

Narrator: Dave Squire (DS)  
 Interviewer: Rebecca Holt (RH)  
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 Transcribed by Rebecca Holt

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	Audio File, 1 Hour, 21 Minutes
0:00-  Birthdate/Childhood	<p>RH: Okay, this is Rebecca Holt with Dave Squire on the 29<sup>th</sup> of February 2012 and we're doing this recording for the Washington Country Museum.</p> <p>So lets start with your full name, your birth date, and your place of birth.</p> <p>DS: Um, David Charles Squire. Birth date: July 5<sup>th</sup>, 1944. And place of birth was uh Fitzsimmons Army Hospital in Denver, Colorado</p> <p>RH: Okay, and when did you move from Denver to Ashland?</p> <p>DS: I think I was probably two.</p> <p>RH: Two?</p> <p>DS: My parents are from Eastern Oregon, so, my dad was stationed at Fitzsimmons Army Hospital during the war so that's why I was there. So I consider myself a native Oregonian. I was in Ashland from the time I was two probably.</p> <p>RH: And you were there until the time you went to college?</p> <p>DS: Yeah.</p> <p>RH: What sort of things were you interested in as a child?</p> <p>DS: Um. I call it pre-engineering studies. I, uh, I uh made bombs, caught things on fire, caught the chicken house on fire. Experimented with gunpowder. Caught the local golf course on fire. Stuff like that</p> <p>RH: Did you get into some pretty serious trouble?</p> <p>DS: Yeah, I did yeah.</p> <p>RH: Hopefully no major consequences?</p> <p>DS: No. Yeah, I call it pre-engineering studies. I was all scientific-based.</p>

RH: Uh-huh. And how did you do in school? Did you like science?

DS: Uh, I was really good in math. My dad was a teacher, and then a teacher, and then a professor. He specialized in math, and so I was taught math from before I was in school, so I was really good in math. In most the stuff in school I did okay. I didn't really have to work that hard, which was probably not hard. I didn't develop very good study habits.

RH: And then did you go to college when you turned eighteen?

DS: Uh, yeah. I went to Oregon State, got an engineering- I went to my counselor at high school and he said, "Well, you're good at math, why don't you go to Oregon State and be an engineer." So I went there.

RH: How was your time there?

DS: It was good. I met my wife there. I didn't do that well in school. I think of my whole family who went to Oregon State I probably got the lowest GPA. My mom went there, my dad went there a little bit; my three kids went there. You know, they did better than I did so... but you know I got out.

RH: Did you meet your wife in the engineering program?

DS: No, she was in medical technology. So, I met her through a fraternity I was in for a very short time.

RH: Were there many women in the engineering program at the time that you-

DS: One.

RH: And how many were there in your graduating class?

DS: One. So that was in electrical engineering. I don't know what they other engineering disciplines were, I think there were probably more in like industrial engineering and civil engineering, but just one in electrical engineering.

RH: Did OSU have connection in the high-tech industry, or did they help you once you graduated, with a career?

DS: No. They didn't have, you know most the universities now have co-op programs. Your sophomore, junior year you go work in the summer, but they didn't have anything like that. I did get a summer job at the

Work at NASA

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civic park as a programmer. But, I think that was just through the job placement offices at school. I mean, there were connections but not with the students so much. I think the professors were probably hooked into Tektronix. I'm sure they were somewhere, but... I mean they had their little consultant gigs, but nothing I got involved in.

RH: So what did you do once you graduated?

DS: Uh, I went to work for NASA in the research center in the Bay area. It was the backwaters of NASA, aeronautics, and not so much space. They had life sciences, I wanted to be a life sciences engineer; bio-medical engineer. So I went there, and discovered I didn't really want to be a bio-medical engineer because we mostly killed animals in gruesome ways. Not on purpose, but, through the research. And so, that wasn't pleasant. I was there about two and a half years I think and then to Tektronix.

RH: And how did you end up working at Tektronix? Did you seek out a position there? Or did they...

DS: I applied there for a summer job when I was at school and didn't get it, but I had always heard of Tektronix. Even when I was little, my Dad told me about Tektronix, about how they use to bring in all these management gurus, and he was very impressed by that. And then my mom, she had a, she was in a small investment club and went Tek went public they bought some of their stock and did okay on it. And it was only; it was really about the only high-tech place in town. It was Tektronix and Electro-scientific industries. That was it. And I didn't like California. My wife and I, and our kids, we did not like California so almost from the time I got there I started looking for a job back up here. And actually, I guy I worked with at NASA had a cousin who was there and said they were hiring and he didn't want to leave so he told me about it. And I ended up getting the job at Tektronix.

RH: And how long were you at NASA?

DS: About two-and-a half years.

RH: So what position did you start in at Tektronix?

DS: I started in a uh' in a group; in a test group that built test systems for the 7000 series scopes. It's called electronic industrial engineering; we called it "eeeh ayy eeeh ayy oo," So.

RH: Can you maybe describe in a little detail what your work was like?

DS: In that position we were building test systems for the 7000 series as a brand new scope line that Tek had, and we were building test systems for the manufacturing, So one of the projects I worked on was: We used, back in those days were using PVA's'; digital equipment [Inaudible] computers; eight bit, very rudimentary computers and they used paper tape for all the programming. I was asked to put together a substitute for the paper tape using cassettes, and so I worked on that project for awhile, and then I worked on an automated test system that you could; you could put boards down, and you could test the boards. So it was mainly that type of stuff in that particular job.

RH: Uh-huh, and then how long did you do that?

DS: Oh good question, how long did I do that? I did that for... probably three years, and then I went to uh... Well our group got acquired by another group. There was a lot of; at Tektronix there was constant shuffling of organizations and moving around. It was one of the great things about the company is that you know if you were somewhere where you didn't like you didn't have to worry about it because it would change shortly. And that was a really good thing because people got to move around and see how different things worked. Our group got acquired by the uh; they uh, systems group which was building commercial automatic test systems. And so I did design on uh, it was a about as big as this room, this system. It had, you put an integrated circuit, that was when integrated circuits were just starting to come out, and you put an integrated circuit in there and it had all these boards and each board would attach to a pin in the integrated circuit and you could run all these signals in there and get signals back and do all that kind of stuff. So it was the S3260 system, so I worked on that. Um, but it was, it was a really weird job cause our boss never came out of his office. You know, he'd sort of... you'd come in your desk in the morning, we had these things call "Z-grams" he'd leave em' his name was Al Zimmerman, so he's leave a little note on your desk, you know "Do this, Z." He'd never say it; the only time I ever talked to him was when I told him I was leaving. So, that was interesting. So from there I went to, oh yeah, I went over to a group in, what was it called? It was spectrum analyzer, it was called RF Instruments. We worked on an all-digital test system. It was the first product that Tek was gonna do that ever used a microprocessor. It was the first all digital instrument, and I was a digital engineer, that what was I specialized in and most engineers at Tek were analog, if you don't know what that means, but anyway. I was the only digital guy, I think I might have been the only digital guy in the company. So we, Intel had just come out with their four-bit microprocessor, first microprocessor ever, and so we incorporated that in an instrument built to solve a digital thing. Um, and then I'd probably have to go into a bunch of technical babble but...

