



# Geoff Shingles

Interviewed by

**Richard Sharpe**

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*Wellcome to the Archives of Information Technology. It is the 27<sup>th</sup> of February 2017, and we are in the BCS building in London. I'm Richard Sharpe, a long-time journalist covering computing and IT. Our entrant to the archives today is Geoff Shingles CBE, who played an important role in building the Digital Equipment Corporation in the UK and Europe. DEC was a pioneering company, in the minicomputer market initially, and went on to do many other things.*

[00:32]

*Geoff, your first job in electronics as it then was, was in the Mullard Radio Valve Company in south London, in Mitcham.*

I joined as a graduate apprentice, which was a programme very popular at that time for, for new entrants from university, and I spent most of my time actually on digital logic modules which got me interested in computers at that very early stage. No integrated circuits at that time.

*What did you learn there?*

I learnt very quickly that I enjoyed digital logic, because it had no voltages that were likely to cause you personal injury, and, for an electrical engineer I think, that was a great thing at that time. I would say, the first time I looked inside a computer it said 'Beware, 14,000 volts', which was on the cathode ray tubes. So I, my choice was maybe not perfect.

[01:44]

*You then moved to Elliott Brothers in Borehamwood in 1963 to '65. What was your role there?*

I was a development engineer, and I was working on a so-called "shoe-box" computer that was going to be used in tanks, and, I used the experience that I had got on core memories and designed a two-core per bit memory that was high speed and used in that machine.

*Why did you move to Elliott Brothers?*

[pause] More money. I, I was married, and I needed to find somewhere to live.

[02:30]

*So that takes us up to 1965. You were two years there. And then the big move. You moved to Digital Equipment Corporation in 1965, which, I think it had three people in it.*

That's right. I moved, again, to Digital, because, I felt at the time in UK industry, you did not have the access to senior management which was necessary to move forward. So I have to say, I spent quite a bit of my time in the library at Elliott's looking at computer magazines, finding out if I could get a job in the States, and, I wrote to Digital and they said, 'We're just starting in the UK.' And I went to Reading to, to check them out, and spent a day interviewing there. Was offered a job, and that was it.

*As a sales and service engineer.*

Yah.

*Was that your first title?*

Yes, I, it was, at the beginning it was service. So I spent my 26<sup>th</sup> birthday under a computer on the Canadian oceanographic survey ship in Bristol Harbour, fixing a memory, because that was what I, I knew about

*Digital Equipment had been founded in 1957 by Ken Olsen and others, and you arrived at a very good juncture. Your timing is good, isn't it? 1965 was the year that they launched the PDP-8.*

Yup. The first machines that I actually had physical contact with were PDP-5s and I installed a PDP-7 at the Cambridge University Mathematical Laboratory, but, that's right, the PDP-8 was launched, and that was where we really started to make more volume progress.

*Who were your main type of customers?*

We, we positioned ourselves in Reading, which was halfway between London Airport and the Atomic Energy Authority at Harwell, because, our main customers were scientific users, and the Atomic Energy Research Establishment at Harwell, and the AWE, the atomic weapons place at Aldermaston, were our first and major big customers in those early years.

*And what were they using these computers for?*

They, they used them for atomic energy research. They were hooked up to, to atomic measurement instruments. Digital at that time was a scientific computing company as opposed to working in the commercial space.. So we were hooked up to atomic energy, cloud chambers and research instruments.

[05:41]

*Who was your competition at that time?*

At that time, I would have said, our major competition could have been 3Cs, Computer Control Corporation. Hewlett-Packard wasn't in existence at that time of course. But I think 3Cs as it was called.

*And Elliott itself, your ex...?*

Elliott, oh, no no. They, they were really much more associated with, I think it was called the Elliott 803, which is, it was a commercial computer, primarily, and, IBM, again, a commercial computer. But, I think, somewhat later varying associates came into that, that space, but our major scientific computing competition was 3Cs, and, and possibly SDS and Xerox. SDS was Scientific Data Systems.

[06:45]

*Within three years you were Managing Director.*

[pause] I don't know what to say. [laughter] No, I...

*That's a fast rise*

Yah. I, I think that... I, I discovered when I was in my early part of my career that I was probably not going to be the smartest engineer. I was technical capable, but I looked around and I saw a lot of people, honestly, that were smarter than myself, technically or, in the design area. But, I, I found I could get on pretty well with, with people. And, I think that may have been what promoted... That's a very difficult question to answer for yourself; you need to, to check with other people why. But I, I think I've always got on quite well with people, and not... And, being pretty straightforward.

[07:51]

*Now you're part of the corporate structure aren't you, as Managing Director?*

Yes.

*And, Digital Equipment Corporation had a particular culture, did it not? How would you describe that culture?*

I... I, I... One of Ken Olsen's sayings that went, was, do what you think is right. And, so I think we all tried to do that. I think it was a good philosophy. And I, I thought that one of the other sort of trite comments was, you know, it's easier to ask for permission – for forgiveness than permission, was, was very much part of that philosophy. So we, we got on and did what we thought was the, the right thing to do. I mean we were given a lot of, a lot of freedom. I think there were broad boundaries set up that you didn't do, but within that you could get on and do what you thought was, was the right thing.

