The Future of Information Technology

THREE ARTICLES

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Greeks and our Diaspora

Information Technology in the maritime industry

The Future of Information Technology

Ulysses Systems Publications
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Cover Illustration:
Mills performing lightering operations for tanning leather, Chios.

The Future of Information Technology

" Rigid, ontological and hierarchical and rule-based relationships are not the only sought-after goals for well-rounded software skills development. There is a host of examples indicating the need in software for what, in this article, we have described as the common sense approach to design. Another way of describing this approach is the necessary resilience and flexibility to cope with the constant need for important decision making. "

About Ulysses Systems

Beginnings

Ulysses Systems is an investment in the software vertical by a shipping family with history going back to the early 19th century, founded in 1996 by Dimitri Lyras, an engineer with a vision that software could assist in managing the enormous variety of information and coordination requirements of the industry. Domain expertise had to be the catalyst for “industry-specific” software, initially addressed to domain experts in the Maritime Industry. Software that could effectively demonstrate competence and provide decision support with a goal to promote a culture of continuous improvement.

Product Design and Patents

Our Product Design developed in joint projects with leading experts in the field of cognitive science. And has at its core an understanding of how human beings perceive and process information; a software architecture that is truly user centred and software that works the way people do.

From 2012 Ulysses Systems produces unique and patented technology for continuous data model extension and integration, which are now being incorporated into all Task Assistant ® Maritime Products. And they are also being applied in new verticals.

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Ulysses premier product, Task Assistant® Maritime Software Applications, has proven its value in the Maritime Industry where timely access to relevant information has a high impact on revenue and reputation. Task Assistant® enables office and seagoing personnel to work intuitively and efficiently with minimal training and just-in-time information. Managers should expect a fast return on total software lifecycle cost thanks to mature process optimization, bridging of information gaps and refined integration technologies.

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The Future of Information Technology

Two contrasting approaches affect the future of information technology

Two contrasting approaches affect the future of information technology especially in the maritime industry. At the AMMITEC party, 6 June, during the Posidonia 2024 Exhibition, Ulysses Systems founder Dimitris Lyras stressed the suitability of Mediterranean thinking for information technology going forward. He boldly or perhaps too boldly predicted that in 30 years Greece would lead the IT industry worldwide. His prediction may seem like sound bites but there are samples of rationale based on previously published material that indicate that it was not a fleeting thought.

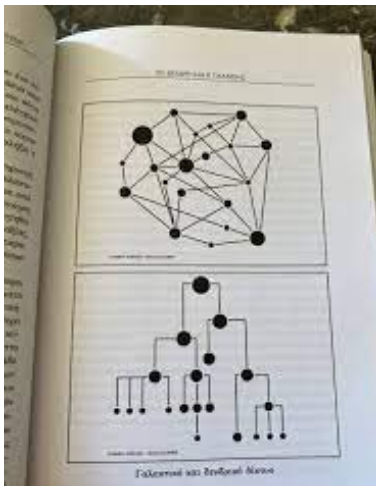
The two articles quoted here are commentaries on Professor George Prevelakis' book, Xylina Teichi (Wooden Ramparts), published by Economia Publishing, January 2020. Xylina Teichi (Wooden Ramparts) is a scholarly and insightful overview of geopolitics and how the Greek mentality has succeeded and failed in politics and growth around the world. Professor George Prevelakis maintains that ramparts must fall and that the future of Greece is opening towards sea routes and flexible networking.

Biases toward structure versus biases towards fluidity and adaptability

As a core theme, Xylina Teichi (Wooden Ramparts) elaborates on the different mentality expressed by biases toward structure versus biases towards fluidity and adaptability. The author uses the terms 'tree form' and 'galactic' to name these two contrasting approaches. His authority on the subject comes not least from his permanent membership as ambassador to the OECD.

The two contrasting approaches to understanding the world

There is a diagram in the book that shows the two contrasting approaches to understanding the world. These figure between the hierarchical ontological thinking typical of North European (tree form) culture and the graphical, multi-linked common sense culture of southern Europe (galactic form). Also, a related work by MIT professor, Michael Dertouzos, mentioned in the book, discusses why and how technology should be made to work for humans. It goes on to state that until this goal has been met the computer revolution is 'unfinished'.



This contrast in mentality, as described by Professor George Prevelakis, is perhaps a little too black and white to describe human attitudes as most people likely use both methods of thinking. But his book requires this contrast to make a profound development in understanding Greece and geopolitics. It also points to the differentiation between scientific and North European preferences in describing the world, in contrast to the merchant and South European ways of looking at the world.