Toughest Project at Tek

11:44:05

RH: Go ahead.

DS: But it was; it was a network analysis used to measuring S parameters, which are microwave kind of things so it was going to test this microwave device from like a 100 megahertz up to 20 gigahertz. Which 20 gigahertz, at that time was a really, really high frequency. It's not anymore, but it was then. But it was; it had all kinds of amazing technology, and we had um, it was the first product that had an all-digital front panel, it had digital display, we could present data in polar coordinates or Cartesian coordinates, all this kind of stuff, and it was really, really, pushing the state of art. We had a small team, it was people, you know who have looked at that product. I should say it never got to market because we had some rules of physics we really had to violate in order to get it to work, when it finally came down to it. But the thing was around in Tek labs for twenty years; I remember people looking at it and not being able to believe we did something like that at that time. That was probably 74, 75, or something like that. Nobody was doing anything with microprocessors then.

RS: When you say, "violate rules of physics" what do you mean?

DS: Um...The, we were trying to signal from a noise ratio of about 40 DB, and when we did, and there were actually three of us trying to do the mathematical analysis of this and we all three came up with different answers. Finally we hired this kid from MIT, who was probably the smartest person I'd ever met, and he did the analysis and showed that just based on the physics of these microwave devices that there was enough noise in them that we could not get below that. So we ended only being able to get about 20 DB signal to noise ratio, which was not enough to make a viable product. So we were trying to, there was a Hewlett Packard at the time had a way of measuring these S parameters on the microwave devices that was basically to switch frequencies you'd put a signal in and you would just change the frequency and look at the transmission, for example. We were using a pulse approach where if you look at a step function, an electrical step function like this [makes step motion with hand] an electrical step function like that and you do a spectrum analysis of it you find that to get that step you have all these frequencies and so we were going in time domain instead of this frequency domain. You're getting all of this right? [Laughs, interviewer nods] Anyway, it was a radically different way of doing it and uh, if we'd been able to pull it off we'd of really been something. But we stayed in the yard, way out stuff. I haven't been that smart since. So when I look back at what we did it was just really amazing.

RH: You feel like that was the most complicated project you had in your

time...

DS: Absolutely. Ever, ever, ever. It was; we were, we were doing things faster, you know we were doing things. We were putting out pulses that were like five nanoseconds wide, which was kind of like, as fast as a human being could do anything. We were in the time domain, we were in the frequency domain, we had an all-digital scope, we had a, you know a four bit Intel microprocessor controlling the whole thing. We had another disc processor which was doing the rectangular polar conversions in transforms. We had a, um, a digital interface that would just come out, called the GPIB interface and I can't remember what the GPIB stands for, but it was a digital interface for controlling the instruments. We controlled that with a 4051, which was a Tek desktop computer. First personal computer probably ever built, before Apple. It was just, I mean, other than that little thing about signal margeration. Other than that little minor thing that caused us to cancel the project. So, it was just, it was just amazing. The team of people that did it, if someone was to try something like that again they probably would have had twenty or thirty people, we had like five of us. And we had this, this poor kid I hired from Berkeley, was a software engineer because we had no software engineers at Tek at the time, he did absolutely incredible things cause he didn't know he couldn't. I mean he wrote a whole operating system, he did all the control, all the software, and today you have five or six people doing that. Anyway, it was lot of fun and very stressful.

RH: Who were the other people on the team?

Dave Squire: Ron Telltolla, Bill Randall, Glenn Bateman, Alice Depuis, Ronald Curt was the software guy. Um, I can't remember his name.... I can see his face. That's the one guy though; I can get you his name.

RH: That was in the, that was 71'?

DS: 70... 74, 75, something like that.

RH: How long had you been at Tektronix at that point?

DS: I started 69'.

RH: Okay. So what came after the most complicated project?

DS: After that? When that sort of wound down, I went down to Wilsonville. Which was just starting out, that was really where all the digital stuff was going on anyway, that was where they were doing the graphics terminals. I went down there as the, as a design engineer. I had

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## Graphics Technology

become the engineering manager for this project, the digital network analyzer. And I went back down there, decided I didn't like management. Went back down there as a design engineer. Got back down there and decided I really wasn't that good of a design engineer that I liked management a lot better, so I ended up getting into management down there and starting to do work on graphics terminals. And at the time the Tek, Tektronix owned the graphics market. If you wanted to have a computer display with graphics on it, you had to use Tektronix, we absolutely owned the market. And it was based on a proprietary technology called a DVST which is, stand for a Direct Via Storage Tube, and basically what it did was screen, and they were from this size to this size, the electronic beam would write images. We got this green image and it was store it on the phosphor on the CRT so you can do these very high resolution, intricate graphs, but if you wanted to change anything you had to erase the whole thing and start over again. So every time you drew a new line it'd go "flash" but it was the only game in town. And, if you went to Chrysler, Ford, GM, there would be rooms of our terminals. They designed all their cars that way. I was a plane in Germany, a Lufthansa plane, and there was an article in there. In their airline magazine, showing one of our displays they'd used to design the plain. So, everybody in the world used our displays. But at that time there was no color and there was no, you got green that 's all you got. So I started working on color projects. There was a, in order to do color you needed to have storage, and Random Access Memory that's used in computers now was starting to come online at that time. You can get chips now that have gigabits on them. At that time you could get like a chip with like a thousand bits on it. So as that memory got bigger and bigger it made that color, raster scan type products more viable. Then it was actually one of our manager that had a graph that showed the price of RAM and, and what point it would cheaper to build a graphics terminal that used a ram base that anyone could use versus using our storage tubes. So we could see that the storage tube was gonna die when the RAM price hit that price, and it turned out that way. But we were worked on each project, so I worked on, I worked a product called 4025 for awhile, then I worked on the 4012, and then we started this program: I was given the assignment, I was given a sheet of paper; blank sheet of paper, it said 4010R and that's what it said and they said "here, do one of these." I said, "What's that" they said, "Well, It's a replacement for the 4010" which was our direct VUE storage thing, so I was supposed to go replace it with something raster scan either monochrome or color, and so we did a; we started a project called Loco which stood for "Low Cost." And you know we researched all the different display technologies: The Ram and the cost, and all this kind of stuff and put together... And I built a team, I had people from manufacturing, service, components, sales, marketing. Everybody would put together a team, and we worked for about a year just researching you know what we could do for the next

terminal. And so, the new, we got a new general manager, and he asked me to do a presentation on this, and so I start the presentation and... we were really presenting that we had to move to the raster scan technology with the direct view storage tube. And at the time, the direct view storage tube, we had a virtual monopoly on the graphics market, and so I get halfway into the presentation, maybe not even half probably a third and he says, "Stop. I don't want to hear anything about Raster Scan, I want to keep doing DVST's."