*So this is nothing like the structure of IBM, with its highly structured and hierarchical structure?*

No. It was, it was different. I didn't, I've never worked for IBM, but I, I've had some visibility of it. But we, we certainly were quite a flat structure. You also had very good access to the senior people. I would contrast Elliott Brothers and Digital. I mean at Elliott Brothers, I worked there for two years and I never met my boss's boss. He never spoke to me. And that was one of the things that I found was really at the time, yeah, stultifying. I went to Digital, I turned up after six months, pitched up to Maynard, and the president's brother, who was like, the second person in the company, had me over to dinner at his house, and he was, he was Stan, you know. I mean it was a very...

*So Maynard, Massachusetts were the headquarters.*

Yes.

*Was in an old mill.*

An old mill, yes.

*And this was Stan Olsen...*

Stan Olsen...

*The brother of Ken Olsen.*

Yeah, the brother of Ken. And I mean everybody knew who Ken was, because Stan would say, 'Well why don't you go and see Ken,' you know, bizarre. Really? Anyway, it was, it was just... Yah, I, I've got a huge admiration for the way that those people ran their business. It was really a nice place to work. I mean, you didn't get away with making mistakes. I mean you shouldn't be, shouldn't confuse with the fact that you could call the boss Ken, with it being an easy place to be, but at least, you know, there were very open lines of communication, there really were. And that was, at that time, I think things have changed now, Richard, but at that time it was very different.

[11:06]

*And you were Managing Director until 1970, and in 1970 Digital Equipment Corporation launched the PDP-11*

Yup.

*And made huge numbers of them.*

Yah.

*Was that an exciting launch?*

Yah, I mean it was. I went to the, to the States at that time, to, to be, I was an assistant to the sales and marketing, or sales vice-president he was, and my job was basically to go down every Monday morning and explain to a chap called Andy Knowles, who was the VP responsible for the PDP-11, how many we had, or, in most cases had not sold, in the last week. So I used to trot down to Andy's office. I was there for a year. I mean, he sort of, roped me in from the field. And I was a messenger, you know, I used to take the bad news down to Andy, why we hadn't sold what we thought we were going to sell. I can see those meetings now Richard.  
[laughs] Used to trot in, and...

*So it didn't go well early on?*

No, I... I mean, it never goes well enough for the chap who's running the business.

Yes.

I mean, in retrospect, it was, it was a rip-roaring success, but you know, I mean, people's ideas of what it's going to do are, are always exceeding... If you don't set a target beyond what you think is going to be acceptable, I mean it's not a target really.

[12:46]

*So you spent a year in Maynard. And you got much closer therefore to the core of the corporation. I understand that Digital Equipment was run as a matrix management structure. What does that mean?*

[pause] Basically, in simple terms, you, you would be part of the sales organisation, so there was a geograph... a functional axis would be sales, service, manufacturing, and engineering. They were one axis. The second axis would be geography, so you were part of either North America, Europe, the Middle East, or, or whatever. And the third axis was the, the product line, as it was then, PDP-8s, PDP-11s, PDP-10s, and so forth. So there were really three axes that you had to deal with. The product lines were the main profit and loss measurement centres. But they subcontracted the work of selling, servicing, manufacturing, to the manufacturing organisations, and the third axis was that they then had to deal with the businesses in the various geographies. And each had their own responsibility. And I think that it was, it was confusing in the sense that you couldn't say, 'Richard, you are totally responsible for this situation,' but on the other hand you had three places to go to sort problems out, and you could, you could dissect the problem, was it the geography was causing the problem, was it the function that was causing it, was it was it poorly serviced, or, was it the product line, was the product wrong? So the product lines were primarily responsible for marketing, and dealing with the engineering people to create the product. Sales and service were, were primarily responsible for delivering to the customer. So if there was a, if there was a customer problem, if you like to look at it in simplistic terms, if it was a customer problem, Ken Olsen would come to me first and say, 'What's going on in the UK?' And the people I had most responsibility for there were the sales and service people. If there was a product problem, he'd go elsewhere. So, I think it was a, a tidy way of dissecting the responsibilities. Does that makes sense?

*Yes it does. But it needs, it seems to me, an awful lot of coordination and negotiation.*

That, that's... Yah, that's true. But, I mean, whichever way you do it, you've got a lot of coordination and, and working around to solve the problems. But I think it made it easier when you 're looking down into the organisation to, to dissect... It worked pretty well.



*Such matrix structures have been quite universally adopted now in industry, haven't they?*

Yah, I think... I'm not sure. I can't talk about that. I think that DEC was one of the pioneers of that approach to setting up a management structure. You know, I worked in it for, for 30 years, and, I think, when you worked in that, you had to get quite used to not having the total ability to say, do this, or do that. You had to negotiate with people. So you couldn't, it was not a, it was not amenable to autocrats. You had to be actually quite a, a sociable person to make it, to make it work.

[17:05]

*So minicomputers in 1970 were getting much more powerful. And there were some people out there who realised, well these are not just scientific and technical machines; they can be used for commerce. So you began to sell to a group of people who were called OEMs.*

Yup.

*Who then put commercial software, such as payroll, on these machines.*

Yes.

*It's ironic, because they're not original equipment manufacturers, they're not manufacturers even at all. They just develop software.*

Value-added manufacture. Yes.

