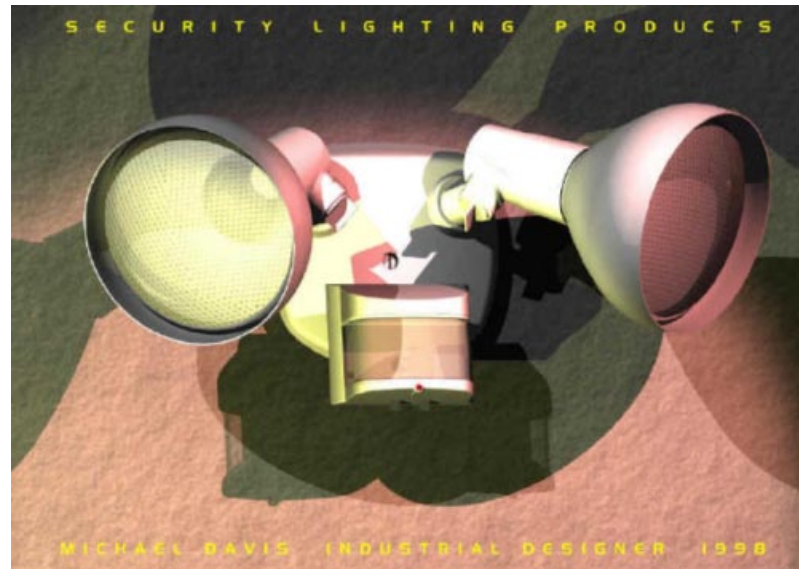
This period of time was also a transition period from use of wireframe (AutoCAD and Cadkey) to solid modeled parametric software tools. I picked SolidWorks because when SolidWorks crossed the threshold of being the first engineering level parametric tool effectively useful as an industrial design development tool it became a viable solid modeling candidate.

The bioinjector image of my design here is by an associate using Pro-E in 1996.

The lesson of this project was the end of wireframe design and the utility of parametric solid modeling which I began to apply after this project was complete.

1998-2000

In 1998 I moved to Kentucky for a year to design a lighting program for sale by Lowes to be manufactured by Heath Zenith lighting, being employed by Desa International, with HZ a recent acquisition at the time. Some of those designs are on my website (<http://headstuf.com/demopage.htm>). The program was not adopted by Lowes as Regent Lighting was able to maintain their Lowes contract after implementing a huge investment and innovation program to hang on to the market, which one can understand as we were trying to acquire a contract worth well over \$50 million a year. The lighting products on my site are my designs of HZ products for sale in Lowes. I also did a number of wireless door chimes still sold at Home Depot.





The following spring, I did some consulting in Pennsylvania designing advanced truck bodies for Morgan Body as a consultant which was purely a conceptual design contract: something I excel at. We did some very exciting design work that would replace truck bodies with with aerodynamic improvements, all composite constructions and significant innovations in the areas of aerodynamics past the tail section. I also worked to integrate a built in column lift design built into the rear door sections. The column lift work helped me acquire a development contract with Maxon Lift, a few years later.