21:11:29

Pause in Recording

RH: So you were talking about your presentation.

DS: We get in the middle of this presentation and he says "Stop, I don't want to do a Raster Scan, I'm gonna do DVST cause, you know we make seventy percent gross margin on the market." And we tried to explain to him that that market was going away but he didn't want to hear it so, we sort of re-grouped and then... We went back again and finally convinced him and then he hired the current CEO of this company, Gerry Ramey to start this project to do a color raster scan graphics display and we code named it "Unicorn." My daughter actually came up with that name. I was home, I think she was about, she was probably about twelve or thirteen and I said, "We're trying to find a name for this project." At the time, Tektronix, everything was, you know, 4010 this and 7000 series this, and we wanted it to be different. So, we ended up calling it Unicorn, and it probably became one of the most famous projects at Tektronix. We started off, there were like four or us, started this new business unit and we completely changed the way everything was done. You know, it use to take, at Tektronix three or five years to get a product out. We did this in a year and a half. We had set new standards in quality, set new standards in performance, and costs. We set up our own manufacturing line; we did all of the latest, uh. At the time the Japanese manufacturing "just in time" and what they call now, what they would call now [Inaudible to transcriber] or "Total Quality Management." We applied all of that stuff, and we just had this terrific project. We hit every milestone; we made so much money we didn't know what to do with it. We made, I think I'd heard, close to 100 million dollars in sales the first full year of business. We just hit the market at the right time with the right product and it just when "Phsheww" [Makes rocket motion]. It was huge, and that division, I think, ended up 250 to 300 million dollars in business, so it was a huge deal. It was a great project and a great team. You know the face that I'm here now, is because Jerry's here, so. And there's probably five other people from the unit here, so. It was one of those projects that you get once in lifetime where everything goes right and it was just amazing.

Inflexibility at Tektronix

Total Cost Management

RH: You mentioned the term "Total Quality Management"

DS: Yeah.

RH: What does that mean?

DS: Uh, that was a, really looking at the total cost. There was a guy named Phil Crosby. I should back up. There were like three gurus of quality around that time, Duran, Deming, and Crosby. We brought Crosby in to talk about total quality management. And what it means is, looking at the total cost, the total life cycle cost of a product. You know, you can make a product that has no failures in its field, lets say. But if you spend 100 million dollars to do that and you're not getting your return, then so what. So, it's looking at, how do you design a product so that you get return in investments but you meet the requirements of the customer. So, and you look at all the costs. You know, you look at service costs. You know we, we, for example, at that time at Tektronix if a product had a keyboard they would part number every component of that keyboard: every key cap, every spring, every screw, everything. And if a customer had a failure, they would send the keyboard back and somebody would repair it. What we did is said, we're going to make the keyboard so., so, so inexpensive, just throw it away. So, you don't have all those service costs. So we did that, and actually we cut the service costs so low that the service department ended up losing a lot of money because we told them that, they were not going to have to service this product. And they didn't believe us so [inaudible] well, nothing failed because we did such a good job at looking all the quality aspects. We had a reliability/quality engineer that could, could take temperature measurements on a circuit board, on the integrated circuits and failure rates of integrated circuits is based on the junction temperature of the transistors that are in that integrated circuit. So he would measure the temperature of each of the integrated circuits on that board and he could predict mathematically what the failure rate would be. And he could come to us and say, "If you want to decrease, or increase, the mean time between failures to 1000 to 1400 hours, then lower temperature by five degrees." And so we would readjust the airflow on the fans, stuff like that, and get that down. So we ended up with MTBF of 14,000 hours on that product where typical Tech time was 2000, 1000 to 2000. So it's looking at those things, it's looking at um.... You know if you have scrap. You know we didn't have this problem but there was a case was I was down in Wilsonville where we were having really big rejects on the keyboard we were building. So I went over to manufacturing and watch them put one of these keyboards together, well, there was this a lady there with a big rubber hammer, and she would get the keyboard (the actual keys) and then this there was a metal case that went around it. Well the case wasn't designed properly so she had to pound on it with a

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What being a manager meant to him.

hammer. Well, one out of three times she'd bend it and throw it away. That's where we were having the rejects. So, when you're looking at total quality, you look at that saying, "Well, how do we fix that?" Well, you re-design it so you don't have to hit it with a hammer and get the rejects. So that's kind of the principle of it, you look at the whole aspect of the product. Does that make sense?

RH: M-hm.

DS: Okay.

RH: Yeah. So I want to backtrack a little bit and ask, how did you come into a managerial position?

DS: Oh. At? Well, yeah the first one was with the digital analysis. That's a good question. I think it's because I, you know, when I look back at my life I've always been sort of a project manager. You know, from third grade on I can go back and look at projects I did. I like to organize things, and I think it was that, cause I was organizing things, laying out schedules. It was sort of like, "Oh why don't you be the manager?" So, I think that kind of how it started.

RH: What led you decide you didn't like it?

DS: Oh management?

RH: Mm-hm

DS: Oh, the stress on that digital network analyzer. It was tremendous because we put a lot of money into it and the guy who thought it up was one of these really, really, committed tech engineers that, he wouldn't give up on it and he was very upset that he didn't think we worked hard enough. He didn't think we thought of enough things even though we worked and tried and done everything we could. Um, there was a lot of disability at the board level. I mean, we made presentations to Howard Vollum, and the board, and my boss would say everything was going fine even though I'd been telling him it hadn't and so it was just very, very stressful. And I thought, you know, I just can't deal with this I just want to go [Inaudible]. I mean it's who I am, I organize things. I mean I use to organize pep rallies at school, and dances, it's what I do.

RH: So once you became an engineer you missed that ability to organize people?