Contrasting approaches in Information Technology

These same contrasting approaches exist in information technology between the scientists and the merchant class, common sense thinkers. Notably, over the last 50 years, it is the scientists who have led in pushing forward the development of information technology. While the merchant class, common-sense thinkers demand but also contribute to making information technology understandable and thereby more useful to society.

The current article contribution

The current article discusses how the two contrasting approaches affect the future of information technology, especially in the maritime business. First published in two parts in 2022, in Economia magazine*, here Dimitris Lyras develops the debate further and first introduced it in the frame of this year's Ammitec party at Posidonia 2024 Exhibition.

*Since 2023, Economia has changed owners and management

The rigidity of information technology

Most of us have experienced the rigidity of information technology and not only the IT end users. But also, significantly, as true IT experts and core enablers of information technology proliferation in shipping. As such we have observed that end users in Greek shipping have from time to time found IT too much trouble for the benefit it offers. This is especially true for the top management of Greek shipping companies, involved in so many problems and opportunities that information technology does not touch. For example, concerns such as how to renew their fleets under the current environmental targets, how to face their chartering opportunities, interpret local market activity, etc. So when we envision the future of information technology the rigidity in IT should preoccupy us.

Information technology as an enabler

However information technology as an enabler is what IT was meant to be. What it is destined to be. We see the huge potential of information technology. We believe it can become an ever improving enabler for the Greek shipping cluster even at the board room level, perhaps even more so than for shipping clusters elsewhere.

More importantly Greek IT experts have the potential to become world leaders in managing maritime IT across the enterprise fleets they manage. And Greek software engineers have the potential to become world leaders in software development, not just in shipping but in all industrial sectors.

The reason for such confidence in Greek software developement is the suitability of Mediterranean thinking for information technology. One of the virtues of Mediterranean thinking is the practical way of life that favours learning from experience.

Greek shipping is founded on common sense

Therefore, the fundamental reason for these bold and perhaps over optimistic sounding predictions is the premise that Greek shipping is founded on common sense. In other words, instant situation awareness when faced with risk or opportunity and immediate problem-solving, no matter how challenging. It's a mentality of passion, even to the point of sacrifice.

So, the proposition that Greek shipping is founded on common sense may well be a proposition for information technology going forward. That IT can be founded on common sense sounds radical perhaps. But the challenges of IT going forward in all areas of human endeavour is very much about how IT fits in with people's thinking and working, their understanding of the world and how they solve problems. Situational awareness, i.e. tuning into people's focus of concerns and the world around these concerns are highly developed skills of the Greek shipping community. And the Greek shipping IT community is an integral part of Greek shipping.

The scientific bias

As already mentioned, the bias towards scientific specialization positions the latter as superior to science based on common sense, which arises from personal and communal experience. So it comes as no surprise that common sense is not a term used widely by the broader IT community, or at least not in association with software design. Any more than common sense was a term emphasized by the auto industry during its huge proliferation.

In part, because large IT companies have mostly grown out of engineering and scientific backgrounds, and in part because the large "status quo" companies in IT want to be the thought leaders. Being considered scientific is, therefore, important. And also, common sense does not fit in with promoting their formidable competitive advantages in proliferating their one-size-fits-all business model.

Truth be told, one-size-fits-all, as an approach, couldn't be further from common sense and caring. Because common sense will immediately posit that there is no size that fits all. So, common sense, immediately then, takes a position of caring about differentiation and creating a whole understanding around situation awareness and process variation. And paradoxically, the one-size-fits-all approach is scientifically unfounded! Let's however examine how software design de-emphasizes common sense.

De-emphasizing common sense in software

A practical outline of widespread software development practice will help explain what de-emphasizing common sense in software is. For example, the software developer status quo continues to be one where developers work with entities and entity relationships within data models to describe processes and software systems.

As a technical concept, this renders current software unable to expose how it works. The reason it cannot do so is that the code is unstructured and only the data is structured. As a result, what the software actually does needs deep and painstaking analysis. But this is out of step with how urgently we want software to be understandable and extensible.

Yet, the difficulty to expose unstructured code has not been a problem in so far as IT challenges have usually been technical in nature. As such they often benefit from large "manufacturers" in the way that hugely expensive developments often do. We are referring to developments like data storage capacity, storage and retrieval performance, processor performance, virtualization, cloud protocols, and many, many more.