*Value-added manufacturers. Yes, we call them VADs now, value-added dealers. This really expanded the ability of Digital to, to reach out into the commercial market.*

Yah. I think the, the thing that I remember at that time that we were short-sighted on as opposed to, for example, IBM, was that we had, mostly people with a scientific background. I was probably sort of, quite typical of that, that, you know, I, I had come from a scientific and engineering background. So, we were less experienced in

the actual applications which people were now starting to try to use our machines for. But the thing that I feel we offered was, was high quality, reliably engineered, good products, maybe not having all the applications, apps I guess now they're called, that were needed, but, people had felt grasped warmly by the throat by some of the larger manufacturers, IBM, maybe NCR and others, they were, they were restricted by them. You know, IBM at that time had several computer lines and each line had a separate operating system, and then, you know, they, they sold them. We were heading towards the system of one company, one operating system. So I think there was a... If I could step back a little bit now, I think there was, something deeper was going on that IBM didn't understand, we thought we understood but didn't, and that Microsoft ultimately understood, where, we started off with many operating systems and one company, grasped the customer warmly by the throat so he'll look for one company with one operating system. And Digital put its hand up, there we were with it. But what I think Microsoft did that was smart, they came up with one company providing one operating system for many suppliers. And that was where we, Digital, stopped, you know, we didn't move to that...

[20:18]

*Sure. Sure. So you had made, actually, fortunes for quite a lot of people, companies like Systime based in Leeds were a big OEM of yours were they?*

Yes, they, they certainly were an interesting client to deal with.

*Why were they interesting?*

Well, they... We, we actually eventually proved that they were copying our hardware. And, we, we did something that was, was... I had quite big discussions with the company at that time. My philosophy was always, never sell your uniqueness cheaply. And what did we do? Digital actually sold its uniqueness cheaply. We used to sell our processors at a highly discounted price to the OEMs, that was our uniqueness, so we sold... We gave away our software, which was truly unique, and we tried to put a high price on stuff that was not unique, tapes, memory, and added-in stuff. So we got the thing completely, arse backwards, really.

*Round the wrong way, so to speak.*

Yah. [laughs] Round... And, and that, that created an umbrella, Richard, under which the great marketeers could come in. So we, we invited the, the problem, and then got pretty upset about it, and had to go and chase it to earth, which we did eventually.

[22:02]

*What did you learn from being assistant to VP Sales in Maynard, Massachusetts?*

I think... The big thing I learnt was what the, the power structure was, and who, who was influential. It was, you know, it was like being in the guts of an engine, you knew where the well-oiled bearings were and... So, that was a huge help.

[22:27]

*And that huge help presumably helped you, because when you came back to Europe, based in Reading again, from 1971 to '76 you were Managing Director of Northern Europe.*

Yup. I think at that time, you know, the company was growing, so there was a, really a need to put in, a bit more management, and the people that had run successful bits of the business were asked to really help out in the other developing areas. And, you know, north Europe was a potentially very lucrative market for us. Norway was, was particularly, was a particularly scientific-orientated company and country at that, at that time. Sweden was also of the same vein. I mean they, they were sort of, getting to where the UK had been four or five years earlier, so it was, it was really helpful.

*Those were the two main companies?*

I would say Norway... Finland came a bit later, because Nokia at that time was, was not Nokia as we knew it, and then it went away, but, Nokia was eventually a big customer in Finland, but that along later with process control and industrial applications. But Sweden and Norway were, were somewhat similar to the UK.

[24:05]

*And by now, other people were coming into the marketplace with minicomputers. The man who designed the PDP-8 had left, Middelhof[?], and de Castro.*

Yes, and[?] de Castro. That was a bit earlier.

*He formed Data General.*

Yeah, Data General came in.

*Prime came in.*

Prime. HP.

*HP. How did you deal with that competition?*

I think painfully at the beginning, because, Data General... Data General... The PDP-11 was the response to the, Nova computers, which were 16-bit computers. Digital had this slightly strange architecture at the beginning which was 8-, 12- and 36-bit computers, whereas... Sorry, did I say 8? It was 12, 18... Sorry. 12, 18 and 36. And, you know, 8-bit data bytes were the thing. So 16-bit, 32-bit computers were, were really, in a way more obviously easily handled than the... Data General came out with 16-bit computers. I think, Prime, certainly... I'm trying to think.  
[pause] MODCOMP...

*MODCOMP.*

...the name that I tried to remember, were 16-bit. But we came out, obviously PDP-11 was 16, and the VAX ultimately was a 32-bit machine.

[25:50]

*What were your particular responsibilities as Managing Director of Northern Europe? Did you... Was there just a, not just, just, it's big, but, sales and services, or did it include any manufacturing?*

No, I, I think the, the primary responsibilities in the UK were running the overall business that was in the UK. In Norway, Sweden, Denmark and Finland, it was really acting as a mentor and supporter to the, the local managing directors or general managers, whatever you called them. In the UK, I did have a responsibility, again, for integrating the, the functions. So field service, sales, manufacturing, which by then had, had started, because we had Ireland under our umbrella as well, and Scotland had started up. So, I did not have a functional direct responsibility, but, I certainly had a serious responsibility for dealing with the Government and the environment as far as all the functions were concerned.

*Because, Digital had taken some grants and got some, some tax waivers from the Irish Industrial Development Authority...*

Yah.

*...and had set up a plant in Galway.*

Galway.

*Right in the west.*

Yah. Subsequently in Clonmel as well.

*Yes. That was quite courageous.*

Yah. I, I think... We had been under quite some... I mean things were very different then. I was just turning out my, and remodelling my house, and I dug up my passport from those early days, and there was a sheet in the back of the passport where, every time you went abroad you couldn't take more than £30, unless you got a T Form signed. You know, so, there was a lot of pressure on to, to actually manufacture locally. And we did that in the UK in, really quite the early days. I think we would have probably started about 1969, doing some, what I would call really a screwdriver and bolt job of assembling to try and get some UK content. Because there was a very

strong buy British pressure at that time, which seems so, maybe it's going to come back, but I mean, it was very very strong. People wanted to buy our machines, they were the only machines that would do the job, and they were having problems buying them. For example, the, I sold the PDP-8s and a PDP-10 that stress-tested the Concorde airframe. We delivered those products, and there was never a contract signed.