DS: Well, I think I still did it. You know, I would, I did you know. I was working on a project I would lay out schedules [Inaudible] sorta ask

Color Graphic Display:  
Unicorn. The most  
successful project at Tek.

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AIM

people. You know, project management wasn't a real career at that time. So it was you went into engineering if you wanted to do that, go ahead. People would do it but...

RH: And what came after Unicorn.

DS: Um, well, after Unicorn um. That was when, excuse me, start-up fever was hitting the horseshoe County. You know, people uh, Tom Brigar and Jerry Langhertz spun out of Tektronix to form Methius Mentor. Jean Shatch to form Methius. People at Intel had spun out to form Sequent, and that was just the money flowing in. Anyone who wanted to leave Tektronix or Intel could get funding to start a company. And so, I got hooked up with company called E-Machines which was started by two of Harold Vollum's sons, Larry Vollum and Steve Vollum. And at the time the Macintosh was the cool thing, you've seen the little early ones? They didn't have big displays, so we built big displays. And, oh wait a minute, I missed something. There was something after Unicorn, there was AIM. I should back up because that was an interesting one too. While I was apart of the Unicorn crew I was approached by some guys at Tech labs about the idea of a workstation based around the language "Small Talk" which was a precursor to everything that apple does. It was the first programming language that had windows and a mouse and you know you click on window and open things. It came out of [Inaudible] which was a research lab. So, they had approached me about starting a business around that. I said, okay that sounds really interest. It was really what they had up at Tech labs, they developed workstations. Are you familiar with Sun Microsystems? They were the first company to build workstations which were basically computers with displays. It became very big. And made a lot of people very rich but Tech labs had a similar product working in their labs several years before they came up with this, and what they wanted to do was product that and they asked me if I would lead that. Through a bunch of stuff we ended up getting funding for that from the board of directors to start a business around that. At the time, there was another group at Wilsonville working on workstations that didn't want us to do that, so we had some influence with the board, so we got he board to approve us to do this little start-up. With that and Tech labs, in order to get permission to do it we had to reposition it, it couldn't be a workstation. We had to call it something [Inaudible] so we called it an Artificial Intelligence Machine. At the time there were several programming language that people were using to do artificial intelligence. There was lisp and prologue, so we built this workstation and we called it AIM for Artificial Intelligence Machines and we put small talk on it and lisp on it, and prologue and took it out to market and but it turned out it was a technology looking for market, there was no market. We sold probably, I think we got up to six or seven million

E-Machines

dollars in sales but it was just people buying one to see what it was because they were serious. So that kinda, it reached a point where we could see it wasn't going to be viable so we closed that down. So I was the general manager, and then I became director of advanced product development. Just a small group of people doing research on stuff, and that was kind of, not going anyway. So this E-Machines asked me if I'd like to come be the chief operating manager, so I left, went there. And, that was interesting because I was able to use a lot of the training I'd just got from Tektronix. I don't know if I've talked about the kind of training Tektronix had, but, amazing training. From the time you become a manager to the time you become a general manager they had quarterly programs so I was probably in week a quarter, most my career at Tektronix, I'd be in some kind of training. This was really state-of-the-art top management people from around the country. Whoever had read the latest work that everyone was reading, Tom Beers, Michael Porter, going clear back to early guys in the 50's and 60's. So really good training, so I was able to take all that training and apply it to E-Machines. Especially with marketing and financial planning. The problem with E-Machines was, sooner or later Apple was going to create a big display. There were four companies at that time that were doing big displays for the Macintosh. It was Radius, Supermac, something, something, and E-Machines. We were all kind of the same level. And we were using so many displays and became clear after a while sooner or later either Apple or Sony was just gonna take that market and, uh, we reached a point where they were starting to do that and we couldn't figure out how to reposition the business. Then Steve Vollum hired a turn-around guy to come in and fix the company. And the first thing turn-around guys do is fire all the executives so, I was out the door from there. Uh.. That was after about two and a half years.

RH: And what year did you leave Tektronix for E-Machines?

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DS: It would have been 87, 1987, and that was a huge change for about two and half years until we got tossed out of there. And then, I went to work for In Focus, was hired as VP of engineering. That was a Tek connection, all these are Tek connections, you know. All the people from E-Machines are from Tektronix, all the people for In Focus were from either Tektronix and Planar; and all the people from Planar were from Tektronix. So it was people I knew at In Focus found out I was available and called me up and I went down there, interviewed there, became vice-president of engineering there. And we did some really fun things there, we did... I think I was there about three years, left there in about 93. So it was about 90 to 93, something like that. We got behind; it was like being at Tektronix all over again with the storage tube. WE had this, there's this good management article called... oh my god, I'm drawing a blank, my favorite management article. Well, maybe it will

come to me one of these days.

RH: Do you remember the author

DS: Uh. No.... I carry it with me everywhere... "Marketing Myopia." Which basically says, decide what business your in. And in the case of Tektronix with the graphics with the DVST we talked about being in the graphics business but we acted like we were I the DVST business which prevented us from going to the different technologies. So, we were so hung up on our own technology that we didn't see these other technologies coming along and gonna take our market away, which they eventually did.

RH: And are you talking about In Focus or Tektronix?

DS: Well, Tektronix.

RH: Okay.

DS: But it applies to In Focus, what's interesting is that it applies to In Focus too. So Tektronix it was the storage tube which is our proprietary technology that only we could do. We had this whole factory, I mean basically sand went in one end and CRT's came out the other. And you had gross margins, 70% gross margins and making tons of money we had a monopoly on the market. But here's this other technology coming along but because we said we were in the graphics business, but the way we behave was we were I the storage tube business because we didn't look for other alternatives for displaying graphics like raster scans and other things; that other people eventually developed and eventually took away the whole market for Tektronix. At In Focus it's the same thing, they have this proprietary technology. And when In Focus started what they made was this little box, about this size [motions size] it had a led and it centered on a standard overhead projector, and you hooked it on your computer and it would project. And it was proprietary technology. And they developed a way of using that technology to color, so they were the only, it was like Tek all over again. They were the only people that could do color projections. And they did an initial public offering on that, were very rich, everybody except me [chuckles]. But the founders made a lot of money on it. But then this other technology the Japanese were devolving is what basically is on flat panel TV's now, keyft technology, led technology was coming along and we could see it... but our CEO, the founder of IN Focus really wanted to stick with this proprietary technology so we got behind and our competitor were starting to do stuff with TFT. So, we got into this crisis mode so... One day he called me into his office and said; he listed five products and he said "I want these five products" this was in August, he said "I want

