De-mystifying Technology

Technology *-- An application of science, especially to industrial or commercial objectives and a scientific method and material used to achieve a commercial or industrial objective.*

As simple as technology sounds, its development and creativity is new and its often mystified by its creators to command premiums, Sun, IBM, Computer Associates and everyone else on the top ten list have used variations levels of jargon and hype just in order to sell more technology.

Everything that is new is risky, be it a new relationship, a new investment or a new product and its only time that can tell whether the product claims can stand up to its name.

In the late nineties due to y2k=year 2000 millennium bug and higher stock market valuations given to technology stocks, the feeling of risk was further hyped up in order to sell more of technology.

Sun ran advertisements of dot bombs falling on those who had failed to recognize the benefits brought about by their solutions and presented technology to be complex and hence of value and the industry continued to churn out various jargons on a daily basis to define simple processes, we had names like php, xml, java, C++, j2ee, .Net for programming languages and b2b, b2c, b2b2c, CRM, ERP, Supply Chain and web services for business processes, the real truth in all of these were and are one of the same that each of them had very little to do with the real execution.

All this sounded like rocket science to most company's management teams as they were business veterans and they knew very little about technology.

The Strategy worked and allowed vendors to pick up more sales and premiums for their products and created a scenario where excess technology build up's occurred and now companies had more technology in their inventories then they were actually being used, similarly today almost every home has a computer which is still underutilized.

The same goes for the Internet, today we have much more available bandwidth then we actually use, it's estimated that total traffic on the net today is about 15% of its total available capacity and with the wonders of technology we are now pushing even more load into smaller packets, which in essence is driving our utilization even lower.

Now the next logical step for the industry to do is to de-mystify technology and by doing so, two things will happen. Technology will become simpler to understand so that the man of the street will be able to make full use of it and secondly prices will collapse even further, pushing break even points for infrastructure developers even farther away and this may lead to further gloom in the world stock markets.
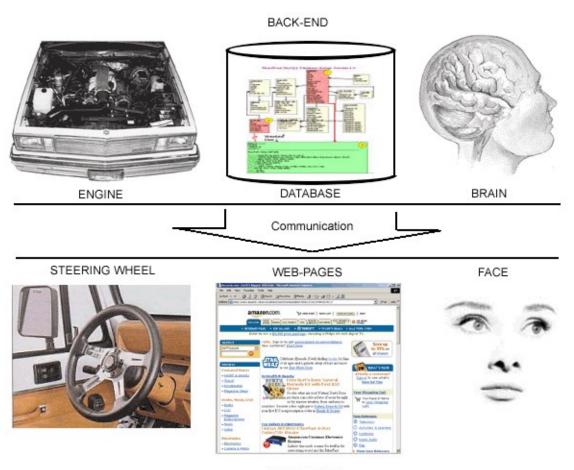
While this on one end is a great opportunity for budding technopreneurs, it spells great trouble for the huge corporations who have become complacent on the fat premiums they have been feeding upon so far.

Secondly as the man on the street learns to utilize his computer more efficiently and completely, it allows us to soak up the excesses that we have build upon, therefore de-mystifying of technology is the key.

'The winners of tomorrow are yet in the making and success is in for those who recognizing them. Here's a tip, they go by the name **iTechnopreneur**'

As with any other process, Technology has a buildup of two main components, one been the brain and the second the GUI or 'Graphical user Interface' as it is better known, for a sports car the engine is the brain, it makes the car go faster, it gives instructions to the other parts of the machine which makes the whole process work.