Moving into the realm of human processes and intelligence

However Big Data, Machine Learning and, recently, Large Language Models are moving into the realm of human processes and intelligence.

So, having overcome technical challenges, IT begins to engage more deeply with people and their thinking. Subsequently, as the technical aspects become far less important, computers understanding the human world becomes more important. As a result, we cannot help but realize that IT has enormous relevance to human endeavour; far more than any manufactured goods had in the industrial 19th and 20th centuries.

For example, we have seen how IT has expanded into human relationships in social sites, matching of people and other Human Resource activities. And IT continues advancing in predicting trends, predicting economic activity, in pricing, in capacity forecasting for socio economic issues etc.

IT will move into the domain of how people make decisions

So, it becomes more and more likely that the future of IT proliferation is to move into the domain of how people make decisions at all levels of the maritime enterprise, including on board ships.

So, going back to Professor George Prevelakis' book, we can dwell a little more on the contrast between North European scientific thinking and southern European merchant and common-sense thinking. And let's consider a intriguing addition that has come to supplement the terminology and the hitherto scientific understanding of intelligence. Briefly, North European thinking, in order to correct an overly rational approach to thinking, has introduced the term EQ, emotional intelligence.

EQ

EQ is a prerequisite without which the analysis of a situation is lacking. Because scientific analysis alone does not give enough weight to the subjective experience of the protagonists in a given situation.

How long exactly has this term been in circulation? Apparently, "although the term first appeared in 1964, it gained popularity in the 1995 bestselling book 'Emotional Intelligence' by science journalist Daniel Goleman."

So, the term is popular and quite recent in some areas of the world and rather peculiar in others. For example. Here among Greeks the term is awkward: 'synesthimatiki noimosini / συναισθηματική νοημοσύνη'. And it is a term you would have a problem communicating in a retiree coffee shop anywhere in Athens or Piraeus. Perhaps Greeks have trouble with the term 'emotional intelligence' because there has never been a need for such a delineation of intelligence. And therefore, no compelling need to create the grounds for it.

Nevertheless, one wonders! After 8000 years of recorded history, the need for EQ must have surfaced as an essential skill. So the term should have come up earlier. Why hasn't it, we may well ask? Only to follow-up with the reasonable scenario of grandmothers passing on their emotional intelligence so that it became as natural to us as dressing

a wound after a fall. And so EQ was a skill that was understood and never discussed.

A possible explanation for the need to coin the term EQ, is that in the last 200 years it is science, which has been pivotal in predetermining what intelligence means. So the need for a term to describe the reality of “emotional intelligence” arose in order to further qualify ‘intelligence’ (intellegere (latin): understanding).

Broad intelligence is better off when it includes emotional intelligence

This, then, is a strong indication that the North European and scientific world has come to the realization that broad intelligence is better off when it includes emotional intelligence. Which probably includes common sense, agility in thinking and a strong understanding of cause and effect based on experience. Furthermore, this may be just as important as high scores in mathematics and science.

Well-rounded software skills development

So rigid, ontological and hierarchical and rule-based relationships are not the only sought-after goals for well-rounded software skills development. There is a host of examples indicating the need in software for what, in this article, we have described as the common sense approach to design. Another way of describing this approach is the necessary resilience and flexibility to cope with the constant need for important decision making.

Prediction is more than optimism

Prediction is bold but it has an edge over optimism because optimism could be wishful thinking. A prediction, however, is based on facts and pragmatism. Therefore at the AMMITEC party at the Posidonia 2024 Exhibition we made a prediction. Namely that the resilience and flexibility that has make the Greek shipping industry great, may soon make the Greek IT industry just as great.

Professor Michael Dertouzos is an inspiration when he discusses why and how technology should be made to work for humans. Especially when he states that until this goal has been met the computer revolution is ‘unfinished’. Finally, keeping Shipping IT working without issues under massive commercial pressure and challenges, in itself, is already a formidable achievement. And perhaps developing the world’s best software as a result of our collective, flexible, practical and humanist thinking is within our reach.

Greeks And Our Diaspora

How information technology and our business sense will join us all together

Introduction

George Prevelakis, in his book «Ξύλινα Τείχη»/ Wooden Ramparts, expresses unprecedented optimism for Greece and its Diaspora. In an age of advanced technological globalization, he sees networking to be a momentous opportunity, assisted by the already widespread technology that has become a new mainstay in human contact. And in recent years we have seen how people in remote islands of Greece participate in new ship deliveries in Korea or solve problems on a ship in the Atlantic.

