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Information Technology (IT):
The Key For Development For The Society Of Iraq

Conference

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Preliminary

The third IT Conference "Information Technology (IT): The Key For The Society Of Iraq" took place from 28th September until 30th September 2011 and covered two main topics.

On the one hand it dealt with the analysis of the activities that have been conducted with regards to the IT curriculum development, on the bases of the last conference, in September 2010.

On the other hand it focused on the relevance of social networks in the Internet as well as related societal and political responsibilities. The Iraqi society is in need of a platform that deals with relevant topics of IT in the field of education, science and economy in order to implement and promote correspondent activities.

Accordingly, the foundation of a Society of Informatics is aspired that gives experts of IT (individuals, companies and non-governmental) the opportunity to join a network attempting for designing and gearing IT in Iraqi society.

The main purposes of the Society are to create visions, to promote young researchers, academic knowledge transfer to related fields in the practice as well as aspects of data privacy protection and security in Informatics.

Therefore three presidents and ten lecturers from different Iraqi universities were invited by the Center for international and intercultural Communication (ZiiK) at Technische Universität Berlin (TU Berlin).

The third IT Conference in Berlin was a great success. We managed to get in close contact with Iraqi universities and the Iraqi universities were able to exchange information about IT development in Iraq and opportunities to improve standards and measures.

For this lively exchange I would especially like to thank all Iraqi guests for their active participation, efforts and their informative presentations as well as their contributions to the discussions.

Hereby I would like to express my gratitude to:

- Prof. Dr. Gabriele Wendorf, Vice President of TU Berlin
- H.E. Prof. Dr. Salah Aliwi Al-Abbasi, Cultural Attaché of the Embassy of Iraq in Berlin

My cordial thanks also go to the conference guests from Iraq:

- H.E. Prof. Nabeel Hashem Al-A'araji, President of Babylon University
- H.E. Dr. Asmat M. Khalid, President of Dohuk University
- H.E. Dr. Ahmed Anwar Dezaye, President of Salahaddin University Erbil
- Dr. Noori Farhan Adhab Mayyahi, Dean of College of Computer Science and Mathematics at Al Quadisiya University
- Dr. Kamal Hamid Yasir Al-Yasiri, Dean of College of CS and Mathematics, ThiQar University
- Dr. Jaleel Kadoori Al Robayie, Department of Computer Engineering, Diyala University
- Dr. Ebtesam Najim Abdullah Al-Bistenchy, Director of IT, Kufa University
- Dr. Qutaiba Ibrahim Ali, Associate Head of Computer and Networking Center, Mosul University

- Mr. Yakoob Karomy Hanna Dabool, Lecturer and Engineering Assistant,Mustansiriyah University
- Mr. Saadi Hamad Thalij, Computer and IT Center, Tikrit University
- Mr. Jamal Ali Hussein, IT-Department, Sulaimaniya University
- Mr. Alaa Harif, Faculty member of the Department of CS, College of Science, University of Baghdad

I also thank the speakers from Germany:

- Prof. Dr. Stefan Jähnichen, President of Society of Informatics, Bonn
- Mr. Alexander Haridi, Section Iraq/Iran from German Academic Exchange Service (DAAD), Bonn
- Prof. Dr. Hans-Ulrich Heiß, Dean of Study of the Faculty of Computer Science and Electrical Engineering, TU Berlin
- Prof. Dr. Jochen Koubek, University of Bayreuth
- Prof. Dr. Uwe Nestmann, TU Berlin

As well as the:

- IT Administrators of TU Berlin
- and the whole team of ZiiK

Dr. Nazir Peroz

First Conference Day

28th September, 2011

Opening and Welcome

Dr. Nazir Peroz

Head of ZiiK, Faculty of Electrical Engineering and Computer Science, Technische Universität Berlin

Dr. Nazir Peroz, head of the ZiiK of the TU Berlin, opened the conference and welcomed all the guests, especially His Excellency Prof. Dr. Salah M. Aliwi Al-Abbasi, Cultural Attache of the embassy of Iraq in Berlin, His Excellency Prof. Dr. Nabeel Hashem Al-A'araji, president of Babylon University, His Excellency Dr. Asmat Khalid, president of Duhok University, His Excellency Dr. Ahmed Anwar Dezaye, president of Salahaddin University Erbil, the deans of the colleges of computer science and mathematics, the lecturers from the Iraqi universities, Prof. Dr. Stefan Jähnichen, president of the Society of Informatics in Germany, Mr. Alexander Haridi, head of the Iraq/Iran department of the DAAD, Prof. Dr. Hans-Ulrich Heiß, dean of Study Affairs at

the Faculty of Electrical Engineering and Computer Science (CS) at the TU Berlin and the Iraqi IT administrators at the TU Berlin. He stressed that in the time of globalization, "Information Technology" (IT) is an essential part not only of the areas of science and technology, but also of the administration processes of academic research and education. Therefore, higher education in Iraq needs strategies to support and to coordinate the IT supply system.