In Focus

42:36

these five products to show at InfoCom” which is a big projector trade show “In January, and I want them shipping by February. Which was like six months; five and a half months. So he said, “what do you need to do it?” So I told him, I said, “Well, Okay.” He wouldn’t let me leave the room till I made a commitment to do so I said, “You know I need this, I need this budget, I need this engineer, I need that.” And I went off and we created this whole program around it called “Days of Thunder.” And we set up stock options, everybody in the company got stock options based on the success of this program. I mean, the receptionist on up, except the managers we didn’t get stock options, but everybody got stock options. We had these five products that we had to get done and there was a certain percent of stock if each one of us completed, and then a ten percent kicker if we got all five. And, we did it. We pulled it off. It was just really cool. We had all kinds of deduction we had “Days of Thunder” cups, and pencils, and little cards. Every week somebody would bring something in. It was just a really blast. I was just really fun to go to Infocom with five new products when our competitors were putting out one. It was just; it was the second greatest project after Unicorn. So, but that was a fun thing. But then we got a new CEO and he and I did not get along and he eventually ended up firing me....So, that was about six months after we finished “Days of Thunder,” so. So, then I went to work for a company called Instantiations, which was a spin off of Tektronix. The people at, the software people from the old AIM crew had started a company called Instantiations that had been sold to a company called Digitalk, so I went to them; worked for them for awhile running a software consulting business. And I was there about two years, maybe... but I got frustrated with the way things were going there so... a kid that my son had gone to school with had created, wanted me to be the CEO of a company called Systematic Designs International which did software for automating wafer fabs; made contracts with Side Logic and several Taiwanese companies who were building wafer fabs for integrated circuits. So that was an even more interesting experience because our CEO, the owner of the company, was constitutionally incapable of doing a straight deal. I mean, everything had to have side deals, I mean under the table stuff. It was bizarre because we had contracts with companies that would; he’d get a contract and we’d be. And they take the money from that contract and use it to fund that project and it got to the point that this one company actually sent people into our offices to sit and make sure all engineering worked on their projects and if we wanted to leave go talk to somebody else, we’d do these, you know we’d have somebody call in say, “Your wife’s sick you got to come home right away.”[Laughs] And you know, we were always short of cash, had to miss payroll several times. And when we’d miss payroll he was lawyer out of town and I had to talk to the employees, so. But you know, I learned a lot from that, that, if you’re honest with people they’ll stick with you. I’d just go to the employees and say, “Here. Here’s how

much cash we've got. Here's what I can pay you this week, you know, if you've got a house payment this week, we've held back this cash, but we can't give you your paycheck till two weeks from now. You know, here's the check that's supposed to be coming in from this customer. Here's the one that's coming in from this customer. "You know as long as we explained it to people, they were good with it. We always made it within a couple weeks. I also learned that, this lady I work with at Tektronix, had told me that with your vendors, if you're going to have a problem paying them you should go to them first. Don't let them come to you and say, "you're late." And I practiced that, I would go the people, we owed them money, I'd tell them the same thing. I'd say, "Here's our position. I don't have anything to pay you." But I'd say "We're gonna get a check here, a check there, a check there. I can pay you this much and..." I only had one person take us to collections, which is also an interesting experience because a guy called me up, I don't know if I'd call that a collection agent, but you know, they yell and they swear at you and they threaten you..." "You need this money right now" and I'd say "Well, I don't have the money." didn't know what to say to that. I said, "I have no money. There's no money." But that was kind of interesting, so. And then from there I'd been, there's another spin-off called Home Row which was a spin off called home row that made, a pointy device for keyboards. I don't know if you've seen the IBM keyboards with the little mouse things in the center of the keyboard, little [inaudible] device like that.

RH: Yeah.

DS: They had developed a thing that actually, um, they had actually built it into a key. So they put it into the home row keys of the keyboard, hence the name Home Row. So you didn't have that little pointy thing, you had a key that actually did that so you could hit that key and the mouse... They guy that started the company and he's just typing along. He'd go like that [hand motion] and the cursors were jumping all over the place. And you'd think, "wow that's really cool." He'd asked me to be on the board of directors. So I sat on the board of directors, and they were not doing well so the guy who owned the company, when I go ready to leave [Inaudible] he hired me as the CEO of that company. And the, uh, I guess the interesting thing there was when I got there I did a few spreadsheets and proved to myself that there was no possible way it would ever be a viable business. And, went to the guy who owned the company, but he didn't want to shut it down he wanted to keep trying so we tried for another two years, I think, before I finally convinced him to shut it down. He put a lot of money into it; he was a really good guy. So we downsized it, we'd been running it about a hundred thousand a month and we downsized it to twenty five thousand; something you can maintain awhile. It ended up selling two-eighty, a Chinese company.

48:11

Home Row

Lightware

RH: Mmm.

And where did I go from there? Thennnn, then I went to another a spin off of In Focus called Lightware which made projectors as VP of engineering. And it was bunch of people I'd worked with at In Focus. And, they had developed the world's smallest lightest projector. And it was a little [motions] about that big. You get em' [motions] this big now. But at the time, last projector at In Focus was probably about that long, about that wide, about that deep [motions size] and then developed a [inaudible term] about that size; had venture capital funding. And so I was hired to develop this new product that was based around a Sony LCD that they had just, that they were in the process of developing. It was hard to do that, and uh, the month after I got there Sony announced a year delay in the LCD so we didn't know quite what to do cause we'd hired all these engineers. So we, we did a conventional projector. This one we were gonna do it was called "Beatle" that's the code name. And it was probably gonna be probably this big [motions size] very small, so half the size, it would have been the smallest lightest projector in the world. But, it all depended on the Sony LCD. So, they delayed it a year, so we had all this research so we did thins kind of conventional projector that was kind of a [inaudible] that just really didn't do much of anything, there was nothing special about it. While we were waiting for Sony for this LCD. And when they did get the LCD to production level it didn't work as advertised so we couldn't, we tried to build a projector around it, but it just didn't have the performance it needed. And then, so I laid myself of and half the engineers and left there. And that company eventually got split up and sold, but you know they were never able to get the projector out because we bet the whole farm on that particular technology. And that's kind of the kind of the story of a lot of high tech stuff. You know, you get this technology and you think it's gonna work and sometimes it doesn't. So. And then from there I statred, I got a consulting gig at Planar Systems which is another spin-off of Tektronix through another connection I had at the HR manage VP was a lady I knew from Tektronix. It's all... I mean Tektronix is just everywhere. You can hardly go into a place and not run into somebody. So I consulted with them for about three months and then they hired me to be the engineering manager for the medical position. And I did that for a couple a years and then they bought another medical company back in Boston and they wanted me to go back to Boston and I said [laughs] "No. Not going to Boston." So ended up laying myself off from there and then... what did I do after that? Then I started a consulting business, we did that for a while. Did some consulting with a few display companies around time and then this opportunity came along. I'd always been interested in non-profits and I'd volunteered a lot in school, stuff like that. There was an organization called the uh.... Is that you?

