Globalisation, regionalisation and further possibilities of study at economic universities

Cestmir Halbich¹

Abstract: It seems, that students should know to work in different models of work at projects in their future practice. It seems, that students should know to work in different models of work at projects in their future practice. We discuss these theories in terms of two fundamentally different development styles, the "cathedral" model of most of the commercial world versus the "bazaar" model of the Linux world. It seems, show that these models derive from opposing assumptions about the nature of the software-debugging task. Of course students will work in their practice not only in pure "cathedral" model or in pure "bazaar" model. Each firm has own firm culture and each student can be successful in concrete firm conditions. Furthermore we discus the case study of university students preparing for solution these problems in different countries and cultural areas. There are the case study of the student's preparing at the University of Arkansas at Little Rock in the contribution.

1.Introduction

It is known, that Systems theory tried to produce a bridge between all differently specialised disciplines of science as well as practices by provision of a common basis of description of everything. Nowadays one of the most frequent terms is the term "the system" in the world. It is in basics of many modern discipline from system methodology, through system analysis to system engineering. Different decision and conceptual models, which are construct with the use of just untabular set of techniques and exact algorithms are at the end of this way. Automatised models, hybrid model-information systems, multicriterial decision methods, multidimensional comparations, simulation of the system on the basis of different generative techniques, variants of heuristic implementations, and amount of conjunct mathematical-statistical methods are items of the structure used quantitative oriented methods in common practice. Many of these are studied as subjects and classes at the universities.

The Information technology paradox (further IT paradox) can lead to the certain passivity in the approaches to the factual problem oriented essence of the solved tasks. With this consequences it seems to be easily to create Web pages in opposite with the solutions of the questions of the improving own decision algorithms.

Thus, a long set of systems theories resulted, each of them having its own notion of the system, when it comes to its own specialised application of systems theory. The bridge between sciences is missing. This general finding may be the source of the problems of methods supposed to support holistic, i.e. systemic thinking, too. There are some ways of resolution of these problems, for example contributions [2] about the *law of requisite holism*. These reflect the reality, that the levels of a requisite, i.e. both necessary and appropriate, holism can be quite different, and depend on the human decision. In our contribution there is chosen another way for solving listed above problems. The mentioned case study describes new trends in preparing of university students for their future practice.

In this paper we have discussed IT paradox. It can be thought of in small and large terms, in small terms there is a close relation between end users and software and hardware features and end user's work efficiency related to them. End users fight with IT paradox in small term every day ². In large terms this means mainly software attributes which bring conflicts between the levels of user-friendly quality of products and the computer security level of the products. IT paradox in large term could be suitable subject of interests of many specialists from different disciplines. The authors of this contribution believe, that interdisciplinary approach can bring success in solution of IT paradox in large term. WAP transfers IT paradox from offices to all places covered with wireless signal. Furthermore we have discussed the case study of university students preparing for solution these problems in different countries and cultural areas. In the end we mentioned some development trends of IT paradox and end user's problems in near future.

2. Goals and methods

The mail goal of this contribution was intend about some new possibilities of study at economical universities in third millennium. We started with literary search, then we analysed obtained results and at the end we attempted to formule general conclusions.

3.Different academic study systems as a preparation to practice in branch of

information systems

A student seeking a baccalaureate degree must complete a total of 44 hours in core courses. Core requirements for all University of Arkansas at Little Rock (further UALR) Bachelor Degrees are next: English/Communications:

1. Composition I (3 credit hours), 2. Composition II (3 credit hours), 3. Speech Communication (3c) Math:

1. College Algebra or College Math (3c)

Science:

1. Chemistry + Lab or Biology + Lab (4c), 2. Geology + Lab or Astronomy + Lab (4c)

Fine Arts/Humanities:

¹ Czech university of agriculture in Prague, Faculty of economics and management, Department of information technologies, <u>halbich@pef.czu.cz</u>,

² One example of this permanent fight with IT paradox is I love you virus attack in the whole world in near past.

1. Intro to Music (2c), 2.. Intro to Visual Arts (2c), 3. Intro to Theatre and Dance (2c), 4. World Literature or Ethics and Society (3c)

Social Sciences:

US History or American Government (3c), 2. Cultural Anthropology or Intro to Criminal Justice or Geography (3c),
Gender Studies or Mass Media or Psychology or Sociology or Religion (3c), 4. History of Civilisation I (3c), 5. History of Civilisation II (3c)

Total it is 44 hours in core courses. It means, that students can choose individually only certain subjects from whole set of core curses. 44 hours mean approximately first two years of study at University. Further students have to take foreign language in intermediate level in order to graduate (so if their foreign language isn't good, they have to take basic levels and so on..)

Certain student can take only next core classes (A Case Study):

Composition I, US History, Geology + Lab, Mass Media, History of Civilisation I.