Accordingly, the "Center for International and Intercultural Communication" (ZiiK) at the TU Berlin would like to support the Iraqi Universities. For this reason, the ZiiK prepared sustainable and demand-oriented IT concepts.

Dr. Peroz continued to give a brief overview of the project activities so far and explained that the ZiiK started its activities with 15 Iraqi universities in September 2009 within the framework of the "German-Iraqi University Partnership Program" (HSP) from the "German Academic Exchange Service" (DAAD).

The aims of the projects are:

- planning a secure IT infrastructure
- training of qualified technical personnel and
- organization of IT conferences

During the first conference in 2009 in Berlin, the needs of IT at the Iraqi universities have been analyzed and during the second conference in 2010, the development of a curriculum for Computer Science (CS) has been discussed.

From April to November 2010, 13 administrators from 13 Iraqi universities have been trained at the TU Berlin and since April 2011, participants from 15 Iraqi universities are currently been trained as IT administrators at the TU Berlin.

This third IT conference, as Dr. Peroz went on, includes the following topics:

- The "Importance of IT (Internet) for education, society, administration and economy"
- Reports about the development of IT curriculum based on the discussions of the IT conference in September 2010
- Discussion about the recommendation to establish a society for IT/ CS in Iraq

After that, Dr. Peroz kindly gave the word to Prof. Dr. Heiß, who is also the head of the Department of Communication and Operating Systems.

Prof. Dr. Hans-Ulrich Heiß

Dean of Study of the Faculty of Computer Science and Electrical Engineering, Technische Universität Berlin

Prof. Dr. Heiß thanked Dr. Peroz for the introduction. He also welcomed all participants to the third IT Conference in Berlin and was very pleased to recognize faces and names from the last year's conference. For those, who took part for the first time, he shortly introduced TU Berlin in numbers and facts.

So, TU Berlin is one of three universities in Berlin. Nevertheless, it is also one of the largest in Germany and one of the best in the field of technology. The university has got a high number of scientific personnel and administrative staff.

There are 29,000 students, 300 professors, 400 other teaching personnel at professor level, 3000 scientific staff members and 2000 student assistants. The annual budget of TU Berlin amounts to 265 Million € from the government and 145 Million € by third party funds.

TU Berlin consists of seven faculties:

- Humanities
- Mathematics and Natural Sciences
- Process Sciences
- Electrical Engineering and CS
- Mechanical Engineering and Transport Systems

- Planning – Building – Environment
- Economics and Management

The faculty of Electrical Engineering and CS has got 3500 students, 60 professors, 450 scientific employees, 400 student assistants and 60 PhDs a year.

Affiliated research institutions are:

- Open Communication Systems
- Software and System Engineering
- Daimler Center for automotives and Information Technology Innovations
- Deutsche Telekom Laboratories
- BCCN (Bernstein Center for Computational Neuroscience)
- Performance Microelectronics Frankfurt/Oder
- Braun Institute for Microwave Technology
- TUB-HZB PVComB Thinfilm-PV Computer Center
- FhG-IZM Reliability and Microintegration
- FhG-HHI Telecommunications Heinrich-Hertz Institute
- FhG-First Computer Architecture and Software Technology

There is a close communication between the faculties. According to the amount of external funding TU Berlin is one of the leading universities in Germany. Last year's research funds amounted to about 34 Million Euro by external funding. On the study side, it provides a lot of programs (Bachelor, Master, PhD) and also international programs.

TU Berlin is proud to be an international place and domain. International mobiles would preferably go to the USA for studying, followed closely by the universities of United Kingdom (UK). On third position Germany follows as a favorite place for studying despite the language problems. At TU Berlin, over 20% of the students are foreign ones. In the Faculty of Electrical En-

gineering and Computer Science, 34% of all students are international. He mentioned that those students who come to TU Berlin from abroad would have to be taken care of.

The ZiiK provides special courses for international students. They offer special sub programs. They also contribute to a true international exchange between German and non-German students.