Similarly with the Human body, we have the brain, which is the engine, and the rest of our body is the GUI, it's via this GUI that everyone that comes into contact with us, uses it to communicate with us and tries to tap and make use of our engines.
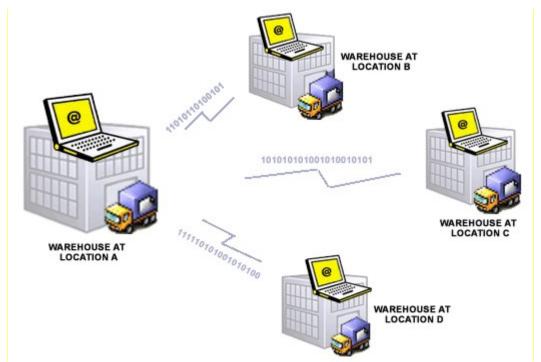
With technology the process is no different. In the scenario of a software application we have a front end and back end. The Front end is the GUI, Which gives the back end (the brain), it's presentation and its function calling buttons, it's this front end that instructs the functions to the back end's to process and output information. Without the front end, no matter how good the back end is, it will never be able to communicate and function as efficiently, similarly a front end without a back end is of little or no use.

Software back ends are basically are built up of a database; we are all familiar with database products such as Oracle, Informix, SQL 2000, Postgrel, MYSQL, Interbase and so on. Think of a database like a warehouse and its indeed an intelligent warehouse, it stores information and has the ability to process and compute information as and when required.

This warehouse which is also the brain, is intelligent enough to know that the information required is within its realm or not and if not, then based on its knowledge, it can tap into other warehouses that may have the information required, provided that the other warehouses have registered with the main warehouse and has informed it where to find the data it may require.

Such a warehouse can also distribute load, memory, processes and data with other warehouses all with one objective in mind, to make the requirement of information seamless and efficient.

The only limitation is computing power and bandwidth that is required for connectivity and we currently have plenty of it.

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Think of a front end as the steering wheel of a majestic sports car, it has the power to turn the engine in the direction it wants to go, it can make it pickup speed, stop and controls the backend entirely.

With the human body, our front end is the eyes, mouth, hands, and our basic specs we use to communicate, the brain then has other organs that allow it to distribute responsibilities for the whole system to work in tandem.

Technology is no different. The front end is your browser, the main face of the software solution the end client looks at, where he has the main menu, tools, options and help buttons, all connecting to the backend (the engine) via the steering wheel.

The Internet in essence is that 'Front End', businesses currently use the Internet to keep tap of all their warehouses which may be residing all around the world and this process is referred to as Supply chain.

A Supply chain connects to their sales department, their inventories, their suppliers and outputs an efficient exchange, based on which orders can automatically placed with suppliers as when there's demand from the sales department or allows for cutting down of buying and suppliers order's, when demand may be slacking.

Businesses are now going a step further and are creating a web exchange where suppliers can bid for the corporation orders and the best offer and bid can be matched, saving the organization thousands, millions or billions of dollars a year.

Similarly Companies can keep tap of all the entire workplace, connecting all their human resources, customer services center, manufacturing, sales, and many more of these as warehouses, so that data is seamless, at all levels and can be accessed by all within an organization.

The key here is to ensure that loss of data or double entry of data does not occur and this way corporations, are cutting down on redundant processes and saving on unnecessary costs, while at the same time building up an efficient operational workforce and enhanced customer services center.

As markets become competitive, they tend to become very much customer centric and development of a key customer advantage becomes the key business strategy, companies today want to know who are their best customers, what are their spending patterns and how they could use this series of data to boost sales or make better product decisions so that they could suit those customer's needs.

It's estimated that in any given organization, ninety percent of their revenues are from ten percent of their customers. The key for these companies is to identify who these customers really are and how they could retain them and build up a key customer advantage. This process is called Customer Relations management or CRM.

With customer relation's management, the key is to become a trusted source to the client, so that the client can look upon the organization when in need and rely upon. All of us have that trusted company or individual we turn to when we require them. For example this trusted source could be your barber, for most people don't like to change their barbers, cause they are aware that he knows best for them, he understands your style, your cut, timings you usually frequent him and so on, all this data is important and its with this information, the barber has become the key trusted source for the customer, the problem is when businesses grows to a certain size, the barber may not be able to recall as this information with ease.

In all of these systems, the process is the same, giving data to the brain to store, the instructions and rules to process and the front end to manage the whole process. The key value derived by the use of technology is information storage and it is this information that gives us the insight to opportunity and

makes us to identify problems and directions, which results in decision making, enhancing our businesses, management and deriving total efficiency.