In this write up, we will discuss why the business sense of Greeks using the «galactic» concept of reasoning compared to the hierarchical and «dendric», that George Prevelakis mentions in his pivotal book, can connect Greeks across the world to achieve far more than utilitarian communication.

Greeks at the forefront of information technology

What if we said that Greeks are at the forefront of information technology because they inanately understand how to organize thought to achieve goals? What if we said that Computer Science is missing the Greek mentality in order to overcome the rigidity and preoccupation it causes us, letting it blend intuitively with people and their lives?

Greek mentality

Prof Prevelakis describes how the Greek mentality benefits acutely from modern technology. How the Greek mentality which has served so well in shipping and in the success of Greeks in foreign countries can be assisted by technology. This he argues in his book, is because the «galactic» reasoning framework enables an intuitive organisation of knowledge to achieve goals. For example, structural constraints in society and in government bureaucracy, become opportunities for Greeks. Greeks in the Diaspora bypass the societal strata in countries like the UK or Japan and liaise with exclusive groups to achieve their goals without even breaking a sweat. Greeks create networks of value joining disparate groups like political factions to achieve a greater good.

Greeks see the law as a by-product of common sense and not some unintelligible obstacle course that stakeholders must memorize. Imagine how Greek mentality can then enable the world assisted by modern technology. How Greek affinity for abstraction helps problem solving and innovation. In ancient times the prophecies of oracles were enabled by viewing situations from a higher level of abstraction. Every day there is someone, who solves problems by lifting the level of abstraction to include solutions in different but compatible domains.

Imagine

Then, imagine a Diaspora consisting of a percentage of Greeks who in one way or another are immersed in information technology as a result of the so-called brain drain. And imagine they can transform information technology and use it far more effectively, unencumbered by weak structures like social media that is agnostic of people's goals and the world in which people operate. Connecting Greece to the Diaspora is natural and recently quite pervasive, as virtual meetings have gone viral. But Greeks leading information technology is perhaps not obvious.

The next and pivotal step in information technology

There is one overarching theme as to the way the Greek mentality is the next and pivotal step in information technology.

Goal-based relationships

Greeks don't aspire to obscure relationships of knowledge to understand the world. They use goal-based relationships. This needs some explanation.

Greek mariners throughout history have not been confused by the different laws in every country and how they are organized. And in Homer's Odyssey there is a lot about conflicting cultures in every new place but not much about political structures. There is, in fact, little comparison of regimes in the Odyssey. And there are no conflicts of regimes, only of goals.

Contrast Greek mariners with mariners like Colombo

Greek mariners have rarely taken an acute interest in the regimes in any country they visit. Contrast this with mariners like Colombo or any in the age of discovery. Greek mariners who have arguably been traced to places like the Northern Peninsular of Michigan in early history and all the familiar places like the Black Sea and India, have not been known to have sponsorship from the Greek State to export a political regime. I am not a historian, but it seems a good question to ask as to why Greeks were not known for enabling government infrastructures and better known for private enterprise.

Greek empire building in contrast to the British, the Spanish, and the nomadic empires

Even Alexander sought to infiltrate and join cultures and paid ultimate attention to how proliferation was achieved and less to some system of governance or religion. This is in contrast with the British empire, the Spanish, the nomadic empires, and most other empires. All these promoted belief systems and political structures mixed with their goals. Our very own Greek star performance in establishing democracy was never packaged for export.

Information technology as it exists today has no goals

Information technology as it exists today has no goals. It gathers information and presents the information it gathers. The people using it have the goals and the software serves the people but knows nothing about goals. Rather like a government structure that enables many people to go their own way with minimum conflict but does not organize the actual processes that lead to the goals of its citizens. This has succeeded resoundingly well in government as well as in software. But like government structure it is a weak tool for persisting and achieving goals, organizing goal prioritization, and coordinating goals of different groups.

Software has no structure to depict its own goals, just documents or diagrams that describe what is sought by the clients and designers. Similarly, laws of governments do not persist what people do and why the laws are needed. It is assumed that people know the goals. However, a conventionally designed computer software does not.

70% overlap with a competing application

All this is fine as an academic discussion, but the practicality is that each software application has 70% overlap with a competing application. Why all the wasted effort making for only a small 30% differentiation. Unlike physical products, software does not have a single permanent component. So why can't it be changed or merged? So as to reuse the 70% that is the same to support another application that is missing this part and exploit the 30% that is unique by joining that unique part with another unique component.

Why can't two software systems be joined or integrated easily?