The ZiiK offers following services:

- Special tutorials for international students (accompanying the mandatory courses in the first semesters
- Special student counseling
- Special courses in the area of CS and Developing Countries since 15 years
- Minor study program: Information Technology and Developing Countries
- Intercultural Program: Better integration, intercultural exchange

The ZiiK also controls following projects:

- Afghanistan (since 2002, support by World Bank, Foreign Office and DAAD)
- Supporting the development of IT curricula in Afghanistan
- Setting up IT-Centers for Afghan universities
- Providing training for Afghan lecturers and IT specialists
- Providing master education for Afghan students with special focus on their future occupation as university lecturers
- Iraq (since 2009, supported by the Federal Office of Foreign Affairs and the DAAD)
- Cooperation in higher education

The ZiiK is running a number of projects, with the largest one for Afghanistan since 2002, including a Master study course for Afghan lecturers. After their graduation from this program at TU Berlin they are to

go back to Afghanistan to work there for their home universities.

The ZiiK also runs a successful administrator training project with Iraqi students. The "IT Administrator Training" (ITAT) project at TU Berlin is conducted to teach groups of young IT lecturers to build up the infrastructure of their home universities so they are also able to impart specified knowledge to contribute to a sustainable development in Iraq.

To finish his speech he expressed his wish for fruitful discussions, ideas and three days of nice weather in Berlin.

He also hopes to see all guests again here in Berlin.

H.E. Prof. Dr. Salah Aliwi Al-Abbasi
Cultural Attaché

Head of Culture Department, Embassy of Iraq in Berlin

H.E. Prof. Dr. Al-Abbasi thanked Dr. Peroz, Prof. Dr. Heiß, Prof. Dr. Jähnichen and the Iraqi university presidents and lecturers. He underlined that it would be a great pleasure to welcome all the guests from Iraq in Berlin to the third IT Conference.

As the Cultural Attaché of the Iraqi Embassy in Berlin he said he felt honored to be invited here again.

H.E. Prof. Dr. Al-Abbasi opens his speech with the thought that Mr. Bill Gates once was underestimated for a long time. As we have seen, he is one of the best-known entrepreneurs of the personal computer revolution today. Further, the science of computers is now one of the most important tools of our time and also for Iraq.

The ZiiK and many Iraqi universities want to share and deepen the IT development process with consisting support of DAAD by post-graduates and research at different universities. Currently, there is the second group of Iraqi students taking part in the Administrator Training Course at TU Berlin. The cultural section of the Iraqi Embassy always tries to support this development, H.E. Prof. Dr. Al-Abbasi emphasized. He

thanked for the effort of ZiiK and TU Berlin. For him it was important that the team of ZiiK as well as the participants of the conference and the "Iraqi Administrator's Training Course at TU Berlin" (ITAT) know that the doors of the Iraqi Embassy and its Cultural Department will be always open for them.

He again thanked Dr. Peroz, Mr. Tippmann and the whole team of ZiiK for the organization of this conference and hoped that this would be a successful time for all.

H.E. Prof. Dr. Al-Abbasi closed his speech with the words "Salam aleikum", "Thank you" and "Danke schön".

H.E. Dr. Asmat Mohammed Khalid
President of Dohuk University

H.E. Dr. Khalid thanked Dr. Peroz, H.E. Prof. Dr. Al-Abbasi, Prof. Dr. Heiß, guests and colleagues for the invitation to the third IT Conference and the nice words.

He was very pleased to have the possibility to come to Berlin to attend the conference and to participate in this difficult field of IT.

His main question was: "How can our university get support in this field?"

H.E. Dr. Khalid noted that this conference would be a good chance to come together and to discuss about the problems and chances for the development of IT at universities and in the society of Iraq. As he heard, the students who took part in the Administrator's Training Course were very happy to be here and getting the chance to study at TU Berlin.

During the last days he already had consultations with his colleagues about the problem how the improvement of education in Iraq could be realized, especially the high education. Dr. Khalid expressed his regret that they didn't cooperate with Germany in the past but hoped to get much

more in touch with Germany in the future time especially with the DAAD and the ZiiK.

Mr. Alexander Haridi

Head of Section Iraq/Iran, DAAD, Bonn

Mr. Haridi thanked Dr. Peroz, H.E. Prof. Dr. Al-Abbasi, Prof. Dr. Heiß, the team of ZiiK, the guests and friends of Iraq.

He was pleased to get the opportunity to speak here at this Iraqi IT Conference. He noticed that the DAAD plays a big role in the academic cooperation between Iraq and Germany. First, the DAAD is a funding organization. The funding budget with which it is used to support German universities is provided by the German Federal Foreign Office.