So after two years of studies on Engineering faculty or other faculties at UALR students can choose what they want to study. But at UALR are changes in study programs too. From this autumn technical major subjects are independent on common core classes, because technical students need not so much of humanities. The technical students won't have to take for example any foreign language. Even now, the technical majors have at least same curriculum in the first year of studies:

1. Entering Info Science I (2c), 2. 1st Year Experience (3c), 3. College Algebra (3c), 4. Composition I (3c), 5. Speech Communication (3c), 6. US History or American Government (3c), 7. Entering Info Science II (2c), 8. Computer Graphics (3c), 9. Trigonometry (3c), 10. Composition II (3c), 11. Circuit Anal I (4c)

So after one year of studies on Engineering faculty students can choose what they want to study: Electronics and Computers, Mechanical Engineering and so on.

A Case Study: Certain student will have to take only one of those Intros : Intro to Visual Art, Music or Theatre and Dance, then Composition II, Speech Communication, Ethics And Society and Chemistry + Lab to fulfil the engineering curriculum.

The total of credit hours in order to technical graduate degree is 129 (in other majors it's 144, 135...). Because there is less humanities.

Core classes for mechanical engineering:

CAD, Applied Calculus, Properties of Materials, Manufacturing Processes + Lab, Elementary Physics + Lab, Advanced CAD, Robotics and PLCs, Statics and Dynamics, Fluid Power, Elementary Physics II + Lab, Mechanics of Materials, Production systems, Applied Thermo Science, Computer Aided Manufacturing, Applied Calculus II, Cost Analysis and Estimation, Thermo System Design, Mechanical Instrumentation, Senior Project I, Machine Design, Computer Aided Engineering, Plastics and Composites, Senior Project II, Quality Control, Independent Study electives: Cooperative Education, Industrial Energy Utilisation, Solar Energy systems, Tool Design, Metallurgy Applications, Industrial and Environmental Safety, Plant Layout, Project Management, Materials Handling and Plant Layout, Process Planning, Quality Control, Special Technical Topics, Method-Time Analysis, Die Casting, Maintenance Management, Internships...

Description of the Finnish study system will less detailed, because "continental" study system is more personally known as an American study system .Like the other Finnish universities, the University of Tampere offers programmes leading to Bachelor's, Master's degrees and beyond. In most fields the Bachelor's corresponds to the British or American Bachelor's, and generally takes three to four years to complete. The Finnish Master's degree generally takes five to seven years to complete, (or two years after the Bachelor's). Most degree programmes are multidisciplinary and also offer choices in vocational or professional areas. Of course University of Tampere has ECTS credit system, therefore it is easy for European students to study at this University. The similar situation is at Czech universities, but study programmes are rather less interdisciplinary and rather less flexible then in western Europe.

It seems, that students should know to work in different models of work at projects in their future practice. We discuss these theories in terms of two fundamentally different development styles, the "cathedral" model of most of the commercial world versus the "bazaar" model of the Linux world. It seems, show that these models derive from opposing assumptions about the nature of the software-debugging task.

Linux overturned much of what we thought we knew. It had been preaching the Unix gospel of small tools, rapid prototyping and evolutionary programming for years. But we also believed there was a certain critical complexity above which a more centralised, a priori approach was required. Many authors believed that the most important software (operating systems and really large tools like Emacs) needed to be built like cathedrals, carefully crafted by individual wizards or small bands of mages working in splendid isolation, with no beta to be released before its time.

Linus Torvalds's style of development - release early and often, delegate everything you can, be open to the point of promiscuity - came as a surprise. No quiet, reverent cathedral-building here -- rather, the Linux community seemed to resemble a great babbling bazaar of differing agendas and approaches (aptly symbolised by the Linux archive sites, who'd take submissions from anyone) out of which a coherent and stable system could seemingly emerge only by a succession of miracles. The fact that this bazaar style seemed to work, and work well, came as a distinct shock.

Of course students will work in their practice not only in pure "cathedral" model or in pure "bazaar" model. Each firm has own firm culture and each student can be successful in concrete firm conditions.

4.Conclusion

In this paper we have characterised IT paradox. It can be thought of in small and large terms, in small terms there is a close relation between end users and software and hardware features and end user's work efficiency related to them. In large terms this means mainly software attributes which bring conflicts between user-friendly products and their level of the computer security. IT paradox in large term could be suitable subject of interests of many specialists from different disciplines. The author of this contribution believes, that interdisciplinary approach can bring success in solution of IT paradox in large term. WAP transfers IT paradox from offices to all places covered with wireless signal. Furthermore we have discussed the case study of university students preparing for solution these problems in different countries and cultural areas. In the end we mentioned some development trends of IT paradox and end user's problems in near future.

5.References

Brooks Frederick P.: The Mythical Man-Month ,2nd edition,1995, Addison-Wesley Pub Co.
Mulej M., Vezjak, M., Kajzer, S., Mlakar, P.: Applied systems thinking and the law of requisite holism, In proceedings of IDIMT'99 - 7th Interdisciplinary Information Management Talks, Universitaetsverlag R. Trauner, Linz 1999, pp. 129-146

3. Raymond E., S.: The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary, 1st edition, 1999, O'Reilly & Associates, pp.42

4. Schedule of classes Summer/Fall 2001, University of Arkansas at Little Rock, Little Rock 2001 http://www.uta.fi/y/english/

http://alc.stcloudstate.edu/Counseling/CLASSES/110/links.htm