In conclusion, every software solution available today has these two components, a backend (database) and a front end (GUI), this makes up the foundation of the application. Now add data and processing rules and you have an instant intelligent system that can do just about anything, add to it networking capabilities and it can share and become more intelligent and resourceful.

In this last couple of decades, every individual or corporation has amassed a huge pool and wealth of data, it is this data that can be put to good use with technology and derive future value from it.

By adding the data to the backend, programming some business rules, adding some connectivity to share data among other warehouses an intelligent business application is derived, but in essence all of them are the same.

If you can grasp this, imagine what you could do if you had no limitation of computing power, the data in the system is your resource and your computer is your basic number cruncher, just like the human mind, we can only remember a limited set of events that have occurred in our life, if we could remember what happened ten years ago, 20 years ago and maybe a 100 years ago and shared with us via our fore fathers, we could translate all their mistakes into possible opportunities and derive better efficiency. Now imagine if you could share that data with the entire human race via networking with computers all across the globe, the results could be mind-boggling.

Technology is no more alien to many of us, but most of us have not been able to envision its directions. We have already taken the first step, which was innovation of technology and its computing power, now with that achieved, the next step is to de-mystify the process and boost its usage.

Very soon schools all over the world will begin teaching computer programming at early ages to children's and in reality, this process is already underway in some schools, but currently in limited numbers and the growth here is enormous and yet to catch on.

Its this trend, that should see teachers teaching computer programming, similarly to how we learned about math's, geography and science in schools and this is what will make technology further de-mystified, what looks complicated today is no more complicated tomorrow, individuals like you and me will be able to make better use of our computers and benefit from the entire process.

Its estimated that in two decades or so, there won't be any more positions such a computer analyst or a programmer as everyone else should be able to program efficiently and evidence to this fact is the trend towards new simple development tool kits for programmers which is already in a drag and drop format, you don't have to know a lot of code to write a program, all you can need to know is the right commands and process them. This should give business managers an edge as they can now program their business requirements, which many software programmers and code writers lack today.

The best inspiration for the future of technology comes from Hollywood, if you saw star wars two decades ago, you would remember the little box that captain clerk and his gang used to communicate with each other and today that small box is our mobile hand phone and its going places with blue tooth, wireless, GPRS and the works.

Similarly in a recent movie called Bicenntial Man, which starred Robin Williams as a robot who had a quest to change from a machine into human and he eventually became so, therefore just like evolution,

we have yet a very long way to go. But judging by the trends of technologies under development, the day is not far when computers will take up much more roles in the future and we have to envision that and figure out what else we could do with that humble machine at home.

As humans we have always been afraid of change, in the earlier days many called Bill Gates the evil master who had sold his soul to the devil and who in return was rewarded by the devil by making bill the richest man in the world. If so, all of us are associated with the devil in some way today.

It's this state of denial we have to avoid and accept the fact of evolution. In a research article by Hans Moravec[1] on Robotics, he states that performance of Artificial Intelligence machines will improve and match that of a human brain by year 2020 his judgment is based on the manner technology innovates and the required speed and processing power required to match a human's brain.

Machines with human like performance will make economic sense only when they cost less than humans, say when the brains can cost $1000 or less and till that time, we could use them to crunch physical and mathematical numbers only.

But this trend is surely underway, in Japan there are already toys which are Artificial Intelligence capable and these small robotics pets can smell, hear and touch, they have camera's as their eyes and infra-red to tell them distance, the trends are headed towards Bicenntial man and the best we could do is to ensure we get there sooner by exploring more of our own human minds which too is greatly underutilized.

The Internet has just opened the greatest door to our intellectual capabilities and it's sharing its knowledge with all of us, allowing us to decrypt, process and efficiently build up that value creation and intellectual pool of resources, which we can harvest and profit from it.

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[1] *When will the computer hardware match the human brain?* Dec 1997 by Han's Moravec, Robotics Institute, Carnegie Mellow University, Pittsburgh, PA 15213-3890. USA