*Because?*

Well, I mean, the reason, because the Government tried, well, there was a thing called Con 84, do you remember that? That they said at the time, the Con 84, if we damaged the Concorde airframe, the company had to be responsible for it. And I said, this is a craziness. The whole idea is to see if you can damage the, [laughs] the airframe. So we, we never signed a... And there were a lot of very tricky things that went on. And then, there were, ruse upon ruse that the Government applied to try and stop buying these foreign computers. I went in front of a Government select committee, and I think it's in Hansard if you look back, where I said, you know, the Government is applying the rules for buying a house to, through Con 84, the rules for buying a house, to making a dog kennel. [laughs] I mean it was a, it was a real, it was a nonsense. You remember that?

[30:05]

*Yes, I do. What did you learn from being Managing Director of Northern Europe?*

Oh, I think, that was my first real exposure to dealing with, you know, foreign companies, and foreign management. And, and I, I got on, pretty well at it. I found that if you didn't try to act like an ugly Brit, it went pretty well.

[30:35]

*And while you were there, as Managing Director of Northern Europe, Digital Equipment came out with DECnet in 1975. Tell us about DECnet.*

God, what can I remember about DECnet? [laughs] Not too much. I think the... '75 that was.

Yes.

I'll tell you one thing that is maybe sort of, well, I can't remember too much of the detail, forgive me. But I remember the first time I used email was in 1976, when the manufacturing organisation had set up a network system for the company where we started to use email with the famous ampersand thing as @. But, other than that, I mean I, I don't remember too much of the detail, other than, it was really the time when you started to think of computers being hooked together, and I, I actually worked with somebody... What went actually before that, we... I worked with a chap in Reading to design an interface which made the, the PDP-8 peripheral, look like a KDF9 tape station, so we could link two computers together. But, you'll have to forgive me...

No...

That's, that's in my... I'm digging things up now that have...

[32:24]

*You then moved to become Vice-President for Marketing for the whole of Europe, in 1976. And, you did that until 1983.*

Yup.

*So, you moved to Geneva, did you?*

Yah. Yes.

*And you're permanently, permanently in Geneva. You had quite a young family then.*

Yup, I had a son who was, well they were five and seven.

*That was a wrench for them, and you?*

Yeah, I was... It was a... It was... [laughs] I'll tell you one of the things that was a huge incentive, was that, in 1973 I was paying, 83 per cent, I think it was 83 per cent, marginal tax. And, I, between 1983 and... Sorry, 1973 and '76, my net purchasing power at home went down by 25 per cent, and I was working harder and harder. And I suddenly had the opportunity to go to Geneva, which seemed like heaven, because the top rate of tax was not 83 but 40. And, there was no Capital Gains Tax. So, I have to say that this was not an altruistic move on my part, but... I mean it's a fact Richard, I mean it was, the tax system then was horrific. My children didn't believe that the tax could be 83 per cent. You know, my sons, they're grown up now.

[34:11]

*And while you were then VP Marketing Europe, it was your job to, presumably, introduce into Europe the VAX-11/70, from 1977, with this new operating system called VMS.*

VMS. Yah, and, the role of that job was... Fundamentally the, the main thrust of Digital was product lines, and functions. So if you looked at it, it was a two-way, well two-dimensional matrix. When you looked at it from the country standpoint, it was geography as number one, probably function as number two, and product lines, you sold whatever you could sell. Yah, I mean that was the way that you were, you were motivated. So, the role in Geneva that I had was really to look, to make the countries look to the corporation as product, or product line and function, and to make the, the company look to the countries as though it was, you know, products and service, and geography. So you had to, you had to do this constant transformation...

*Constantly moving and turning and...*

Yeah, constantly moving.

*Constantly negotiating.*

So I, I went to Maynard once a month. And it was really a challenge of, of how much people trusted you. And, I think I had a, and this sounds like personal too, but, I think people basically, they knew what the game was, but I think they fundamentally trusted



me, that I, whichever way I was pointing, that I wasn't going to screw somebody.  
Which is how you'd like it to be.

[36:20]

*Yes. And the next year, in 1978, they launched the VT100 terminal.*

Oh my God.

*Which you sold in bucketloads.*

Butcketloads, yeah. Well I mean that was before the, the intelligent terminal, or the, iPad or whatever, came into play. So people, people's way of actually interfacing to the computer then was through a dumb terminal. The VT1000 was pretty good dumb terminal. The VAX, which I didn't really talk about much, had come out with the, the VMS operating system, which really was an amazingly popular... I mean this is not DEC tooting its horn, but I think people still talk about VMS in a very fond way, and, and I would say that, at some point you might want to poke at that, that that Microsoft thing that I alluded to earlier, because, I was at a meeting in Davos with Ken Olsen, who, Robb Wilmot, who was running ICL, said, 'Please get me to talk to Ken, you know, we've got to get VMS into the public domain.' And I, I set the meeting up, and I sat in the meeting. Robb Wilmot was almost on his knees, begging Ken Olsen to put VMS into the public domain. He said, 'Ken, just put it in the public domain. Take ten cents a copy. Everybody will be rich. You know, it'll, it'll do the, it'll do the job.' And, there was another Digital executive there who said, 'Ken, don't ever think of doing that. You know, it's our crown jewels.' It was rubbish. It was not the crown jewels. I, I believe that if Ken had taken Robb's steer and put VMS into the public domain, Microsoft would not have come into the existence that it did, because I think VMS would have become the operating system of choice throughout the world. As indeed it did become a significant part of, when Windows NT came out, Gordon Bell was at Microsoft, and Windows NT was basically VMS with a GUI, you know, with a graphic user interface. You know the stuff, don't you.

