You could say simply that Pitt alumnus John Swanson made his millions writing computer code. Or note that that the engineering software company he founded in 1970, which today is called Ansys, Inc., generated $263.6 million in revenue in 2006. Success, indeed. But then you might miss the true dynamics of Swanson’s entrepreneurial success story and how he carefully balanced between the roles of savvy, aggressive entrepreneur and innovative, driven technologist to build a lasting legacy.

It’s a balancing act which might aptly parallel the life of the typical academic researcher, whose passion remains in the lab but who desires to see his or her innovation find broad use in commercial markets, acknowledges Swanson, who earned his Ph.D. in applied mechanics from Pitt’s School of Engineering in 1966 while working for Westinghouse.

In recent years, he has become both a major financial supporter of Pitt academic programs, particularly in the School of Engineering, and a University Trustee.
“We had no idea where we would be five years from now or 10 years from now...It was a complete shoe-string operation.” — John Swanson

“I didn’t start out to develop a company,” Swanson says during his recent interview in the video studio of Pitt’s Center for Instructional Development and Distance Education, which produced the video. “I started out writing software. But there was a market and a need, and engineers told me very loudly that they needed it...They told me where I’m going. It was a very cooperative arrangement.”

Swanson worked in Westinghouse’s structural design group in the 1960s, utilizing a computer, he says, which had the ability to process “75 simultaneous equations” at a time. “I discovered that computing was a good way to do simulation,” or the testing of engineering designs via computer before the engineered structures were built.

But while he enjoyed the rigors of writing computer code, he says his Westinghouse bosses were adding lots of administrative and management functions to his workload, which kept him from doing the kind of computer software development that he wanted to do. So in 1970, he left to start his own company.

“It was a safety measure,” he jokes. “My in-box was ready to collapse on me.” And besides, he adds, “I wanted to do what I wanted to do and be paid what I wanted to be paid.”

Swanson says he started the company “as myself,” providing consulting services to engineers and using that income to “pay for the computing.” He then began to develop computer software – writing code in Fortran, which he says he still does today – that would allow engineers to analyze the functionality of their computer-aided designs, including stresses, dynamics (such as fluid and air flow and heat), and magnetic fields before actually having to build prototypes.

His “finite-element” design analysis programs initially worked only on mainframe computers that could handle such large and complex processing. But eventually, as computing power increased and computer size decreased, his programs adapted with those technological advances – and benefited largely from them.

Before long, Swanson was adding new employees. In fact, several of his original employees were former co-workers from Westinghouse. However, he says he always maintained a strict hiring policy. “We didn’t hire people we couldn’t pay for.” Still he says, “I got key employees who were well-known to me and very capable.”

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**John Swanson’s Educational Legacy**

John Swanson capped his years of entrepreneurial success with what has become one of the largest individual donations ever given to the University of Pittsburgh.

Swanson, who acknowledges that most of his philanthropic endeavors are aimed at educating engineers and future entrepreneurs, donated $41.3 million to the University’s School of Engineering. Accordingly, the school has been renamed the John A. Swanson School of Engineering.

Swanson earned his PhD. degree at Pitt’s engineering school in 1966 in applied mechanics. He has served on the University’s Board of Trustees since 2006.

As a result of his donation, which is part of the University’s $2 billion Building Our Future Together Campaign, the engineering school undertook an extensive renovation and expansion project at Benedum Hall, which houses the school.

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On the sales front, his team continued to market directly to engineers, who became loyal customers, even as they moved from firm to firm, which also made them good referral sources, Swanson says. Soon enough, engineers from around the world were using his company’s software.

His strategy began to pay off. “We were just busy and having a good time,” he says of the early days at what originally was called Swanson Analysis Systems, based in the Canonsburg area, south of Pittsburgh. “We were growing 25 percent a year, which isn’t too shabby. We knew we were going to be successful, but we had no idea where we would be five years from now or 10 years from now...It was a complete shoe-string operation.”

By 1993, Swanson and his team had grown the company to $31.6 million in annual revenue, according to company documents, with a net income of $8.1 million. Then, due to health concerns and a desire to consider his eventual retirement options, he began to seek an exit strategy.

Given the size of the company and its seeming potential for future growth, his company became a viable candidate for going public, although Swanson says he didn’t want to have to deal with the rigors of that process.

So he sold the company to a Boston-based venture capital firm named TA Associates, which also had a presence in Pittsburgh. In 1996, the new Ansys, Inc., held an initial public offering of stock on the NASDAQ exchange, and Swanson became chief technology officer for a time before reducing his own involvement to that of a consultant – who still writes or rewrites code for Ansys.

Today, the company employs an estimated 1,400 people and operates more than 40 strategic sales locations throughout the world. Its total revenue in 2006 was $263.6 million. Meanwhile, Swanson spends much of his time working with the University of Pittsburgh, as well as Washington and Jefferson College and Cornell University, trying to give back in ways that will train up the next generation of engineer and entrepreneur.

His advice to Pitt Innovators who are pursuing commercialization of their ideas, is simple. “To be successful, you’ve got to meet a need,” he says. “Entrepreneurship is a tool to meet a need...Find someone who has a problem, then find a solution.”

Adds Swanson: “I’ve had a ball.”