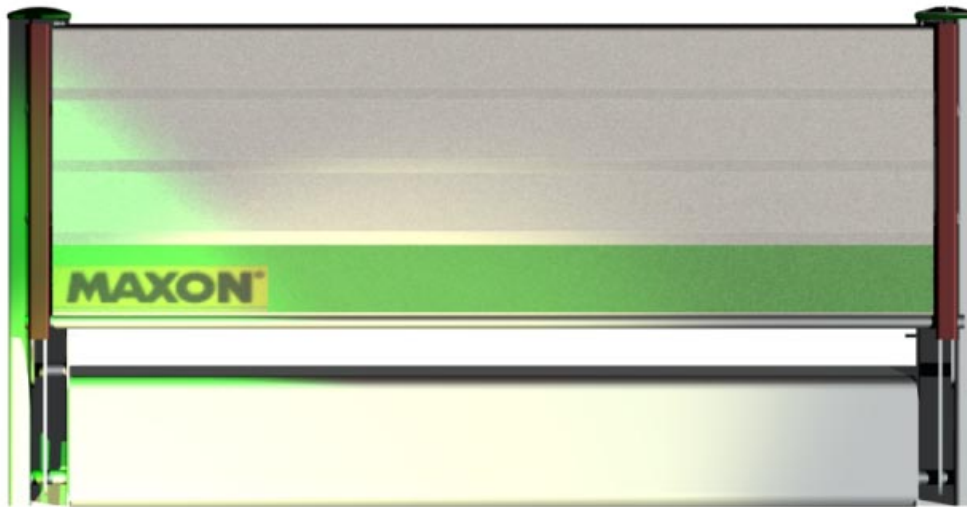
1999-2000

2000-2005

Since then I have designed a number of head worn devices such as medical and dental face masks and consumer oriented sunshades. More recently I designed face masks for the safety industry as well as hearing protection.

As an innovator, these designs have features that are required to be kept under wraps until patents are issued or until the employers release the designs. The design characteristics were very lightweight improvements to comfort and styling of form for head worn devices.





2001-2003

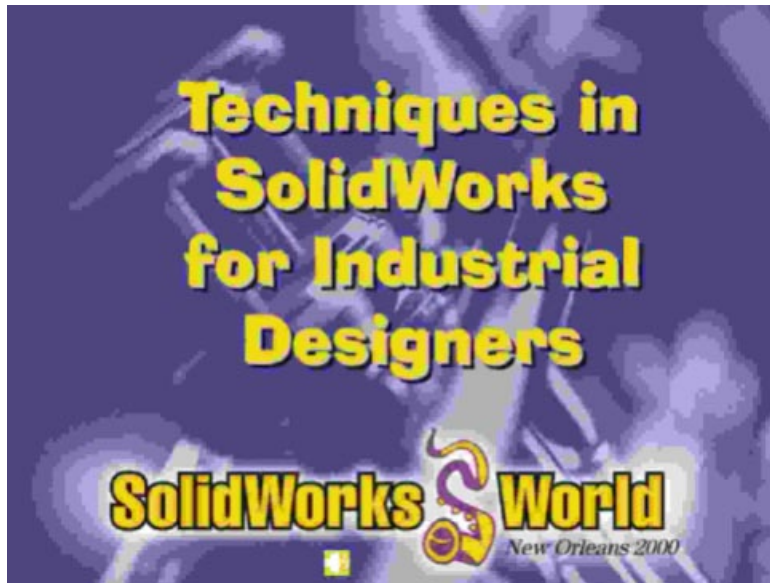
Further contracts for advanced consumer liftgate concepts for the dominant commercial liftgate manufacturer, Maxon were completed. In addition to the industrial design, this project involved selection and design configuration of all components such as actuators, mechanisms, electronics etc. I created two fully developed assemblies in SolidWorks for delivery to the client.



2002-2003

I also have developed more lighting products for other lighting clients. The fluorescent light shown here is a proprietary design of my own. This area of expertise bleeds into tools, hardware and new consumer and commercial lighting technologies.

The lighting industry is wide open for innovation in areas like LED applications and low power fluorescent applications.



2000-2004

I have presented at a few of the SolidWorks World conferences, usually two presentations regarding industrial design techniques integrated with SolidWorks.

