

Speak & Spell

I hadn't planned that my first post should be about Speak & Spell, but last week I was in contact via LinkedIn (www.linkedin.com) with my first ever boss - Irfan Salim. Irfan was always marked for success and after setting up Lotus (Lotus1-2-3 remember?) in Europe, he has gone on to lead many successful companies and now does the same living in San Francisco.

But back in 1981 he was the Marketing Manager for Texas Instruments Consumer products division in Bedford, England and he hired me fresh from university to be marketing product manager for Education Products. My portfolio included a few handheld calculator type games, plus the much more expensive Speak & Spell and its stable mates. And this led to me becoming recording producer and editor of the English Speak & Spell.

I had joined Texas Instruments with a group of about 30 other graduates, and just like them I was told that for the next 2 years we wouldn't really have an active role, but were to just acclimatise ourselves to the company. We'd be moved around to see how things worked. That's not how it was for me, I was put straight to work - and I liked it. But it was a challenge and I had to learn fast.

On my 2nd day I was given the Argos catalogue (a major customer) and asked to write all the descriptions for my products to go in the next issue. I was told a good description can raise sales by 25% and there were tight editorial guidelines. In my second week I had to script the TV advert for Speak & Spell.

Speak & Spell had been on sale for a year or so and had enjoyed moderate success, but there was a feeling that sales might have already peaked or that it was not going to keep selling for much longer.

After 3 weeks Irfan asked me "what are you going to do to make it sell for another year". (Don't forget I was still a raw recruit) I mumbled something about making it sound English and he agreed. 2 days later he came back and said "you've got \$112,000 at your disposal, I need it in full production my April next". It took me a moment to work out what he was talking about. but so began my journey to create the the 'English' Speak & Spell.

{mospagebreak title="Recording"}

First of all we needed a word list. Whilst we could easily use the American word list I had found letters on file from a few educationalists complaining that the words were wrong and suggesting

better lists. I took the easy way out and agreed, and travelled to Newcastle to meet a Professor (I can't remember his name), get the new list, and crucially make sure that there were no rights issues with the list.

Then I had to select speaker. This was fun, the agency set a session to hear a number of male* speakers who could do the recording. I chose John McGuin who did a lot of voice overs and was a BBC Radio 2 news reader.

* At the time a female voice could not be rendered by the speech chip, we all knew that it would improve the product if we could use a female voice.

We both had to travel to the only digital studio we knew of in Europe at the time - which was the Villeneuve Loubet facility of Texas Instruments (near Antibes, France), and I got to be the producer. This seemed strange to me, I was surrounded by recording experts; but only John and I knew how to pronounce the words in an English style and so I was producer.

That was that ... so I thought. But I was wrong.

{mospagebreak title="Editing"}What we recorded was a few megabytes of digitally recorded speech.

It was so easy to write that - but back then the concept of a megabyte was mind blowing and no-one I knew had ever heard of digital recording.

Speak & Spell only had a 16k ROM to store the speech. 16k was massive in those days and it was inconceivable to add more without a huge price rise. So we had to get a few megabytes into 16k. Enter the genius of Larry Brantingham who, along with a couple of colleagues, had patented the technology in TI's speech chips.

The technology called LPC (Linear Predictive Coding) took samples of the sound and invented (predicted) the sounds that had happened in between the samples. This is the same way all digital sound systems work today. CDs use samples taken every 44,000th of a second but in those days the sample rate was much slower at 10th of a second - therefore the amount of 'prediction' was higher. In short the sounds went off to be processed and compressed and came back - as garbage. Not only that it was about 24k of garbage - so it had to be shrunk even further.

The only way rescue the sounds and shrink it further was manually. What do I mean? Well each 10th of a second of the sound had a single line of code to describe it, as I recall there were 20 numbers on each line. From left to right these numbers described the position of parts of the mouth of a someone saying that tiny 1/10 second sound. Therefore a "P" would have lower numbers in the left hand columns for the first few lines to describe the lips being together. But the rest of the columns would have to be right to get the desired effect as they described the position of tongue, shape of mouth etc.

This detailed, line by line, 1/10 of a second editing had to be done on every single word to make the product work and sound right. It was a very specialist job, and only two people in the world where trained for it, but neither were used to English speech. It would have been fruitless for them to do the work as we'd just end up with another US sounding product. There had never been an English digital speech product made by anyone, this was going to be a world first.

It was my project, and time was moving on. So there was no other option, I had to give up marketing for 3 months and do it myself. I taught myself the rules and locked myself in an anechoic chamber in Antibes for 3 months and get the product ready. Because if this I cannot bear to listen the product even now. I remember the word 'butcher' took 3 days - I still don't know if it sounds right.

I delivered the product, andI also helped complete the French, German and Italian versions of Speak & Spell too. They offered me a move to Dallas but I demurred. I had had enough of this - I wanted to get back to marketing.

It was quite a first 6 months at TI!

{mospagebreak title="Upshot"}

And the result?

Everyone was deligthed by the UK version, and it went on to be sold for at least another 5 years (we hoped to add 1 year to its life).

What's more it held its premium price point when other cheaper copy-cat type products arrived on the scene. It was in 'English' and they were all in 'American'.

NB: A few weeks later I was forced to listen to some of my work, as samples from the product were used by a number of (then) popular bands in their singles - including Depeche Mode and Orchestral Manouvers in the Dark.