

RESUME OF THOMAS YOUNG

thomas@polywatt.com

QUALIFICATIONS:

I bring a unique assortment of skills, knowledge, and experience to an organization that often results in creative solutions to difficult technical and business problems. My patents and included pictures provide documentary evidence of this.

- Founded several companies.
- More than eight patents issued, one as co-inventor, and more pending. Patent numbers 7,431,570 6,634,864 6,585,509 6,347,936 6,162,046 5,742,222 5,708,460 5,241,308 4,949,927 4,463,547
- One or more additional patents may be in process in the capillary pumping, crimping, and other fields.
- More than twenty years of electronic, software, mechanical, and materials engineering. This has included conceptual design, physical design, prototyping, testing, evaluation, and production.
- More than twenty years of product development, contract negotiations, and project coordination. This has included business plan writing, SBIR grant writing, Intellectual property licensing, costing analysis, hiring and supervision.
- Highly skilled in hands on design and fabrication and assembly methods. This includes software coding, machining, ceramics, electronics, and welding.
- Have own tools and complete portable Research and Development laboratory. See web site at Polywatt.com.

SOFTWARE TOOLS PROFICIENCY:

- I am generally proficient at all kinds of software for electronic and mechanical engineering including Orcad, Hi-Tech C for microcontrollers, and Solidworks.
- I am generally proficient at all the usual general purpose software packages such as Word and Excel.
- I am somewhat proficient at web site creation using Dreamweaver. See www.polywatt.com

HARDWARE PROFICIENCY:

- I am generally proficient and familiar with many types of semiconductor components including microcomputers and programmable logic.
- I am generally proficient with all the usual electronic parts such as inductors, capacitors, and resistors.
- Am generally proficient with all the usual electronic test and monitoring equipment and tools.
- I am very skilled at all the mechanical arts for fabrication of prototypes including welding, machining, molding, and coatings and finishing.
- I am generally competent where the physical world is concerned.

WORK HISTORY:

2004-present Polywatt (self employed)

Performed a number of miscellaneous projects

Accomplishments include:

- Developed a new aseptic transfer port system.
- Developed a new package integrity monitor concept.
- Developed a throw-able temperature measuring device for coal fired power plants. Returned the real time temperature data via wireless link. Proven unworkable, unfortunately.
- Developed miniature high velocity thermocouple (HVT) for small flames.
- Developed a novel crimping system for PEX, and plumbing in general including a small hydraulic hand unit. A patent in the works.
- Computerized a straddle lift crane.

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- Developed a new torque measurement concept using an interferometer.

2001-2004 Vapore Inc, Chief Engineer.

A Founder. See WWW.VAPORE.COM for more information.

Accomplishments include:

- Several patents issued; 6,634,864 6,585,509 6,347,936 6,162,046
- Design and construction of special conveyORIZED furnace for capillary pump manufacture.
- Design of unique SFE drying system and process for porous materials.
- Invented and developed new type of ceramic gel casting process.
- Assisted Cascade Designs (MSR) and several other companies in new product development using capillary pumps.
- Provided technical guidance to Vapores CEO and Board (was member of board).
- Guided the efforts of several scientists and engineers.
- Wrote significant fraction of Vapore's founding business plan.
- Solved several severe technical challenges to Capillary Pumping.

1997-2000 Allports LLC, Chief Engineer.

Partial owner of Allports. Our primary focus had been the development of a new liquid fuel burner and ceramic capillary pump technology. Patents issued to date : 5,870,525 and 5,692,095. Allports licensed its technology to Vapore.

Accomplishments include:

- Design and construction of 320 sq. foot portable Research and Development laboratory.
- Research and development of new porous ceramic fabrication process.
- Research, design, development, and fabrication of prototype ceramic capillary pumps.
- Design and fabrication of miniature capillary pump based burners and stoves.
- Design and implementation of web sites at polywatt.com and allports.com. Some text a team effort.
- A license with the Coleman / Sunbeam company. A team effort.
- Causing the creation of the Pocket Stove SBIR program. A team effort.
- Creation of the Allports business plan and Early Adopter program. A team effort.