Some of these presentations are available on my website at

<http://headstuf.com/downloads.htm>

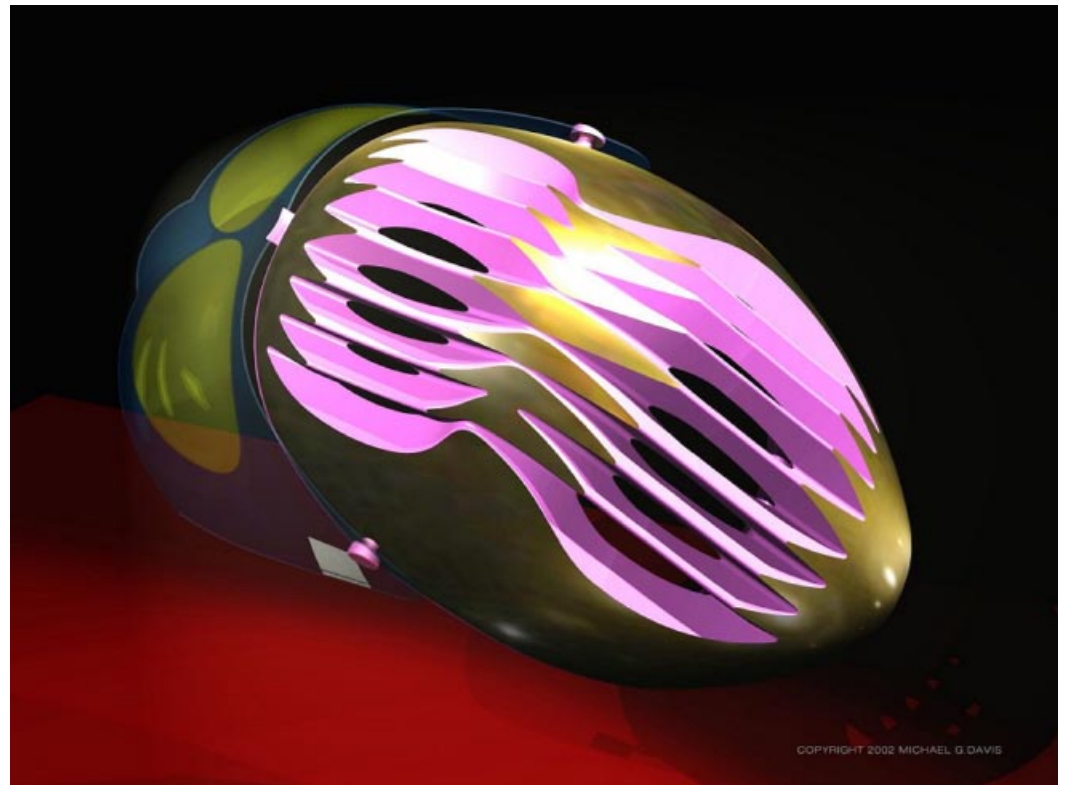
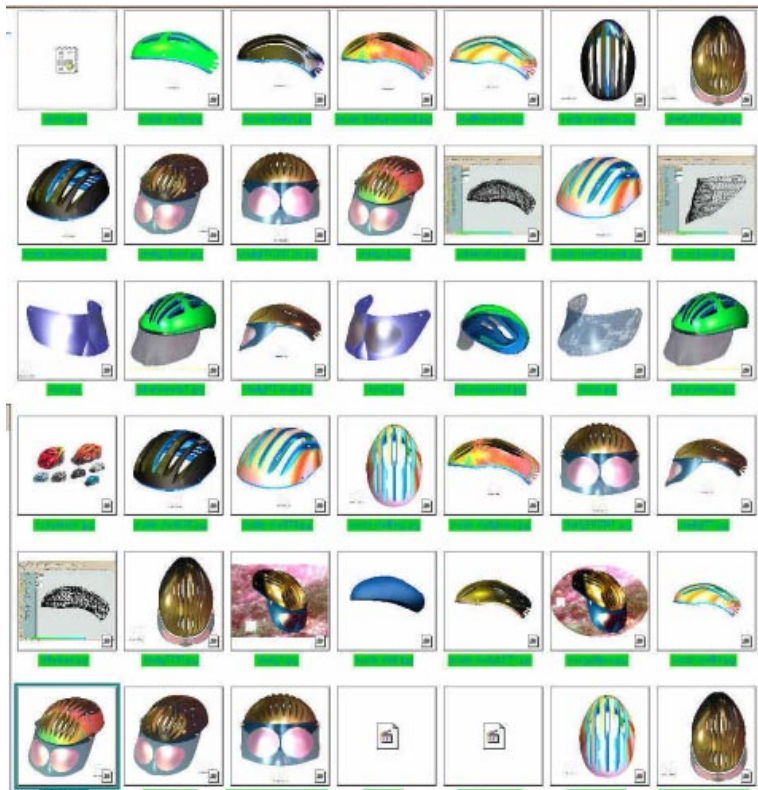
1998-2006

I have developed and written about new techniques which I have developed for implementing industrial design using SolidWorks. The evolution of parametric 3D modeling has opened up the use of these design tools to both industrial designers and engineers who can now perform both tasks uniquely or as a team.