Why can't two software systems be joined or integrated easily? The reason is software has no way to assess what it can do or be compared to another similar system.

Whereas two ex-mariners in a ship repair, quickly learn how to combine their unique knowledge and efforts to expedite the work. Software needs to be able to do this.

Goal oriented practical thinking: Using abstractions to solve problems

This is the part that Greeks are likely to recognize about information technology first. And it is truly a massive opportunity for people with goal oriented practical thinking. People, who are also comfortable using abstractions to solve problems. And this is typical of Greeks throughout history.

Of course, other cultures can do the same, but when most other cultures convene to collaborate, they create government-like «Dendric» structures; scope, definitions, standardisations etc. In information technology too, they create software-building structures borrowed from physical sciences, by extensively using definitions and standardisations. Organizing goal-based endeavours via constructs from physical science may, therefore, leave room for improvement.

Goal structures in software are the most appropriate

There are many outstanding thinkers and achievers who are shut out of computing by the inappropriate use of engineering and scientific structures in software rather than the goal structures which are more appropriate. Greeks who have shown an affinity for intuitive reasoning may be the best suited to make the improvement in information technology as well as make full use of the latest communication practices to join networks of value at home and in the diaspora.

Information Technology in the Maritime Industry

Correlating George Prevelakis' geopolitical findings regarding the Greek experience to the future of I.T. in Greece

Information Technology in the Maritime Industry

«Information Technology in the Maritime Industry» is an article by Dimitris Lyras. The author comments on Professor George Prevelakis' book «Ξύλινα Τείχη»/Wooden Ramparts, relating it to IT in the maritime business. The book was featured by the online publication Economia, as was Dimitris Lyras' article. The editor's introduction that follows places George Prevelakis' geopolitical arguments and vision for Greece.

Editor's Introduction

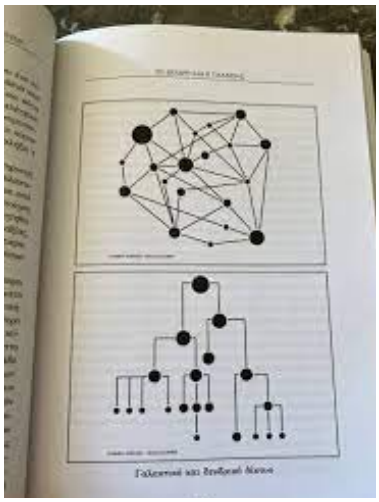
In his geopolitically-minded book «Ξύλινα Τείχη»/Wooden Ramparts (Economia Publishing), George Prevelakis makes a foray into elements that have built the Greek experience through the ages. With a reference to the naval battle of Salamis that pitted the Athenians against the Persians, after the Oracle of Delphi advised the former to build and bring to battle a fleet instead of hiding behind the ramparts of the Acropolis, Prevelakis calls for modern Greece to seek their future in a decentralized, network-based approach to international relations best represented by the maritime tradition of Greeks. The policy implications of this book are important for a country that manages to keep going after a series of grave crises, based on the resilience and adaptability of its people.

Economia

Editor

Xylina Teichi

Xylina Teichi is a book primarily about geopolitics and how the Greek mentality has succeeded and failed in politics and growth around the world. As a core theme it touches on the different mentality between biases toward structure versus biases towards fluidity and adaptability. The author professor, George Prevelakis, uses the terms tree form and galactic form to name these two contrasting approaches. His authority on the subject comes not least form his permanent membership as ambassador to the OECD.



Tree form vs Galactic form

This is a diagram from the book that shows the contrast between the hierarchical ontological thinking typical of North European (tree form) culture and the graphical multi linked common sense culture of Southern Europe (galactic form). Also, a related work by famous MIT professor Michael Dertouzos mentioned in the book, discusses why and how technology should be made to work for humans. It goes on to state that until this goal has been met the computer revolution is «unfinished».

This contrast in mentality, which professor Prevelakis describes, is perhaps a little too black and white to describe human attitudes as most people likely use both methods of thinking. But his book requires this contrast to make a profound development in understanding Greece and geopolitics. It also indicates a contrast between Scientific and North European preferences in describing the world, in contrast to the Merchant and Southern European ways of looking at the world.

This same contrast exists in information technology between the scientists who have pushed forward the development of information technology for over 50 years and the Merchant class and common-sense thinkers. These people may help a great deal in making information technology “under-takeable” and in this way more useful to society.

