

My 411 days' Journey to FCC Front End Certification — 10 days after I turned 74

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Image 1: Scientific computer from design published in Wireless World (1979)

When Did I get the Bug?

In 1979, a design for a scientific computer appeared in UK [technical journal, Wireless World](#).

It used a one year old, 8bit, Z80 processor — a real change from mini computers. It also used another floating point mathematical processor to do the sums.

So a real dual processor kit.

It had an amazing 3Kb of EPROM and 5Kb of RAM (using 40 chips). Sending instructions to the processor had to be in raw machine code.

*[Reproduced from Website of medium.com](#)

As an electronics engineer, building the kit was not a problem. Getting it to do my bidding was something else.

I just about managed to write a small routine that put some stuff on the screen. Sort of a notepad. 1Kb of EPROM had the language, BURP (Basic Using Reverse Polish).

About Me

I have just crossed my 74th threshold: 10 days before I completed my Front End Development.

I live in Croydon, near London, UK.



Image 2: My retirement from the broadcast industry

After spending 30 years as an electronic engineer in broadcast industry, I ran a **video production company** for 13 years.

My twin boys are both in IT industry. Twin-1 is a full stack developer. Twin-2 ran his own company for a few years and employed a few developers but now he works in project management and customer relations.



Image 3: Southwark Cathedral London (2010)

Down Memory Lane



Image 4: Video Genie System

Early 1980's saw launches of various Z80 based computing devices. I think Tandy TRS80 was the first one. About the same time Commodore launched Pet but was very pricey.

About a year later, a Hongkong based company launched TRS80 clone, **Video Genie**. This was much better because it had built in cassette recorder for loading programs written in Basic. I managed to write a little Basic routine so that my wife could use it as a point-of-sale to record and store transactions.

Still, loading routines and writing transactions to cassette tape took looong time.

So when a 5.25" external floppy drive was made available, I had to have one. The floppy disks were single sided, single density with storage capacity of 100Kb, 40 tracks. (this format matured in later years to offer storage of 1.2Mb on double sided, high density disks).

The Video Genie machine had to be opened up, solder various connections to the circuit board and fit an edge connector.



Image 5: 5.25" external floppy Drive for Video Genie & Raspberry Pi 3

It really became a productive machine when VisiCalc (visible calculator) software was launched by Dan Bricklin, while still a graduate student at Harvard Business School.

Mr Gates had been busy and soon we had IBM compatible clones on the market. One had to go through all the flavours and in the early 90's, a full size PC card was available (a snip at £2,000), to enable me to move to computer based editing.

In the mid-90's, large(!!) HDD's became available and I could move to complete nonlinear editing.

4GB was huge increase but for real time play, 8bit word had to be split in 2 x 4 bit words, to be acquired from 2 matched 4GB hard drives, costing £1000 each.

Another £6000 got me the HDD controller (Fast DPR) to pair with the editing card.



Image 6: Connor (later to go to Seagate) 4GB matched pair

Have n't times changed

I should be on the Internet

Back in 1998, I took an early retirement from my career as broadcasting engineer and set up a video production business. I asked twin-2 whether he could help me set up a website.

A web development software from Macromedia was set up on my windows95 PC and I was shown how to create pages and link them.

All went reasonably smoothly and I published my professional website. I was really pleased with the result and thought it was the bee's-knees.

I look at it now and think, Yuk!! Did we do that?

As I got adventurous, I kept asking the twins about various changes we could make.

So on my next birthday, I was presented with [Teach Yourself HTML 4 In a Week](#). Unfortunately, the book's claim did not work for me and I did not get past Day 1.

Video Editing Software

In my upgraded [editing software](#), there was a facility to perform certain tasks using scripting. I asked twin-1 whether that was possible and could he help.

On his next visit, I was handed a floppy disk with C++ manual and said this might help. I printed it out, as one did in those days.

There were lots of pages.

I must admit, I never got past page 1.

Preparing For My Retirement

As I had more time on my hands, about 5 years ago, I decided to start and host a Family Genealogy site with an [off-the-shelf software](#). The twins helped to customize the home page and get it published.