*But Gordon Bell was a very interesting character, because he was the chief designer of VAX, wasn't he?*

Well, the PDP-11 as well.

*And the PDP-11.*

Yah.

[39:00]

*And, and then, suddenly in 1983, we're jumping ahead, this is when you are in your last year as VP Marketing Europe, he leaves. Did he jump or was he pushed?*

I'm sure he got... He... Gordon... I, I knew him really quite well personally, I'm still in, in contact with him. Absolutely amazingly clever. Digital had two or three people that I thought were, you know, genius level characters, Gordon being one of them. Another was a chap called Tom Stokebrand, who was really an engineer, had an engineering genius. And, no, I'm sure Gordon, Gordon was quite mercurial, Richard, and I think he just, you know, I'm off. I can, I can't put up with it any longer. And, by that time, by the time that he left, there was, well time...

'83.

'83. I, I believe around that time, you know, Ken had, had quite, maybe started to lose his steerage.

*Well something that did make Digital lose its steerage occurred in 1981, with the launch of the PC.*

Yah, we lost that.

*And, the industry structure, although very few people recognised it until later on, had now completely changed.*

Yes.

*It was no longer vertical integration, from chips to operating system; it was now sliced up, and it really wasn't the IBM PC, it was Intel and Microsoft.*

Yup, no, you, you're absolutely right. I think, it went from... I think I, I sort of alluded to it when I said IBM at the beginning was, many computers, many operating systems. It then went to Digital, which was less computers and an attempt to go to one operating system, and with, with that final move, it went to one, one fundamental driving processor. But, it went to many companies and one operating system.

*Yes.*

I think, Intel enabled it to go to many companies, but, many companies making one product, PCs, and one operating system. And that was, that was how I saw it in retrospect shifting. But I think, the point I was making earlier, if Digital had gone and put VMS into the public domain, it would not have been the Microsoft operating system. I think the Digital operating system, the VMS, could have become that, that one operating system.

[42:07]

*And, for some reason that isn't really clear, unless it is that Ken Olsen was beginning to lose grip of the company or lose his understanding of the industry, Digital Equipment tried at least three times to get something that looked anything like a PC that anybody would want to buy.*

Well we had Rainbow.

*Yes.*

The... Oh God.

*MicroVAX.*

MicroVAX. I mean, MicroVAX was the closest thing that could have, could have done it.

*But you didn't. Why didn't you make an IBM-compatible PC?*

I think there were... I think there were too many warring factions inside the company. I mean, by that time I think, there were... [sighs] I look back with some frustration on that time. I think there was very little acknowledgement from the field of what was needed. I was not at that point... I think that would have happened around, about '86, '87. And that was the time when I came back to the UK.

*Yes, you came back to the UK in 1983.*

'83.

*VP North Europe.*

Yes.

*And UK.*

And so, I was really fighting other, other battles, and just frustrated at even further distance from the company than I had been. And you know, I just... I was really looking at a different set of problems. But I, I just think we, we lost touch. We lost a lot of the good marketing people. '87 was I think a time when the stock price was at its highest.

*Yes, '86 and '87, great years of '86 plus. By '87 people were saying publicly that Digital Equipment is arrogant and complacent.*

Yah. And I think, I think we were. I think we... You know, if I look back to that, that meeting... I'm trying to remember when I would have met with Robb Wilmot. [pause] I was still in Geneva, so it would probably have been '82 or '83. And, I think if we had made that move then, to recognise that we had got it wrong, we could have recovered.

Yes.

But I think beyond that point, there was, there was no...

*No recovery.*

No real recovery.

[44:49]

*And at the same time, in the later Eighties, Digital seemed to be trashing its OEMs as well.*

Yah.

*And also in 1988, we've got the IBM AS/400. So you're being bracketed aren't you.*

Yah.

*You know, they've got big machines, they've got the middle range commercial stuff with the AS/400, which is really damaging your OEMs I think, because they had an integrated relational database.*

Yah.

*And they've got a PC underneath it. You are being squeezed.*

We were squeezed, yah. And I think, it was downhill all the way from there, Richard.

[45:23]

*And in 1993 Olsen was forced to retire.*

Yah. And...

*Sad day, do you think?*

Absolutely. I, I...

*Should it have happened earlier?*

I personally believe that he... I can... I remember some things going on that left me feeling very uncomfortable. I went... I wish I could remember exactly which year it was, but we had a big shindig in Boston.

*DECworld.*

DECworld.

*And you had it Cannes.*

*QE2.* No that... Cannes came later. DECworld... And, that was when I was photographed on the back of the *QE2* in the picture that, the archive picture was, was used. But, at that, I remember being very disconcerted by having a meeting with, with Ken, when he talked to me about Europe and what was going on there. And I, I just felt very uncomfortable. I felt that the whole tenor of things inside the company had changed. It must have been pretty soon after that that he, that he left.

[46:46]

*You were being squeezed in another way as well, a whole market that could have been yours, which was the workstation market.*

Yah, that was Sun.

*Three Rivers and Sun,[inaud].*

Sun, [inaud].