Interruption in Recording due to a phone ringing

DS: Ah, so the they bought this company, in Boston – oh, I already said that., didn't I? Yeah they bought that so I, I left there, and uh, consulted oh I said that, and then uh, there's an organization called the entrepreneur's foundation, that was started in the bay area by venture capitalists, and the idea was, how do you get a, a community service, community involvement program going in startup companies, because, everybody's busy, they have no money, so these venture capitalists started this organization and what they'd go to startup companies and say "ok, set aside, 3 percent of your stock to the entrepreneur's foundation, with the idea that when you go public or you sell the company, you cash that stock in and you got a built in, you gotta foundation, we'll use that and we'll start a foundation for the company. Um, so, started in the bay area, they had, they probably had, 150 companies that were belonged to it, um, and there's all kinds of studies about why community involvement is good for companies and stuff like that, and it allowed these startup companies to say "hey, you know, we are committed to the community, we've set aside this stock, and if we're successful, all that money is going to come back to the community in terms of a foundation that we'll donate, whatever. Uh, so anyway, they had a chapter that had been up here for about 3 years and the guy was retiring who was the head of that, and I heard about it through and friend and thought "Oh, that sounds like very interesting, because I've always liked networking and finding what's going on so, I applied for that and ended up getting that and uh, did that half time for 3 and a half years, and uh, you know, we ended up having about 1.6 million shares of stock of various companies, companies around Portland, but the problem was that was the time when the IPO market dried up, so nobody was going public and our whole funding model was based on, you know, when I was hired we had stock in this company called Tripwire, that was supposed to go public that year, and we were going to get , you know, our cut of it was going to be about 100,000 dollars which would have covered our operating budget for a couple years, but they didn't go, and they didn't go, and we had all this stock in these great companies, but the IPO market was just dead so we had no funding source so we ended up um, trying to figure out a different model, so uh, you know, we tried, you know, just getting contributions, but that didn't work so we ended up coming up with this idea um, of, basically outsourcing community involvement for small companies, so let's say you have your small company and you wanna, you wanna, do some habitat for humanity or you wanna do a blood drive, we would set that up for you. So we would set up programs for our member companies and I think at our peak we

Entrepreneur's Foundation

56:00

had about 50 companies that belonged to it. We would set up habitat for humanity days. So we'd go out to all our little companies and say, "hey we've got 50 slots at habitat for humanity, come and we'll take care of it, you know we'll provide the donuts and all that kind of stuff." We did, we did that, we did uh, we did, school house supplies, backpacks programs, we did, uh, rebuilding Portland together and some other things like that but. And then, we offered companies that didn't have stock you know for a fee per year we'll take care of all your community involvement. We'll help you set up giving programs, we'll, we'll give you best practices from all these different companies basically, we'll just take care of all your community involvement. Because people were busy, and at the time and I think it's still the case, um, employees are expecting that of a company that they work for, you know and a lot of our companies would advertise on their website, you know, "hey we're a member of the entrepreneur's foundation we give this back to the community" so there's, it had a lot of value, but we just couldn't get enough companies to pay for it, so we ended up, uh, uh, we ended up having to downsize actually because we just basically because we ran out of money, and uh, it eventually just got merged into the Oregon Entrepreneur's uh, I don't know if you're familiar with that but it's a subgroup of that now, and they probably just made a lot of money because Tripwire got sold, and Jive Software I don't know if you've ever heard of that but they just went public for one billion dollars and I think we had, like a hundred thousand shares of stock in them so I think it's probably, it just took (laughs) you know a lot longer than we thought for something to happen but, so I did so I did that. And then, thought I was going to retire. And I'd been in touch with Jerry here at Lightspeed, for, I just sort of followed the company, this company is about 20 years old, he founded it after he left Tektronix, and uh, so every 3 or 4 years I have lunch with him and see what's going on. So he called me up and uh, asked me if I knew anyone who would be like to do some project management stuff and I said "well, yeah, I would," so I came down and did some project management work for him for about 3 months and then he wanted to hire me as a project manager and I said, "no I don't want to be project manager, I'm retiring." So then they offered me Vice President of engineering and stock and stuff and (laughs) I said, "ok" So, I've been here about 3 years, and uh, it's great, it's the greatest company I've ever worked. It's just an amazing company. And we do uh, audio stuff for K-12 classrooms. And uh, So, that's kind of it.

1:02:00

RH: So I wanna backtrack and ask a question about Tektronix really quickly. Um. A lot of readings that I've done describe Tektronix as having a really family like atmosphere and people were very close to their coworkers in the work environment and outside the work environment. And, did you experience that or did your coworkers

Social Environment at Tek

experience that?

DS: Oh yeah, Oh yeah, all my, almost all my best friends are people who work at Tektronix, and, we're all close, we all stay in touch, uh, you know, I hear from people, I just uh, Xerox bought --- I just heard, you know, every time there's a layoff somewhere I get calls. They just had a big layoff; they laid off about 120 people a couple weeks ago. Uh, yeah, you know we're all very close, we actually, we have about every 5 years we have a reunion, we got one coming up in April, it's a very tight community, it was just an amazing company, I mean, the, the training I've talked about was just, I got probably, the equivalent of 3 MBA's being there from like the top people I mean you name anybody who wrote a book, in management, and they were there, teaching a class, so, so you know, we had a program when I first became a manager teaching me how to become a manager and then they had a mid-manager forum, and they had a manager forum, and it was, it was very in depth, you know like week long sessions, very intense so you know that built a lot of talent for this area and I don't know that anybody is doing that anymore Intel might still be I don't know I don't really know anybody at Intel anymore but, um, yeah there was that and um, and you could you know you could ask people to do anything, you know there's stories of people coming off the street and asking somebody at Tektronix if they knew anybody that did printing and they said, "oh yeah we do printing," and, print something off for free for somebody just kind of stuff like that it was just very open, friendly almost naïve from a business standpoint but, did very well, we got about 1.4 billion dollars so, um, and when I was there we had 25,000 employees so it was an amazing company. But yeah there were politics and ugliness like whenever you have more than one person together, so but, it was generally good, and the opportunity to just to move around and do whatever you want, you know, I got to start my own business there, I got to do, you know I ran manufacturing for a while, I got to go to uh Columbia University for a week long course in marketing, I got to be the uh, county executive for uh, Chrysler, I got to go back, I saw the first minivan, before it came off the line

RH: Did you buy one?