1995-1996 Telo.com Inc. President and owner.

Development of new voice over IP telephony communications concept. There were important features to this particular plan that even today still appear novel.

Accomplishments include:

- Conceptual design and engineering for both software and hardware.
- Creation of a business plan from start to finish. A team effort.
- Engaged an interested party to carry the plan to fruition, currently stalled.

1992-1995 AVI Systems, Inc. Chief Engineer.

Upon the partial merger of TMY, Inc. and AVI Systems, Inc. the primary focus had been the development of force based touch screen technology for computers.

Accomplishments include:

- Invention of a zero creep silicon integrated circuit strain gage. Patent 5,742,222. With Pierre Irissou.
- Invention of almost all digital, Analog to Digital converter concept. Patent 5,708,460.
- The design of CRT and flat panel force based touch panels.

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- The design of a touch panel controller using an 8051 microcomputer and Xilinx FPGA.
- The design of a low cost stand alone digital sound card for industrial enunciators.

1991-1992 TMY, Inc. Founder and President (95% owner).

Duties included corporate and financial management, employee supervision, sales, contract negotiation, and engineering.

Accomplishments include:

- A major software contract with Miles (now Bayer) Laboratories in Berkeley.
- A contract with DATA 911, Inc. for the design and manufacture of computers for police cars.
- The design of a high speed universal video interface for the Planar, Inc. Electro-luminescent display.
- The manufacture of several flat panel display interfaces for CEM Corp and Planar, Inc.

1987-1991 Paragon Systems, Inc. V.P., Chief Engineer

Upon the merger of NC-Ways, Inc. with Paragon systems, assumed the role of chief engineer, focusing on product design, manufacturing, technical documentation, and troubleshooting.

Accomplishments include:

- The invention of a force based touch panel concept. Patent 5,241,308.
- The design of a general purpose video to liquid crystal display interface.
- Design and implementation of inventory control/work order software system.
- Design improvements to the Powis Parker FastBack book binder electronics.
- The schematic and board design of a special purpose single board IBM PC for industrial control applications. This integrated, touch panel, LCD display, computer, and power supply into a notebook sized package.
- Design and manufacture of special purpose display interface for Planar, Inc.
- Design and manufacture of analog input/output circuit board for a special industrial control system.
- Design and manufacture of special rack-mounted display terminal for a military flight simulator, integrating RS-232, touch screen, power supplies, wiring harnesses and enclosure fabrication.
- Conceptual design for using the sputtering process in circuit board manufacture.
- Design and manufacture of small switching power supply.

1986-1987 NC Ways, Inc. President

Upon the sale of Boardworks, non job-shop assets became owned by NC-Ways, Inc. and focused on servo system related R&D projects.

Accomplishments include:

- Design and construction of a precision positioning system for a variety of mechanical applications, including drilling and pick and place.
- Library of Congress. Design and fabrication of a custom positioner for microscopic inspection of optical disks to determine their aging characteristics.
- General Scanning. Development of a very fast, very accurate position controller, using the TI TMS320 digital signal processor for interpreting an angle sensitive interferometer.

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1984-1986 The Boardworks, Partner

The original business manufactured circuit board prototypes. This included the fabrication of 1-sided, 2-sided, and some multi-layer boards.

Accomplishments include:

- Full implementation of a circuit board manufacturing process, including all chemical and imaging processes.
- Successful management of a small PC board manufacturing company.

1980-1984 Lawrence Berkeley Lab (LBL) Mechanical Technician

Job included design and implementation of several mechanical and electronic projects.

Accomplishments include:

- Invention of an electronically-controlled insulation wrapper for superconducting cable. Patent 4,463,547.
- R&D on methods of construction for super-conducting sextupole correction coils for the US super-conducting super collider project.

1977-1980 HTE, Inc. Technician

Job included the design, construction and repair of high-vacuum apparatus for the semiconductor industry.

EDUCATION:

Will discuss in person only.

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