Rizk Hanna

After one month of hard preparation for interviews, I got an offer. It was an amazing moment when I got it and signed it. Creospan is a small-size recruitment company located in Schaumburg IL, and they do have their own internal projects beside their main aim -Recruitment-, which gave me the change to join their valuable development team and develop applications to the market for about two month till I began working with the client.

During this period, I got a very unique experience living within an American society, interacting with them, and learning their culture, and being self-reliant on the other hand. I somehow overcame the cultural shock and learned the American value, and their way of life. Simply put, life in United States of America gave me improvement in every single aspect of my life.

Finally my life became more stable when I was accepted in GN-Resound Hearing Aid Corporation, The biggest hearing aid instrument provider in US joint company with Denmark. Our office is located in north suburb of Chicago, small peaceful and beautiful town called Glenview. I am working as a senior software developer in the Fitting Software Group. One of the biggest development groups which develops fitting software for the hearing aid instruments. The group consists of fourteen developers from different countries besides six testers and the UX designers.  They are all great and friendly.

During my training, I was able to solve system defects and implanting new features besides the training, my manager was very concerning about my professional performance, and was wondering about how someone from the other side of the world comes to America, learn its culture, and be prepared to work as a professional in less than a year. Of course it is achievable with Maharishi University of Management -The most professional intercultural and multinational place in the world-. Inside MUM, I learned the professional way of appearance and communication. I have been taught every single peace of information needed to build such a professional productive worker.

Now I am applying what I have learned from MUM and what I have learned through my real work environment in US. Although MUM professors left a significant impression on me, they taught me an incredible knowledge in computer science field, in real life there is always something different and something unpredictable. Most importantly they taught me how to do less and accomplish more, the ability for easy living but most productive using the Transcendental Meditation technique.

Yes it is impossible to gain like this knowledge outside MUM.

Ok, before I talk about the Operating System course, I will briefly go through my on campus courses and explain how they participated in my carrier success.

I started with Modern Programming Practice, at the beginning of the course, I brushed up my knowledge and later I learned the programming principles as well as designing. In my opinion, I consider this course as one of the main preliminary courses that must be taught for the best preparation to the rest of the blocks.

The next block was Compiler; I already got an introduction to this subject in my Bachelor, but at MUM I studied and went through more advanced levels like the syntactic analyzer, type of parsers; LL & LR, and eventually the expression tree which helped me a lot to understand how the compiler is working and definitely to be special between my working team. I can remember a situation when some of my friends posted an image of two different calculator on Facebook, the two calculators were giving a different results however they were have the same input equation, I commented on this post explaining the different between LR and LL parsing which revealed the mystery behind the different results, and eventually they were impressed by my level of understanding at this point.

After that I studied Science of Creative Intelligence. It was a nice experience to discover the TM technique and how it is so powerful to solve any problem by reaching the source of it. I also discovered the value of the Creative Intelligence and how it is connected to every aspect of life.

The subsequent block was Parallel Programming, One of the main important subjects that obviously affected my programming style. I learned how to use modern dual and quad processors into its maximum potential. In modern programming world, parallel programming is increasingly important and efficient. To be one step ahead of our company competitors, our software must be faster than other competitor`s software, so we apply the .NET`s parallel programming concept into our software. I am happy that I am able to write parallel programming applications and being able to face this challenge.

Algorithms, It was my next block. This is the main reason for being employed in a big company. Learning data structures and calculating functions complexity were the main gaining from this block. Briefly, I got four algorithm questions at my second on-site interview, and without studying this course, simply *No Hope*.

Algorithms course is not shortlisted for successful interviews only, but it also has a significant effect to help you pick up the best data structure to be used into your code. Speeding up the application doesn’t mean split the application between multiple processors, however we have to learn how to optimize the usage of one processor as efficient as possible.

Eventually Project Management, This seminar gave me a jump start to be a professional developer which has a full background about how the project should be managed and processed. During my temporarily work with my recruiter, I applied those concepts to help in writing professional project documentation and to follow up with the customer till we successfully delivered this project.

Now I want to introduce the technologies that we are using inside GN-Resound and how the Operating System has a substantial effect on my success. The company has its own framework which is written in C#.Net and we are using WPF with the same language to develop and enhance this framework. We have many software brands like Aventa, Solus, Costco, Appraise and NHS which being sold all over the world. (Our software was translated to 32 languages). Every brand is released with two new software versions every year. It means we have to release at least eight new software packages every year.

As I mentioned above, during this short period, I could learn how the system is working, fix a lot of defects and also develop new features on this system. The most interesting part is I am providing code enhancement which would dramatically boost the performance.

One of those enhancements was refactoring a function that reads from a file many times to compare its content with other files to resolve the conflicts. The reason behind the multiple read was complex and dedicated to the parent class at this point. But because I am an Operating System student, I understand the massive performance degradation behind the context switching and the IO disk accessing, which briefly leads to trigger the OS to call the scheduler to pick up another process to work till the IO request being satisfied, followed by a chain of interrupts to load the file content into the memory and eventually triggering the process back again and read some registers to let it continue from the point it left over.

Sounds complex correct? Imagine this cycle has to be repeated dozens of time, unacceptable design at all for a person who understands OS. At this point, I could provide better solution which allows only one access to the file and does all the processing on the main memory. My manager appreciated my enhancement and he decided to include my modification with the upcoming releases.

Finally I would like to conclude my essay by thanking Maharishi University of Management and its professors, staff, and everyone who left a fingerprint on my life to be pushed into a professional successful life, and also would like to thank everyone who gave me this great, once in a life time opportunity.

THANK YOU.