DS: No, my kids were old enough by then that I didn't have to. So, but yeah it was uh, and people were very proud to be there, because you could go, I remember going to uh, Toshiba's world headquarters in Tokyo and meeting with one of their senior vice presidents and the first thing he told me and, I'm not even that high up in Tektronix, but we got to meet with these people because it opened up doors and, the first thing he said was, "we don't design anything without Tektronix oscilloscopes," you know. And just seeing that. And, you know, you could go, I traveled in France, Germany, all over Europe, Japan, you know, Tektronix was a

huge deal, you know we could go anywhere.

RH: Did you ever have that feeling again? When you were working?

DS: No, I've never been in a company that had that kind of clout and that kind of reputation. I mean, we, we, I mean, Lightspeed has got a reputation every bit as good as, as uh, Tektronix and and probably better in some senses, but nobody in Portland has ever heard of us, (laughs) you know, I mean, I knew about it but I tell people I'm Lightspeed and, "what's Lightspeed?" you know, nobody knows. But everybody knew Tektronix, I mean, even my parents, and actually they didn't know anything about anything, knew about Tektronix, so it was cool. It was a great experience, anybody who worked there will tell you about it. Not so much anymore. (Laughs)

RH: People that work there now, you mean?

DS: Oh, it's awful now.

RH: Really? What caused that?

DS: They got sold.

RH: Oh Right.

DS: Yeah, right. (Laughs) Yeah it it was, Yeah I think it was kinda going downhill after that, after Howard died. Some of the old guard left, so... but.

RH: When that management transition was happening, was that about the time you left?

DS: Uh, yeah we, I think, let's see, Howard died when I was, right about the time I went down to Wilsonville, and then Earl Wantlin was the president, and then he was replaced with uh, Dave Friedly I think and then uh Felsink, so I was there for Friedly and Felsink, and then I left I think, I think ? Might have been the president then and after that was Jerry Myer and it really changed after that because all those other people were inside Tech people, and he came from the Midwest and brought a totally different kind of culture, so, you know.

RH: What was that? What culture from the Midwest?

Change in management at Tek.

1:02:00

Life in Oregon

DS: Um, suits, white shirts, ties, formal, golf. (Laughs)

RH: So then it's fair to say when you were at Tektronix it was a little more relaxed.

DS: It was very relaxed, yeah it was very informal. Everybody was on a first name basis, you know, you could go up to uh, you could walk up to Howard, you could walk up to, they had open offices in building 50, uh, you know, go up there, Howard's sitting there, Burt Walker's sitting there, Larry Meat is sitting there, there all sitting there and you could talk to them, they'd talk to you, Howard would come around and wander around look at things, and, kinda know what's going on and, so yeah it was good and uh, we had, we'd celebrate things you know when we'd finish a project we'd have celebrations. A friend of mine who was another engineering manager we'd have contests to see who could spend the most on pizza for milestone parties. And we uh, we had like a engineering release for a product, that's when the engineering ? And manufacturers were big parties, celebrations. And then on Unicorn we had a celebration of all celebrations. Yeah, we rented the Marriot and had a huge huge party, because it was a huge deal.

RH: You mentioned that one of the companies you worked for they wanted you to move to Boston but you really didn't want to move to Boston. Is there a reason that you wanted to stay in Oregon?

DS: I would never leave Oregon.

RH: Really?

DS: No.

RH: Why not?

DS: For anything, I love it, I grew up here, grew up in Ashland, my friends are all here, I couldn't leave my friends, so, and I've been to the East Coast, I've been, you know I've traveled all over for Tektronix and other companies and I've just never found a better place to live. Well, one place: Helsinki.

RH: Really?

DS: Yeah, I uh, when I was a planner, we had a office, we had a plant in Helsinki and I had an engineering group there so I got to travel there a few times, very nice. Little town, kinda Portland-like, smaller than Portland and you can ride around the whole town in an hour on bicycle.

RH: Was community involvement important to Tektronix? You think?

DS: Uh, it was, um, you know, I did, when did I start getting involved in stuff? Yeah I did stuff at when I was at Tektronix, um, I think that yeah was still..uh, yeah. That was when I first started getting involved. Yeah, they encouraged it, I mean it wasn't it wasn't, it wasn't overtly, it was like, "if you want to do that that's great, go and do that," So I got involved in, you know, education, uh and the lady that was one of our marketing managers at Unicorn went to work for Portland Public Schools and she recruited me as a volunteer to work there, that sort of got me started in that, and I'm still doing that kind of stuff.

RH: What kind of volunteer work?

DS: Well, right now I'm on the board of directors at Portland Community College. I'm on the board of directors at MESA, which is part of Portland State University, you familiar with MESA? Math Engineering Science Achievement.

RH: Mmm-hmm

DS: And I'm on the board of an organization called [inaudible] which is, started by the lady I worked with at the entrepreneur's foundation that, our mission is to promote entrepreneurship in low-income women around the world. So, we basically got one program going here in Portland and one in Kenya. Teach women basic entrepreneurship skills. Business, management, finance, stuff like that. And then, help them get funding, help them create businesses plan, help them get funding, and then hook them up with a mentor to here in the States to kind of advise them as they go along so...

RH: Did you feel like there was a big divide between your home life and work life? Were you often working on projects at home?

DS: No.

RH: No?

DS: No, not too much. You know, there were a few times, well I mean there were times when we had to work long hours. But, Tek was not intense like maybe some place in the Bay area. One of the, one of the things that venture capitalist say about Portland Or is that there's not that intensity. People like having a balanced life. And that's not what they're looking for, they want people that are going to work twenty-four hours a day, and that's just not the style of Portland. That's not why people are

Volunteer Work

1:08:00

Life outside of work

here.

RH: Uh-huh. What did you like to do outside of work?

DS: Um. Well, I had three kids, so I did that. Did soccer, I don't know how we did that. You know soccer, off every weekend. We barely get anything done on weekends now. So, the kids, and you know I hunted and climbed, bicycled. I did cycle Oregon a number of times and then got involved in mountain climbing with a guy I met at Tektronix until I couldn't do that anymore. And, um, oh yeah played guitar. Stuff like that. Bunch of us from Tektronix, we had a band.

RH: Really?

DS: Wilsonville was called the Information Display Division, IDD. We had a band called the IDD pickers. Bluegrass band, so.