Mr. Haridi told that the support for this conference today and the program to train IT Administrators was realized by the money from the Federal Foreign Office. For the last three years five such projects have received funding totally 1.5 Million € each year. In 2010 more than 400 Iraqi students took benefit from these features.

Secondly, Mr. Haridi mentioned that DAAD is actively involved in initiating and caring about projects together with the "Ministry of Higher Education and Scientific Research" (MoHESR) in Baghdad and in Erbil. At the moment, scholarships comprise the most important aspect of its work. In 2010 the DAAD helped financing 250 Master degrees and PhD students from Iraq in various programs.

He was proud to say that the Iraqi partners of DAAD were directly involved in structuring and co-financing these programs like the Baghdad program with the University of Baghdad and the so-called Kurd-DAAD-Program. Additional scholarships are totaling in 1,5 Million € a year which were awarded to Iraqi students.

In view of this, one might suppose that the two countries, Iraq and Germany, would have excellent academic relations but he did regret that in fact they were not as good as they could be. Of course there had always been an intensive friendly exchange between academics and universities and the cooperation with the Iraqi Embassy here in Berlin. But the relations with the university policy makers in Iraq were underdeveloped.

Due to this fact he desired much more communication, transparency, dialogue and joined planning in particular with the ministries in Baghdad. Unfortunately, three years have past and still these ministries are mysteries to him.

Mr. Haridi presented several important questions which should be answered for a successful cooperation in future time. Who is responsible for what? Who has the authority to make decisions? What are the goals? How can we get Iraqi policy makers to support the projects offered by the German partners? What about the interests of our German universities? How can they be integrated?

In his work he experienced that one only rarely gets answers to these questions. For him it is important to realize that all of the partners have got the chance to merge the small discrepancies of the cooperation. If this could not be reached, the opportunities of dialogue will be in danger to dry out.

That is the reason why the DAAD had to revise its funding strategy from 2012 to 2014. Mr. Haridi added that the DAAD will continue investing 1,5 Million € to universities for projects during the next three years. All five existing projects, including the one at TU Berlin, will also continue receiving funds for two more years, he promised.

However, the DAAD decided to cut back the total amount by 40%. Mr. Haridi explained that German universities will now have to demand a larger contribution from their Iraqi partners. For example, the Iraqi project partners may be asked to pay for their own travels and hotel accommodations or Iraq may be required to cover the costs for necessary technical equipment such as computer hardware. He went on that these budget cuts will free money which the DAAD could use for establishing more partnerships between other German and Iraqi universities.

DAAD hopes that by broadening the scope of cooperation it will be possible to create a system of relationship between the two countries for years.

Mr. Haridi rose up the fact that all worked so hard to strengthen the Iraqi-German relations. That's why he thanked especially the host at TU Berlin. In the end he hopes for an intensive and enjoyable stay in Germany. Mr. Haridi looked forward to see everyone again in Germany or in Iraq.

The Society of Informatics in Germany

Prof. Dr. Stefan Jähnichen

**President of the Society
of Informatics, Bonn**

At the beginning of his speech Prof. Dr. Jähnichen thanked Dr. Peroz and welcomed all Professors and colleagues. He was very glad that Dr. Peroz asked him if he could give a presentation at this conference.

He noted that his slides are to show what CS could be and what the conference is talking about. CS is one of the major future sights. Accordingly, he is of firmed conviction that if one doesn't know the past it would not be possible to give suggestions for the future.

He went on showing the conference guests a 154 Bytes Computer which was developed 60 years ago and remarked how impressive it is that only fifty years of IT development have passed. Prof. Dr. Jähnichen advanced the view that the results of this technical revolution helps people all over the world nowadays. When the development of IT started, the first members of the Society for Informatics (GI) came together. Then, in 1969 the GI was eventually founded by 25 people who saw the necessity to support "computing" as a separate discipline.

He added that the name "Informatics" was chosen as an artificial name combining the terms of "Information" and "Mathematics". GI supported the installation of "Informatics" at almost all German universities as well as the funding of various projects by German ministries, the German Science Foundation and others.

GI has approximately 24.000 members nowadays and is active in directing education and research. Further, he honored Prof. Dr. Munch for being one of the main drivers to establish this discipline and who will receive a Zuse Award this year.

TU Berlin was one of the first who implemented the system. In fact 24,000 members of the GI are still not enough for Germany. Furthermore, Prof. Dr. Jähnichen went on to show an article of the newspaper "Business Week" in 1984. The headline said: "Software – The new driving force." This article was dealing with systems, software, reliability and security. At that time he admitted that he was not encouraged enough to get involved in this area. But others were more ambitious, like people from the companies Apple and Microsoft.