The designs shown here is a demonstration bicycle helmet project which represents the flexibility of SolidWorks to represent multiple concepts using a single seed model as the core concept.

Articles may be found at <http://headstuf.com>

Downloadable presentations are at <http://headstuf.com/downloads.htm>

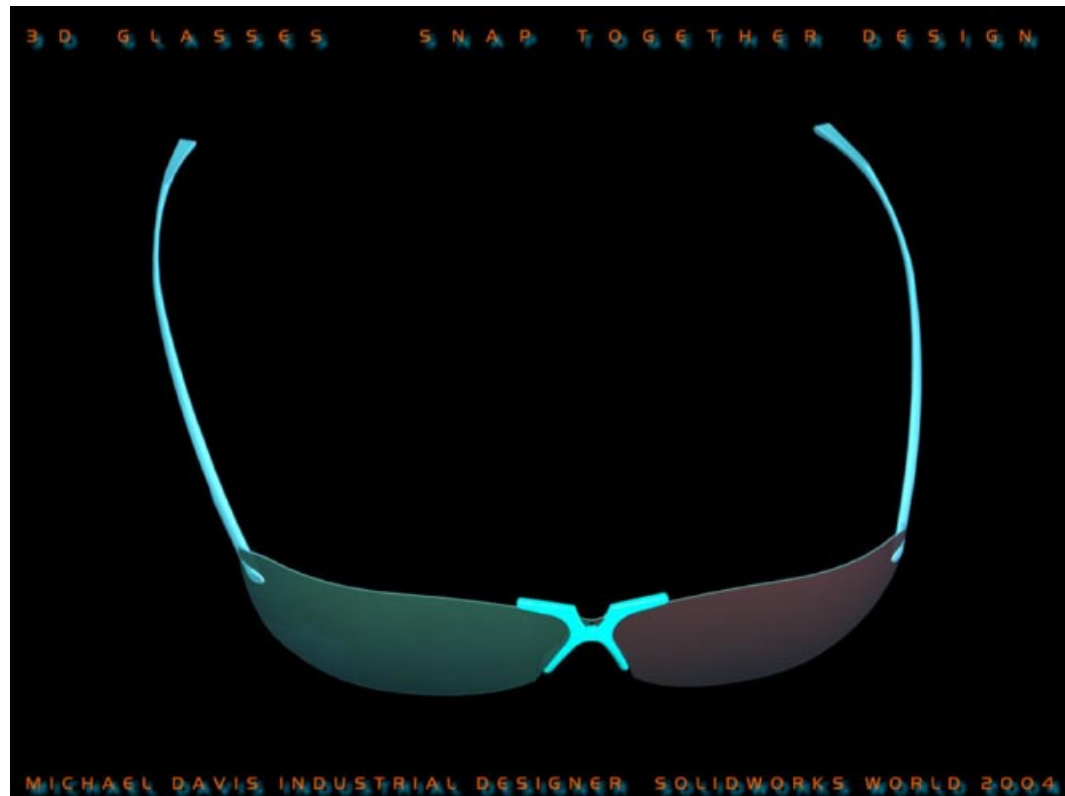


2004-2005

My most recent work was with Moldex Metric in Los Angeles designing and managing products in the safety and medical face shield and face mask arena as well as hearing protection products. I also performed in house training of others in SolidWorks and managed ISO and NIOSH aspects of products I was working on.

There were a number of innovative ideas out of that experience that were completed but that are still under non disclosure agreements.