*It was Digital's for the taking, wasn't it?*

Yah. I mean, these were some frustrating things for people in the field who were not totally... Yah, we should have done that. We should have had... I think it all went wrong when we didn't... [pause] We were arrogant. We... That whole thing about saying that the, VMS was our crown jewels, was I think addled thinking. I think Robb Wilmot understood that, and I think at that time Ken's powers of understanding, which were largely hardware driven, I think he was much more a hardware guy, and at that point I think that the direction was going much more to software and standard hardware, Richard. And I think he, he had lost his, his clear vision of which way we should go. And he was persuaded, he was definitely persuaded, that they were our crown jewels, which I think a lot of us had... I mean I, I would desperately like to have seen VMS in the public domain. I think...

[48:21]

*So he was forced out in '93, and you left in '94. Is that a coincidence?*

No, I had given up by that time. I... Actually, my decision to leave was made in, in '89. I, I talked to a, a chap called John Robins, who was the head of, I think it was Guardian Royal Exchange, and I said that, you know, I was at that time 48, or so, I said, I'm wondering what I should do. And he said, 'Well, young man,' he was an older chap, he said, 'basically, if you quit at 65, it's, there's nowhere to go. If you quit at 60, people look at the tyres, and say, there's no tread left, you know, so you're left with nothing to do.' He said, 'If you quit at 65[sic], they'll say, yah, a few more miles on the clock, you can do something.' So I, at that point... I mean he was a wise... Somebody I respected. And, I said... I said to the company, 'I am going... Be advised, I am going to leave when I'm 55. I'd like to...' I had been there, I was, you know, it was my life, Richard.

*Sure.*

So I said, 'I'll leave at 55,' and at 55 I did. But it was something that, I didn't leave because Ken had left. It was, it was encouraged by him leaving I would say, but that was the plan.

*That's the first part of the Archives and the contribution of Geoff Shingles. We'll be back for his life and career after Digital Equipment Corporation in the second part.*

[pause in recording]

[50:09]

*We're back at the Archives, with the contribution of Geoff Shingles. He's now 55, and he spent 30 years in the same company, Digital Equipment Corporation, and he decides to leave. And then he joins Imagination Technologies. What do they do?*

At the time that I joined them, they were manufacturing graphics boards that you plugged into a PC that, that drove computer graphics. They had their own software, and they were manufacturing the boards. I had got in touch with them through one of our OEMs that I was with at Digital who had recommended that, that I joined them, to Derek Maclaren, who was the Chairman at that time.

*And you were instrumental in getting them a full listing on the London Stock Exchange in July '94?*

Yah. I, well I, I wouldn't say I was instrumental in, in that. I actually joined them at, at their request, as they were looking to, to get expertise onto their board. So I joined them as Deputy Chairman.

*And then, in December 1995 you were Executive Chairman.*

That's right. Derek Maclaren, who was the, the father of the CEO, resigned, and I moved into the position of Chairman, as had been planned when I, when I came on board.

*And you managed to stabilise the company.*

Yah. I think the, the thing that we... We made a change in the CEO at that time, and put onto the CEO position Hossein Yassaie, who was then CEO until a couple of years ago. A very very talented, bright engineer. I did actually take the role of



Executive Chairman for, I think it was about a year or so until Hossein had got into the, the driver's seat, and at that point I stepped back. I was Chairman and CEO for that short period, and then I stepped back and became Executive Chairman.

[52:49]

*So the chairman often has to deal with the City.*

Yes.

*And you were dealing with investors, and you were talking to shareholders and calming them down.*

Yah, that was a new experience for me. Having, I had plenty of experience dealing inwardly in the company down through the management structure, and upwards, through the, the US corporation at Digital, but I had not had that public company experience.

*And you became much more visible now, so to speak, in the City. Because you began to take on roles as non-executive directors.*

Yah. I, I had done that... Fundamentally, I wanted... I had always enjoyed small companies, and the opportunity to develop them, because that's what I did, I think with some success, at Digital. And, so I took on several roles as well as my role at Imagination, which I, I guess was sort of, 22, it depended on the time, but it was never more than 40 per cent after that first year, and when Hossein took charge.

[54:09]

*And you joined the advisory board of the ESRC, Centre for Business Research, in May 1995, University of Cambridge. So you're really getting around now, aren't you?*

Yah. I, I, that was, again, I think it was all the experience that I had gained at, at Digital, had got me into this broader environment. And, people were looking for help

and advice based on the experience that I had had growing a small company from, from three people to something, 4,000 people and significant billing.

*So you were mentoring people?*

Yah, that... And I think, and obviously, in honesty, Richard, that was what I did best. You know, I was, I was not a, a Gordon Bell or a Hossein Yassaie, but I think I was a good, a good manager of people and organisations.

[55:11]

*So what is the Shingles approach to management?*

[pause] I... [pause] I was trying to think of the, the simplest way. I guess... Somebody made a trite comment that you. everything's possible as long as you don't want to take the credit. And, I really believe that, that works. So I think that's one thing that I've... Yeah, I, I really don't care how I get there, as long as I get there. I, I don't need somebody to pin it up on the wall and say, 'Well Geoff did that,' or Geoff did the other. I don't, don't really... The result is, is a lot more important than your having it pinned as a badge.

*Did you introduce a matrix system into these companies?*

[hesitates] Not everywhere. I think at Imagination we had some of that. I think that in small companies, it's not really as necessary. You know, in small companies.. If you can, if you can have one capable person get their arms around everything, then I think you, you find that the matrix approach is a, is an overhead that is probably too much to bear. But in, in Digital, we got to around... I'm trying to remember. We were probably about 2,000 people, and, well, the size of the revenue is sort of irrelevant, because, times have changed. But, when you get to around 2,000 people, then you have to start to think about a different way of managing.