Today's IT development is dominated by systems like Facebook and Google which are based on software technology. So he concluded that software would be the new driving force for economic growth, responsibility and reliability. But nevertheless, the article's message would still be true.

He remarked that if one invests in software it is incessant to invest in the brains of young people. That circumstance would be very important since one invests in people and not in machines.

In addition, he gave some more examples for the needs of IT in general and software in particular: Cars would not drive without software. For example, there would be 90 computers and 2 million lines of code implemented in one Mercedes Benz. Then,

he mentioned the need of air conditioning. Regarding to this, software is also needed like in the fields of medicine and hospitals, but even the surgeons practice on surgery simulations on computer systems.

The traffic in cities is ruled by computer systems. They are able to calculate how to optimize traffic and also how to identify earth quakes as early as possible. Satellites are made to observe the earth and used to control the fire spots of Australia for example.

Actually, everything people think of does depend on software in modern times, he underlined. Afterwards he concluded the needs of computing and communication anywhere and at any time in:

- Human Centric Computing (integrating microprocessors into everyday objects like furniture, walls, clothing, toys and so on)
- Human Centric Communication (enables these objects to communicate with each other and the user by means of ad-hoc and wireless networking)
- Human Centric Interfaces (enables human beings to control and interact with the environment in a convenient (voice, gestures) and personalized way (preferences, context, emotions)

To be named, the most exciting projects are machines which are able to learn. Then he presented a CEC Cap on the head of a person. The person was able to control his movement on monitor out of brain. So it interprets the signal left and right and the person doesn't have to move their arms.

It is astonishing that everything runs and works only mentally. For Prof. Dr. Jähnichen this project is the most fascinating one because one thinks about something and it is able to see the effect on the screen.

After presenting the examples and importance of software techniques, he committed himself to the GI again. The GI is a non-profit organization with members all over the world. Most of them are professors or lecturers of Informatics but there would be also members from politics and economy. Most of the members develop the discipline of Informatics by teaching, researching or working in the field. Other members of GI are involved in related businesses and political areas.

Prof. Dr. Jähnichen, the president of GI, sees GI as a network of professionals with the aim to motivate Informatics, to develop the scientific discipline and to promote the impact. Informatics has got an economy, business, politics in particular and society in general.

Last but not least he mentioned that they also offer career support with their network. In his opinion, this is the most important thing. The main point is the cooperation between professionals in this field.

The GI is very proud of being able to claim that the members' knowledge covers almost everything one could wish to know about Informatics. The departments (special interest groups) cover all relevant topics in CS:

- Foundation of Informatics
- Artificial intelligence
- Informatics and life science
- Software technology
- Human-computer-interaction
- Database- and Information systems
- Technical Informatics
- Graphic data processing
- Business Informatics
- Informatics in law and public administrations
- Informatics and education / didactics of Informatics
- Informatics and society
- Security – protection and reliability

Very often people ask him what he was doing there and which tasks he would have to fulfill. Prof. Dr. Jähnichen always answers to this question that it is "you" he cares about. The GI is not paid by anybody. The organization has got 12 people who work in Bonn. The members work for the GI as volunteers because they know about the needs. The companies pay some fee, but not much indeed.

Despite of these circumstances, GI is proud to present the spectrum of different interest groups. Unfortunately, our society has the problem that a lot of young people don't study CS, he noted, because the so-called "nerds" were not high in position in families and schools.

The administrative structure of GI is parted in:

- Executive Board: GI is represented by its president and three vice presidents. They are elected by the members for a two years term which can be prolonged by one additional term
- Steering Committee: The steering committee represents the heads of the departments and advisory committees plus 12 additional elected members of GI.
- Departments (special interest groups): The departments are responsible for the content and scientific work of GI. They prepare papers for the future development of their respective fields and also run conferences and workshops.
- Advisory Committees: The Advisory Committees are responsible for the interests of specific professional groups within GI, e.g. student and women affairs, professionals or in general educational affairs.
- Regional Groups: GI members meet regularly, organize events in the responsible region (e.g. Berlin)

The challenges are to make the best of this broad knowledge base for its members and society as a whole. He arrogated to raise public awareness of Informatics including its benefits and risks. Another challenge would be to develop programs that create an early motivation and interest for Informatics.

Finally, GI provides products and services to develop skills and help initiatives for training frameworks. In times of ever-growing importance and influence of an integrating world, GI is increasingly involved in projects and teams up with IT organizations.