RH: Did you play publicly?

DS: We did. We did. I think we might have had one or two paying gigs. But we weren't good enough, well there were a couple of guys in our band who were really good but they were professionals, I never was. We still get together. There's a bunch of guys from Tek who still get together and somebody's house; play and sing, make noise.

RH: Sounds fun. So, are you thinking about retiring soon?

DS: Yeah, I'm gonna retire in July.

RH: Mm-hm. That should be exciting, congratulations.

DS: I'm half time now, so..

RH: So as you're sort of winding down your career are you thinking about what constitutes your legacy? Do you have any thoughts about that?

DS: Oh, that's a hard one.

RH: Uh-huh.

DS:... Wow. Well, I'd, I'd like to think that I've hired good people and given them opportunities to grow, so, I've... You know the people I work with have generally been successful. I don't know if I had anything to do with it, but you know, some of them I've hired, some of them I've mentored. Whenever there's layoffs I hear from people, and

Legacy

so I like to connect people, network, do references, stuff like that. It's just like, I guess it would be you know that I treated people well, gave them opportunities, and helped them get wherever they wanted to go.

RH: Is there anything you want to add? Any anecdotes?

DS: I've got lots of anecdotes!

RH: Lots of anecdotes!

DS: I haven't even talked about the lawsuits...

RH: Oh wow. Well is there anything, any stories you want to tell or anything you can think of that I might have left out?

DS: See if I can think of any good stories, I always have lots of stories.

RH: Yeah.

DS: I'm getting to that age, you know, where I think I'm this old doddering man repeating the same stories over again. At all my points, I've always had a... if you've done this long enough; you always have a story to go with any sort of point you want to make. I have lots of those... Trying to think if... Well, there's the uh... we were doing a projector at In Focus, the CEO, we were demonstrating it for him and it caught fire, that was interesting...

RH: Oh...

DS: I've been sued for liable. Patent infringement lawsuit. Testified before congress a couple of times on the education stuff.

RH: Was that linked to your volunteer work?

DS: Yeah, I was on the board of... That lady that recruited me for schoolwork, it was when the. It was when the uh...I worked at Roosevelt High School, and we created uh...They were trying to reform the high school and I was kind of the business advisor and actually brought in a this project management guru that I had used and he offer a free course to all faculty; the teachers there. We created a project called Roosevelt Renaissance 2000, which was a ten-year plan for reforming the school around clusters. You had career paths, so it was like a natural resources career path. There was a health services career path, so broken into six career paths. That was when school to work was really the big thing. And so we created this whole program. We hired this guy from Nabisco that came in and set up this whole internship program and we set

Education Reform in  
Oregon

1:14:00

up some pretty lofty goals. We said one hundred percent of the kids to go out on some work experience, because we said we really need to connect, to create relevance, and get these kids in the work place to see the relevance of what they're learning in school. [Inaudible name] set up this really good program where we almost got one hundred percent of the kids out every year, which is a huge undertaking, into... You know, you start off in Freshman year with maybe just a couple hour job shadow and then it would progressively go up to, you know when you're a senior you might have a summer gig. Raised, I don't know, six million dollars in grants. We got national recognition... and then school to work fell out of favor, the administration changed, the money dried out and it was sort of like... that was ten years. It was kind of sad to see that, but it was one of the things I've seen about education reform... There's so much momentum in the system or inelasticity, you can kind of stretch it here or stretch it there, but if you can't stretch it and hold it long enough it's just gonna pop back to where it was. That program that we spent so much time on, once Renee left, it was gone within two years. It was, you know, nationally recognized program. I think that was probably one I did some testimony. And then I was on the board of works systems Inc which was a... there's a national organization Workforce Investment Board, there's the workforce investment act that's a national law that puts money out for communities for workforce development. So, there's, I don't know there's eight or nine regions in Oregon that have these Work Force Investments board, so I got on that board. We had like twenty-seven million dollar budget to distribute in the Portland area for doing work force investment. We had a lot of grants, and I got involved in a liable lawsuit cause I recommend they fire one of the people there; he sued us. But, they took care of it. I've been in a couple patent lawsuits.

RH: At the, at the various start-ups?

DS: The first one I was in was, remember I mentioned home row?

RH: Mm-hm

DS: Well the guy that invested in that was invested in another company called [inaudible] another spin-off of Tektronix, it made a test system for creating glasses to help you view your computer better. Anyway. The guy that started it had hired this sales guy and promised him fifty percent of the profits, which was a ridiculous service proposition to make. So this guy that invested in Home Row, I introduced him to [Inaudible] people and he wanted to invest in that, but he said "I don't want to invest if you have that kind of deal with sales guys." So the founder fired the sales guy' the sales guy sued us. So, yeah, that was my first trial. So, I headed to the deposition, we went down to, downtown. There was judge

Lawsuits

and lawyer. Their lawyer tried to get me declared a hostile witness and the judge said, "Well, he doesn't seem hostile at all." [Laughs] But that was like being on Perry Mason. And the other one was, well actually was with Home Row, which was the other company that got sued. It was a patent infringement suit. That was like Perry Mason too. Our lawyer took just took this other lawyer and just took him to pieces. It was down in Los Angeles, so I went down, and it just. He just took him to pieces. We ended up proving that they had forged a document in that they had presented to the judge. And our lawyer, from [inaudible] is a patent attorney here in town found a forensic something or other down in Corvallis that looked at this document and said that they had taken a black marker and drawn a line on it to make it look, so it would look like ours. And we were able to prove that, and so the whole thing was thrown out. And then, we had to pay a lot of expenses which was like one hundred thousand dollars.

RH. Wow.

DS: That was kind of fun.

RH: Yeah.

DS: Not at the time, but fortunately our owner had deep pockets and he was able to fund that. But they would have put us out of business if we had been a nominal company.

RH: Was that one of the bigger challenges of your career.

DS: No, because we had a lawyer that just took care of it [laughs] and we had money. Things are easy when you have money, or you got investors have money. It's when you're out of money..

RH: Mm-hm

DS: Probably one of the hardest, well, Systematic Design where I had to tell people they weren't gonna get paid, that was probably the hardest. Cause I just spent my days staring at the spreadsheets trying to figure out where I was gonna get the money to make payroll. And pay off our vendors, which is constant, constant stress. That was probably the most stressful job... Anyway.

RH: Yeah. Anything else you want to add? Not that I can think of.

DS: Not that I can think of. You have any more questions?

RH: I have tons of questions, but it's getting to be about four.

1:21:00

	<p>DS: Oh okay, alrighty.</p>
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