It was not exactly what I wanted. There was [plug-in](#) for Wordpress. This published the genealogy pages in Wordpress wrapper. Twin-1 helped in getting the whole thing set up. Twin-2 redesigned my [Wordpress home page](#).

In conversation, Twin-1 mentioned that one could write an API (new word for me) to talk to genealogy database and one could have independent Wordpress forms.

First Foray in to PHP world

So, Twin-1 started bashing the keyboard and had a skeleton API running in a short time.

"You need to write user stories, Dad, before I can do forms for you".

"What is a User Story", I asked.

I was given a link to read up.

Actual [Wordpress plug-in](#) took a couple years to complete with Twin-1 going hot and cold with this project, longest time taken was getting the user submitted data in to DB.

This was my introduction to PHP. I spent time looking at his code, cutting-n-pasting to create populate forms.

How Did Free Code Camp happen?

It was the last day in September, last year, and I was visiting Twin-2. I mentioned that the Wordpress Plug-in was now done.

I mentioned that our plug-in was now stable but [plug-in](#) that rendered genealogy pages in Wordpress was a bit erratic and not supported. It would be nice if One could rewrite it. Perhaps if I learnt PHP, I could have a go.

“There’s a course on the net by Free code camp. See if it’s appropriate for you”
 So, I had a look, liked it and signed up, on the day.

Starting Free Code Camp Journey

Starting was quite painless.

I did have to look up syntax for every line code, including HTML comments line. Still, 17 days to get to the end of Object Oriented & Functional Programming was pretty good for me.

Twin-1 suggested that I should only use the MDN site and avoid referring to W3schools or stackoverflow site. In fact, he threatened to block those sites.

I am glad he did not do that. Although I would look at MDN site first, a quick way to check syntax was to visit w3schools. Stackoverflow was the next stop if w3schools did not help.

I enjoyed building the **Portfolio** page. It was my first HTML page. Lot of stuff was by trial & error. I see there is a lot of redundant code there. I must revisit and do a clean-up job.

Then, things slowed down. For some reason, I had had a problem with Caesars Cipher but I managed to get through most of the other challenges.

I was About To Give Up

I got Random Quote Generator to behave as it should. All I had to do was to get the quote into the tweet field and send it.

It did not work properly. I could tweet on my first attempt. But had to refresh the page if I wanted to tweet the next selection.

So I gave up.

Two months later, twin-1 was visiting. I mentioned that I had not done any work on the course for 2 months as I was stuck.

He looked at the code.

“HTML can not refresh by itself, Dad!! You have to do it.” “How do I do that?”

“Javascript has to do it”

“But... I am doing it”

“No. Do it again. using `getElementById()`”

So a line at the end to send the new quote did it and it worked.

I still did not understand

how to use `getElementById()`.

how to use functions

how to use callbacks

Ray of Hope

A month later, I discovered that there was a **FCC community group** in London. I debated whether I should join
 whether they would be too amused to see an old codger like me doing this course

I should not have worried. There were 4 other students at the meeting.

They were very inviting and helpful.

It was the best thing I did. Just talking to like minded people is not only helpful, it gives encouragement and impetus to carry on.

It is really nice to see 20+ coders attending monthly meetings.

Couple of months later, I joined **another group** which met every week and it was a whole day affair. This turned out to be my saviour. Little things which I could have spent time correcting, was spotted with good explanations. All the coders at both the meetups are really friendly and helpful.

Without their help and support, I would not have been able to complete my Front End Certification.

Issues That Got Me Stuck

- It took a long time to understand how Javascript & HTML communicated with each other. It may be obvious to most of you but to me, it took a long time to understand `getElementById()` was a 2 way process.
- Neurons in my brain have made connections for serial processing and are rusted in that mode. It is taking a long time to get them to reconnect to process object-oriented, multitasking.

But I am getting there.

- Algorithm solving has been a mixed bag. Some have been reasonable to resolve, using logical thinking and then Googling to find ways of solving. I have spent lot of time just staring at the screen to understand what I am supposed to do.

question.filter(brain)

has been the problem.

- When I started, I had great difficulty understanding the function of functions. I was really struggling climbing this steep learning curve. Then I saw an explanation on Free Code Camp Forum:

“Treat functions as lots of closed boxes. Just open them to retrieve contents, as required.”

Obvious but that made a new neuron connection.