According to North Africa he presented the fact that society needs communication for development. But he also warns to be careful about the development of democracy because of this communication.

So much activities run by the GI need much more people in fact. GI organizes nearly 120 conferences and workshops a year. Prof. Dr. Jähnichen pointed out that GI also visits schools to identify people with computer skills, like the so-called "Beaver-Competition". Prof. Dr. Annette Schavan, the Federal Minister of Education and Research supports this competition for young pupils in the field of IT.

This year nearly 120,000 participants took part in the "Beaver-Competition" and the number is still increasing. For him it is still fascinating and impressing to see how creative young people are.

He ended his presentation by inviting Iraqi people to join the GI. He also expressed his best wishes for all involved in the development of Iraq in the area of IT and software.

Information Technology: Challenges for the Iraqi Society

H.E. Prof. Dr. Nabeel Hashem Al-A'araji

President of Babylon University

First of all H.E. Prof Dr. Al-A'araji said that he would be happy to be here in Berlin at this conference. He thanked Dr. Peroz, the team of ZiiK and TU Berlin for realizing this important event.

In the beginning of his speech he pointed out that computers were invented for mathematical things and solutions. Then he asked himself how could we transfer the knowledge of used computers to others? The main question of his presentation was: How can we develop computers to think?

According to that question he read a paper called "The sixth generation of computers."

The paper said that the sixth generation of computers won't need a keyboard or a mouse anymore. The computers would transfer the orders by direct speech. According to the signals, the computers would get to know your questions. So, H.E. Prof. Dr. Al-A'araji saw how important the computers are for the people.

The core of lecture

For him, the core of lecture in the field of IT is to give an introduction about the role of IT and achievements, general challenges and specific challenges.

The role of technology today

H.E. Prof. Dr. Al-A'araji noted that people are depended and will depend on technology. So, IT is very important for the future. Therefore, technology will be rapidly developed in the future. Even today, simple communication doesn't mean to be expensive anymore in opposite to the past. Today people are able to share their knowledge anywhere and everywhere. On the other side they are also able to see it everywhere. Therefore he presented the need to improve the access to information and standards.

Challenges

H.E. Prof. Dr. Al-A'araji explained that one of the most important challenges would be to strengthen the political system, security and economy of Iraq. The Iraqi system had transfered from a dictatorship to a democracy. This transformation is still a very hard experience for society. From his point of view, democracy is good for the people but unfortunately not for the neighbors of Iraq.

He added that Iraq has to face general challenges regarding the people and citizens. The lack in training and efficiency in the human resources would be still obvious. Unfortunately, people are not mentally

connected with the electronic systems. This development is important to change their mentality.

Further, he wanted to concentrate on the specific challenges Iraqi people have to face. It is commonly known that after 2003, Iraq gained freedom to access the Internet. He explained that this development would not be enough for their future prospectives.

The development of skills and knowledge concerning IT is still going too slow. Analysis has proven evidence that illiteracy eradication efforts in Iraq can be more effective with the help of IT. This development is indispensable since IT based literacy programs are unavailable in public.

The use of electronic documents and eGovernment are things that are functionally based on computers but still documents are not fully implemented. Although people in Iraq are dealing with software, he regretted that there would be no practice in this field.

It was mentioned, that Iraq also needs security next to the growth of eGovernment or Internet use as well as standardization of IT. H.E. Prof. Dr. Al-A'araji claimed for asking experts to develop and adopt IT standards in Iraq.

Online transaction security

As he said before, the development of security would be one of the most important challenges Iraqi society has to meet. Iraq would also need software licenses to implement these and to counter the misuse of IT.

H.E. Prof. Dr. Al-A'araji underlined that there would be no awareness of good use for communication tools. In the ICT sector, efforts were undertaken by the government of Iraq which eventually led to a boost in the use of mobile phones.

Legal and regulatory environment

He stressed the need for investments in the area of IT. The country would need a concrete law which brings investors to Iraq. It is a fact that the domain name management in Iraq was not available until 2006 when the government recovered the name through legal proceedings with the "Internet Corporation for Assigned Names and Numbers" (ICANN). Now Iraq finally received its domain name.

The government started to implement the eGovernment in Iraq, as he went on. He mentioned that there is a big need of efforts to implement such new technical innovations.

The MoHESR promised to consider the implementation of eGovernment. This experience can be used for some other missions – establishing a system for labs, lecturers or virtual libraries. Fortunately, one also can find many computerized sections and many electronic-based projects at e.g. the University of Babylon.