Contrasting approaches

This article is about how the two contrasting approaches affect the future of information technology especially in the maritime business. Most of us have experienced the rigidity of information technology while others have found it too much trouble for the benefit it offers. This is especially true in the maritime industry, where the top management sees so many problems and opportunities that information technology does not touch, that the remaining capabilities are below their direct concern.

Greek Shipping is founded on common sense and so is Information Technology

However, information technology and the use of it will be an enabler for Greek shipping, perhaps more than for other shipping groups. The reason is that Greek shipping is founded on common sense and so is information technology. This sounds radical, perhaps, but the challenges of IT going forward are about how it fits in with people's thinking and working, their understanding the world and how they solve problems. All these are skills of the Greek shipping community. And they are, in my opinion, more advanced than any other shipping culture and the reason we are still in the lead despite the lack of control over cargo.

However, this is not the view aired by the broader IT community because the large «status quo» companies in IT want to be the thought leaders. The status quo still works in the form of entities and entity relationships. This is a technical concept that is equivalent to the contrast between professor Prevelaki's tree form and his galactic form.

"Status quo" companies in IT

So far this has not been a problem and has worked, because IT challenges were usually technical in nature often benefitting from large «manufacturers». Problems like data storage and revival performance and many others that your closest IT expert can explain. Having overcome these technical challenges and as IT involves itself with people and their thinking, the technical aspects become far less important.

For example, you see IT becoming involved in human relationships, matching of people and other human resource activities. It continues advancing in predicting trends, predicting economic activity, in pricing, in capacity forecasting for socio economic issues etc.

However, I doubt anyone with experience in shipping and investment is holding their breath for technology to be anything more than an enabler in these areas, because in the maritimeindustry the subjects mentioned have been our main interest for decades and perhaps centuries.

Future of IT

So, objectively, it becomes apparent that the future of IT may well be the domain of ship owners and operators and other businesses leaders. This is likely because it is these people who are exposed to global concerns like geopolitics and who have to adapt, and who are fairly unassisted by state structures and legislature, which dilute the practice of agility and common sense.

North European and Southern European thinking

Let's go back to the book and the contrast between North European and scientific thinking and Southern European merchant and common-sense thinking.

Emotional intelligence

How often have you heard the term «emotional intelligence». Why is it that it is a new term? Here in Greece the term is awkward, «synesthimatiki noimosini» and is a term you would have a problem communicating in a retiree coffee shop anywhere in Athens, even in Kolonaki. Greeks have trouble with this term because there has never been a need for this delineation of intelligence so as to create the grounds for a new term like emotional intelligence. In Greece the division of senior classes in school to be delineated between science and classics is an unimportant delineation in later life.

After 8000 years of recorded history and over 7 million years of human evolution, the term should have come up earlier. Why so we may ask? Well, why did our grandmothers not have to make this delineation. The possible explanation is that Science in the recent 200 years has been pivotal in redetermining what intelligence means. So, it is most likely that the need for this new term «emotional intelligence» has risen because Science and so-called disciplined thinking, as in, for example, translation of classical languages or understanding of the legal domain, were not in need of «emotional intelligence» in order for Scientists, Classics advocates and Lawyers, to be described as intelligent.

The realization that intelligence may include common sense and agility

So, we have a strong indication that the North European and Scientific world has come to the realization that intelligence may include common sense and agility and that this may be just as important as high scores in mathematics and science. So rigid ontological and hierarchical and rule-based relationships (tree form) delineating for example the subjects we learn at school and university are insufficient to help people make the best of the rest of their lives.

There are thousands of examples indicating the need for what has been described as common sense in this article (galactic form): From a more logical way to apply case law in the marine industry to ways to help maritime decision-makers in how to negotiate a charterparty, how to make a sale, and finally how to develop software so that it is actually useful in helping negotiate a charterparty or making a sale. Or as professor Dertouzos says: why and how technology should be made to work for humans, while going on to state that until this goal has been met the computer revolution is «unfinished».

Young students pursue challenging vocations

Last but not least, many young students throughout history have been discouraged to pursue challenging vocations. Many very intelligent mariners and shipowners scraped through high school and became great leaders in our beloved industry. And many children in large and poor families were relegated to low paying careers because of the massive «tree form» obstacles in education. It is high time we gave everyone a fair chance by appealing to much more than just a student's ability to follow complex scripts in science and similar studies that get in the way of their career paths. Let's promote the «galactic form» which is quite familiar to our culture.

Find out more about Ulysses Systems vision and problem solving on Ulysses Systems Blog

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