My Final Lesson

Now I know about treating functions as boxes. So on my last project, Simon Game, I created all the functions I would need.

The game worked — up to a point. After a couple clicks, the game developed a mind of its own. I was convinced I was on the right track, so just kept going back, re-coding.

So I asked on the FCC forum:

Gave up and asked my Twin-1.

“Dad!! You are not telling the functions what to do , when done”.

So that excellent analogy of functions as boxes had the final bit missing. Most of you, would probably take it as read but for me that was a very important lesson.

Do close the box after retrieving the contents.

Finally

Starting with Free Code Camp was probably the best thing I did. The knowledge and dedication of the teaching staff is outstanding.

The participants, especially coders I see at meet-ups, are friendly and helpful.

I am glad I started this.

I still can not get over the fact That I have got my Front End Certification.

Final recognition of my ability came from the twins, last birthday:

Raspberry Pi 3 with Linux preloaded.

Thanks Boys If you are thinking about joining,



Image 7: Front End Development Certification

Go For It

Comments

Quincy Larson Dec 3, 2016 Excellent overview of your journey so far, Mahesh!

Congratulations on earning the Front End Development cert!

Also, I'm thrilled to hear you found London's community of new developers to be so welcoming and helpful.

I've shared your story on our forum. I'm confident your tenacity and enthusiasm will inspire many other people who are learning to code.

Jamie Lee Dec 3, 2016 Congrat for the achievement!! This is so inspiring and came to me in a much needed time.

As an “older” learner, plus one with zero computer studies background, I’m struggling BIG time to get through the basic lessons at FreecodeCamp.

I have been wondering, on a daily basis, if I’m making a fool out of myself. And will I ever see the light at the end of the tunnel? But reading your article here, it gives me hope and encouragement.

Persistence and Perseverance are the ways to go. Plus giving myself time and patience to build up coding skills.

Thank you again for sharing your coding journey, my fellow Coder! :)

Mahesh Dec 3, 2016 I am pleased you found some inspiration in the article. As you have said

Persistence and Perseverance are the ways to go

Believe in yourself. As they say it not the destination but journey that matters.

Loi Laing Dec 3, 2016 Loved reading this. Congrats to you! Twin 1 sounds like my exasperated son when he’s trying to explain something to me that he thinks is “like so simple mom”.

Mahesh Dec 3, 2016 Thanks Loi Laing. You are absolutely right. He does make allowances but, then there are limits.

beantown_man Dec 3, 2016 You Sir, are an inspiration. Awesome. Now i need to get back. i also have stumbled. need to move on.

Jas Dec 2, 2016 Great article Mahesh. Interesting for people that think you can’t learn to code (or learn new skills) at an older age. Very detailed article with sections of coding that I’m sure all have gotten stuck on! Are you planning on moving beyond the front end section now?

Mahesh Dec 2, 2016 Thanks Jasraj. It was your article and your prompt that got me to write this.

I am looking forward to my journey through the 2nd level.

Your enthusiasm had rubbed off on me.

_SashaJustice Dec 4, 2016 Wow, what an awesome story! Congratulations, you are an inspiration:) I’m a twin myself(twin 1) and I have twin brothers(2nd set in family) as well, so it was fun reading how your twins helped. Keep doing what you’re doing and you will have unknowingly helped so many people along the way:)

Mahesh Dec 4, 2016 You are truly blessed, Sasha Justice. There are 4 of you in the twin brigade:) I am really lucky and blessed to have my twin boys: Both are at the top of their profession in the IT industry. Thanks for your encouragement.

Alecia Dec 5, 2016 There are so many good parts of this story! I enjoyed reading it. Glad you kept going.

“So when an 5.25” external floppy drive was made available, I had to have one.”

It’s so funny to think about floppy discs now and all the data we stored on them.

Mahesh Dec 5, 2016 Alecia, I consider myself to be extremely lucky to have grown with the Moore’s law from inception. I remember taking pictures of the IBM computer screen to get graphics in to my videos.

I am so glad you enjoyed it. Writing skills come well below my coding skills.

Paul Munro Jul 8, 2019 Awesome story - gives me much motivational material - as well as technical.

”retrieve the contents of the box and then close it afterwards”