[57:00]

*You led Speed Trap. What does Speed Trap do?*

The... The company is involved with capturing very efficiently big data, and it's, it's now actually been sold to, it was called IS Solutions, who have now renamed themselves, rebadged, as D4t4, which, if you do it in capitals, looks like Data. But, we, we had a unique way of capturing all the data which you collect on your website. So, it's in that big data environment. But the, the way that it got used was really to make much more, much greater efficiency in, big clients, retail, banking, and, it made big inroads into that.

[58:08]

*What's the biggest mistake you've ever made?*

I think that I sensed at that meeting in Davos, with Robb Wilmot, Ken Olsen and another senior executive at Digital, I sensed that that was the wrong stance to adopt, and I think, I should have dug my heels in, and thrown my rattle out of the pram at, at that point.

[58:48]

*What are you most proud of in your achievements?*

I... I think... [pause] I made no enemies. I had, at the end of the time at Digital we had to let people go. We were, in quotes, 'downsizing'. And, I had to let people go who I felt were friends, and that I had been responsible for, and, I, I didn't end up bad friends, or having them regarding me as a particularly bad person. I, I think that, we managed to, to deal with people in as humane and sensible a way as possible. I think I feel good about that.

*Thank you very much for your contribution to the Archives, Geoff Shingles.*

[pause in recording]

[59:53]

*We're back at the Archives of Information Technology. And Geoff Shingles is going to talk to us about his personal life and his background.*

*Now your paternal grandfather was a wheelwright. Your paternal grandfather was a farm labourer. Your father's occupation was a painter and decorator. And you went to university.*

I think I was the first person that escaped from... I was brought up in Norfolk. I went to Nelson's old school, which was riddled with naval tradition. I, Norfolk was a place which, I've heard it said was cut off, at the time when I was born, cut off on the, the north-west and east by the North Sea, and on the south by the LNER.

*So, normal for Norfolk.*

Normal for Norfolk. And I was really a country, a country lad.

*You went to a primary school, yes?*

Yah.

*You were born in 1935.*

'39.

*'39. Excuse me. Of course, yes. I misread that. Up in Norfolk. The 9<sup>th</sup> of April. And you then went to a primary school for six years.*

Yup.

*And, you managed to get your Eleven Plus.*

Yup. That was, there were a few of us did it from that, that primary school.

*And you say, you had three brilliant teachers.*

Yup.

*Were they inspiring for you?*

Yah, I mean, totally. I think... Well you know, classes were small, there were probably, 30 kids in the school altogether. So we were in classes of, ten. I mean, at that time people in Norfolk didn't move around. My mother went to school with the lady who was my first primary school teacher, and, they really did take a personal interest in what you were doing. The headmaster was, was, you know, very interested in the things that I was interested in at that time. An only child, I was very interested in wildlife and science and stuff, and, you know, made a microscope with his help when I was a kid. I mean, I, I was just really interested in what was going on around me. Being an only child, I, you know, the, the interesting stuff was what I saw when I wandered around the fields and the lanes, birds, wildlife, butterflies.

[1:02:34]

*What do you think you got from your parents?*

I think that... My mother left school and went to work as a, a domestic, when she was probably thirteen or fourteen, but she was a very smart lady. I mean she was really very very... I look back, and, she was very clever. Her brother was smart, my uncle, very smart. I mean he, he left school at the same time. He taught himself logarithms and... Just, remarkably good people. So I think, for my mother, was living sort of vicariously through her only offspring that she had when she was 38, so, you can imagine...

*Late, a late baby.*

A late, I was a late baby, born at home in, just before the war. So I mean that was a miracle in itself in a way. And, my father was a much more relaxed, affable, personable sort of, sort of bod. So I, I think, you know, I, I hope I got a bit of my smarts from my mother, and a bit of charm from my dad.

[1:03:58]

*You then moved to a state grammar school, from 1950 to '57. And you did nine O Levels and four A Levels. And this was Nelson's old school, and it had a military background.*

Yes, very much. I mean we, we used to march, not proper marching, but, we walked, when you went from class to class you didn't wander around. You, you actually lined up and went in a block. I think you wouldn't call it a platoon, but, a block. And, all the masters were ex, ex-military, and... So it wasn't a place that you mucked about a lot. But, I, I loved it, it was great.

*Did you enjoy the Combined Cadet Force?*

Yeah, very much. Yeah, that, yeah I learnt to... I flew a glider, learnt to glide. Fired .303 rifles. All sort of stuff that kids love doing. I mean, it was, it was, it was good. I loved sport. So it suited me, it suited me down to the ground. It was, it was the sort of education that I've had to pay 30 grand a year to get my kids. I had it for free, under a Labour Government, in the worst of economic times, you know. We're doing a poor job now.

[1:05:22]

*And '57, you left, you went straight to Leeds University.*

Yup.

*And, you were there three years. You got a scholarship for that. And you did electrical engineering.*

Yup.

*Leeds University is not Norfolk.*

No. I... I really wanted to go somewhere different than I had experienced. And, Leeds then was still sort of, post-industrial. I mean, it had tremendous smogs. I can remember going, trying to go to the cinema on Briggate in Leeds, and, I mean the

smog as so dense that you had to feel your way along the wall. And when you got into the theatre, you could hardly see the screen, the smog was inside. When you rode, as we rode our bicycles, to go, then where the creases were on your arms, it was black, you know. It was really terrible. But it was, it was a great place.