Another area which needs to be developed is eHealth. He expressed his regret about that this field does not exist in Iraq yet.

E-business

According to H.E. Prof. Dr. Al-A'araji, the banking system in Iraq is still outdated and until today, transferring money is quite difficult. The society of Iraq needs an advanced banking system that can provide the opportunity to meet this challenge.

E-employment

The project for reconstructing online data bases which can provide a platform for collecting information about Iraqi IT is not matured yet. Realizing this would still be a long way to go and many efforts are needed. Also help from outside is necessary to move on with this. Accordingly, he is looking for the support of TU Berlin and other universities and expressed his hopes that the projects in other sections will be realized.

Mr. Khedir M. Qassim

Sulaimaniya University
ITAT 2011 participant

Mr. Qassim thanked the three presidents of the Iraqi universities, the lecturers and guests of the conference. It was a real honor for him to speak about the major issues at universities in front of such guests.

He noted that the previous speakers have already talked about the challenges they are facing. In his presentation, Mr. Qassim wanted to concentrate on the major issues Iraq needs to implement.

Lack of infrastructure

Most common problems in the IT sector in Iraq are:

- Infrastructure shortage (electricity, buildings, networks, PCs, …)
- Weakness in Internet service and websites
- Shortage in teachers and professors
- Lack of teacher's skills and experience in IT field
- Old curricula don't match today's IT development
- No IT industry (to develop systems and software)
- No clear IT policy and strategy
- Immigration of IT experts due to security situation

Lack of IT experience

Reasons:

- Isolation of IT specialists from the international academic community for three decades
- Paralysis of scholarship and training courses
- Scarcity of abroad conferences and seminar participation
- No IT consultancy planning center to produce a clear IT policy and strategies
- Because of current unstable situation software companies can not invest in the IT field
- Shortage in IT references and books

After presenting the lacks of infrastructure and IT experience in Iraq he sketched his own personal experience for the audience. He mentioned that it is a big problem when the national power supply would shut off suddenly. He asked: What would happen? And realized that it would be a real problem for people nowadays but also for the whole network. People in Iraq wouldn't know how to organize and how to manage these kinds of labs and the building.

That's why he explained that Iraqi IT experts and the government would need strategies to build up a secure and reliable network infrastructure. The next step would be to implement wireless connections in Iraq. Of course, the universities have got websites, but most of them consist of only big galleries and little information. Compared with other universities all over the world, Iraqi students could not check their data online.

Further, he said that In Iraq universities do not have so many professors and PhDs like in Germany, for example. So he proposed projects to be created to improve teachers and the lecture's contents.

Mr. Qassim analyzed the problem that a lot of lecturers don't want to change, but it would be obvious that the curricula have to be changed. Perhaps the IT industry could reach that the university accords to the market needs someday. The other points he wanted to face were IT policy and strategy. Still there would not be a clear policy in Iraq. But how could teachers' and institutions' knowledge be advanced? One possibility to solve this problem could be the immigration of IT experts, he said.

The main reason that IT in Iraq is not developed would be the lack of experience. There, IT did not start until the 1990's. The isolation from CS and IT existed for nearly thirty years. Nobody could transfer the missing knowledge.

This problem affected all other branches, too. If you couldn't get visa you couldn't go outside and to get some different or advanced knowledge. Mr. Qassim did regret that compared with the other colleges in Iraq they would not have a consultation center for the IT sector. So, IT companies were not able to settle in Iraq today. There also would a lack of references and books. Unfortunately, Sulaimaniya University would not have any licenses to apply in the Internet. That situation was one of the big issues.

Ways of development

In particular, Mr. Qassim identified the following needs for a strong infrastructure:

- An Intranet that connects all universities with each other
- Providing servers
- Making use of free and open source software which can be installed on university's servers
- Fast and reliable Internet using fiber optic technology
- Use of video conference technology

as well as:

- Provision of new references, electronic libraries, open access and web technology (wiki, trac system etc.)
- Licensing systems and software and gradually moving towards using Open Source software
- IT capacity and skill development (teachers, technicians) through: intensive training courses, scholarships and fellowships, organizing international seminars and workshops
- Vivid and united IT policy and strategies
- Cooperation and partnership with well-known universities
- Activate the computer or IT center's role in all universities and determine its duties and tasks
- Developing the curriculum
- Encourage Iraqi IT experts to return back home
- Share knowledge between governmental and private sector

In the Administrator Training Course (ITAT) at TU Berlin the students studied such applications, for example how to use Open Source systems and how to share all these systems.