The design shown here is my own proprietary product, (an RTA premium 3D eyeglass assembly) and is being used in place of Moldex designs still under NDA.



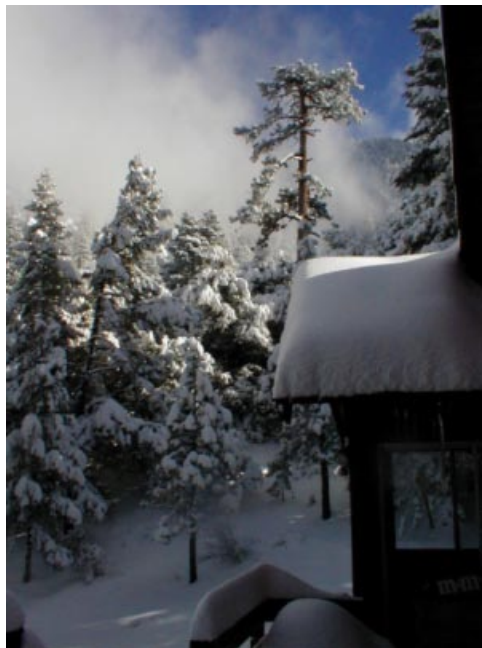
On the personal side,



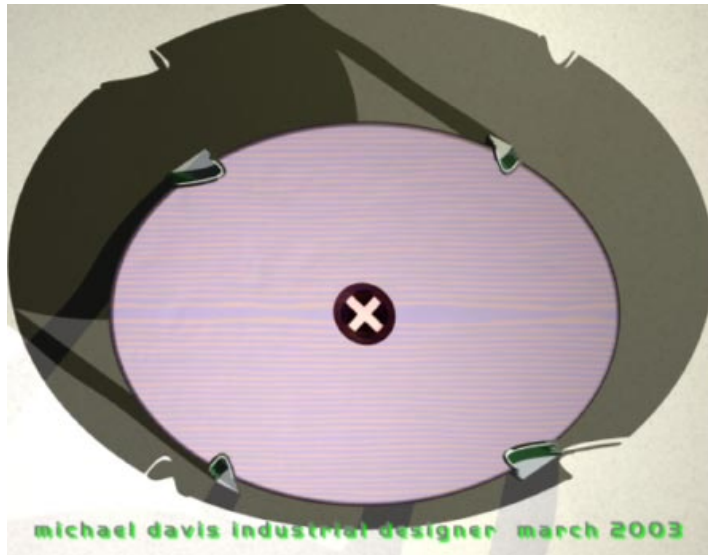
Born, Taipei, Taiwan in 1952 when at a time when the Korean war was winding up (My father was a US DOS-Department of State officer who had just been evacuated with my family from Seoul, Korea due to that conflict).

I finished high school at Bangkok International School in 1970, was captain of my swim team there, but I grew up in Salt Lake City, raised by my mother there.

Currently unmarried and have one grown daughter.



I currently reside in Port Orford, Oregon with my two dogs, a Lab Retriever (Milkbone) and Husky Shepard mix (Lady), eleven year old, brother and sister).



Personal interests.

I am an fan of collecting films and music, building computers and adding to my list of proprietary products to some day put into production. Currently I have about a half dozen products in search of development capital.

Other personal design interests are in RTA (ready to assemble) furniture design, a hobby since graduation from San Jose State where RTA furniture was my senior thesis, though we did not call it RTA design then.

Some of my hobbies occupy much of my personal time, such as backpacking and cycling (I have walked much of the Muir trail by myself in California and have done a few distance trips by bicycle, and I have an avid interest in sports equipment design as well as other related tech areas),

You may find a full history of work in my Archive section at headstuf.com linked to my portfolio page as well as a good summary of the last ten years work (with about a dozen exclusions due to NDA).

<http://headstuf.com/demopage.htm>
Portfolio 1995-Present.

<http://headstuf.com/photogallery/photo32553/real.htm>
Portfolio archive, 1977-1995.

Please note that the work shown here is only a tiny sampling of the full works of Michael Davis.