*You enjoyed it?*

Oh yeah, absolutely.

*Now you said, it was great staff in the engineering school, and there was a particular professor who had an impact upon you, Carter.*

Carter. G W Carter.

*Why, what was the impact?*

He was... He was actually very... He was sort of a soft guy; is the way I would describe... Very softly spoken. Very... I mean, just a very nice, gentle man. He was, he was much... He was very different than the masters that I had had at school, who were all pretty sort of, they seemed like battle-hardened warriors, you know, and here was this somewhat priestly man. He was, Prof Carter was more like a, a priest who, who knew... A true academic. Everybody loved him.

*And that's influenced you quite a bit?*

Yah, I, I... I guess, you know... I can't remember sort of, consciously thinking it, but, you know, I think there were, that convinced me there were, there was more than one way to, to be and be influential with people. You know, I'd got pretty influenced by these, these tough nuts who were, I mean, they really were, they were old army captains and, so forth. And, and yet here was this priestly man, who was just as good.

*So you learnt that you could do things in a completely different way than necessarily you'd thought.*

I would say so. Yah, I think he was... He just had a different way of dealing with people.

[1:0811]

*I don't see any National Service in your CV.*

I missed it by a month. I, I graduated in the June...

*Do you regret that?*

...and, it happened in, May. At the time I was thrilled. In retrospect, I would... My, my son, eldest son, was, became a fighter pilot. And, so I think in retrospect, I missed something. I missed something.

*What do you think that would have been?*

I, I... I just look at the, the comrades that he has been left with as a result of being in the military. I think, the military does do great things for people's network if you like. I just had lunch with this, this chap who, who became, he was a Fleet Air Arm officer, pilot, and, yah, I mean, a naval officer, so, you know, he became an admiral, he was the first Commander of *HMS Ocean*. I mean, hundreds of, of good people as a result of being in the military. I think it's a great club.

[1:09:34]

*So you were 30 years in Digital. Over 20 years after Digital, carrying on with your career. Where is the technology going?*

I, I think, you know, I was in the technology at the time, it was the Wild West of, of computing. And I, I ended up at a time when it was, you know, had lost some of the, the, yah, the Wild West characteristics. Where it, where it's going now. I, I can't remember feeling there would never be enough memory to, to deal with what we were trying to... I mean, we're actually trying to make computers as human as possible. I mean that's the, the thrust of it, is to give it a human interface. And I think that, the amount of memory you need to give it a human interface is limitless. I was very



fortunate to be involved with video, graphics, and, you know, that part of the, the interface which is, I think, only just getting, getting started. So I, I believe that, you know, the directions that are happening now, if you take the, the human interface, what's being done with computer gaming, it's now very much thrusting itself into the, the areas of, of robotics and artificial intelligence. So, I, I think we're headed towards a direction where we do have computers more and more like humans, and doing human things. People are clearly concerned about the, the way that they take over jobs and work, but that's been like that ever since, well you and I started, Richard, I mean we were concerned, you know, you did away with office jobs, you... I think there's still, people still have this fear about computers taking over the world. I don't think that that's going to happen. But I do think that they will take away more and more of the, the less interesting work, and hopefully... The thing I fear is if we don't educate people enough to, to take care of the things that computers are doing today which we used to educate ourselves for. Does that make sense?

[1:12:27]

*It does. And when you are not working, what do you do?*

I spend time, a lot of time reading, and looking at what I should be doing with my ill-gotten gains. So I keep... I mean I, I really believe, if you invest, you should invest in things you understand, so I spend a lot of time looking at the industry, and watching that side of things. Somehow, one has to earn a living still. I've got a young daughter, and, commitments. But, in terms of what do I do other than that, I, I like to play golf, a bit. I like to paint, a bit. I read a lot. And, I think I'm just, looking at what's happening. I take a line, I'm not political, but I, I'm very interested in what's going on in, in the world in general.

*Do you still sail?*

I do. I just sailed for a week in the Grenadines, but I don't pull ropes much any more. I've got a bit of arthritis, so I... But I did enjoy that. But it's not so much fun now, you know, GPS has taken all the fun out of sailing.

*Well you know where you are.*

Yah, but, the art of it before was making sure you knew where you were, to the best of your ability. Now you know where you are without having any ability. As long as they don't switch the bloody GPS off.

[1:14:09]

*And, you like watching rugby. You're a rugby fan.*

Yah, I watch it a lot. I, I used to play a little bit, very badly, but I, I watch that a lot. I think Eddie Jones is a marvel.

*He's a mentor of yours do you think? What would you learn from him?*

From Eddie Jones?

*Yes.*

Ah. I...

*He's the coach for the English team.*

The English team. I just think he's... He, he deals so adroitly with the media, and, I, I think he's, he's just more cool than I was ever able to be. I'm, I would guess I had... I think, I think he's just more measured than I ever was. I don't know if that strikes you. I think he's got a very measured, thoughtful approach. Amazing man manager.

[1:15:06]

*A young person coming out of university or college today, what would be your advice for them to start in the IT sector?*

Get your hands dirty. I think we desperately, desperately need female engineers. I really do. I think that, if you can... Before you decide to go into the more commercial side... I'm saying, this is what I found was so useful, if you can speak

from a position of technical understanding and strength, I think that, that stands you in great stead when you are dealing with, you know, potential clients, partners, and so forth.

*Thank you for that advice. Geoff Shingles, thank you.*

Great.

[End of Interview]