But the vital point was that the government doesn't support software licenses. He mentioned that this is a real problem especially when systems have to be updated.

Development of capacities

Intensive exchange courses and scholarships could be good and helpful solutions. Therefore all universities should organize international seminars and workshops, take part and share their knowledge. The ministries have to be involved in developing the IT-infrastructure, too. For the future it would be also necessary that the curriculum becomes more flexible.

In Iraq there is a private sector that is much more developed than the governmental sector, e.g. the mobile phone companies. If they would strengthen the private sector they could bring teachers from abroad to Iraq for sharing and developing knowledge.

According to Mr. Qassim, the ITAT was the best example to develop IT skills through:

- Knowing the philosophy and concept of Open Source
- Sharing the information and knowledge with each other
- Dealing with new applications and software
- Teamwork
- How to find the problems and ways to track and solve these problems
- Self study
- Cultural experience

ITAT at TU Berlin

A group of 15 participants from Iraqi universities is currently taking part in this education program, of which one of the basic aspects is to learn how to solve problems on their own. Another point was getting to know a different culture in Berlin and Germany. All participants came from a different culture and now they were able to share their culture with the others. But nevertheless they could also learn a lot.

Open Source

Mr. Qassim quoted Richard Stallman, an American software freedom activist and programmer, and his definition and concept of Open Source: One should not need to pay but need to care. Open Source guarantees more freedom for users. The first freedom is to run programs for any purpose. "Free Software" is a matter of liberty and not of the price. Free Software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software.

More precisely, it refers to four kinds of freedom, for the users of the software:

1. The freedom to run the program, for any purpose
2. The freedom to study how the program works, and adapt it to your needs
3. The freedom to redistribute copies so you can help your neighbor
4. The freedom to improve the program, and release your improvements to the public, so that the whole community benefits.

Implementation of experience

He went on characterizing the duties of the participants of the ITAT:

- Teaching, training and implementing the concepts of Open Source for computer and IT specialists through workshops, seminars, lecturers etc.
- Training students for the basics and for the fundamental knowledge of Open Source
- Creating groups and teams and giving them specific tasks to each one of them
- Take advantage of using the knowledge of the seven months long training to be good system administrators, implementing the core of a data center with basic functionalities (mail server, web server, file server, strong network)
- The attempt to study Linux as an Open Source operating system.

After their return back home it would be their task to teach this concept in seminars. Mr. Qassim promised to try to do his best and noted they would be able to give the students a lot of ideas. The computer departments and students should have to know about the basics of Open Source and also how to create and work in groups and teams. Linux shall be a system for the Iraqi universities in future.

Recommendations

He stated that it was important to face the meaning of the ITAT at TU Berlin and this training program was special and needed. In many universities there are computer centers but why didn't they take the chance to develop the teachers there? Training courses could help them to develop them. He asked for support in this matter.

Further recommendations

In a nutshell, his recommendations are:

- Taking serious steps to support Msc's and PhD's programs and training courses
- Dedicating a special budget to support and to develop IT and computer center
- Taking immediate action to solve the infrastructure and Internet issues

Second Conference Day

29th September, 2011

Moderation: Dr. Nazir Peroz

Dr. Peroz welcomed all guests to the second day of the conference and presented the topics:

- Importance of IT for education

- Achievements and challenges of curriculum development for CS

- The Role of IT: Internet and social media

- The role of IT: the public sector and administration

Importance of the Information Technology (IT) for Education

First speaker was H.E. Dr. Ahmed Anwar Dezaye, president of Salahaddin University Erbil.

H.E. Dr. Ahmed Anwar Dezaye

President of Salahaddin University Erbil

First, Dr. Dezaye expressed his gladness to be in Berlin and thanked his colleagues, students, all of TU Berlin, DAAD and especially Dr. Peroz and his team who worked hard to organize this conference.

The most important presentation for him was the last one of Mr. Khedir Qassim that dealt with the challenges and development of IT in Iraq. Most of the speeches so far were telling about the lack of staff, technology etc. Ten years ago, when Iraq got abroad, they already told their partners that there was no IT equipment.

Today the situation is different: Iraq is a rich country but it needs experts and brains. H.E. Dr. Dezaye asked how the IT section could be improved and added that everybody knows that IT would be very important for the whole society. He regretted that all the speeches from the previous day presented the problems but in fact it would be needed to talk about strategies how to change the situation.

His speech was divided into three parts. First, he presented what the Kurdistan Government had done to develop the IT standards. The academy of IT had improved the IT section in Kurdistan. They had a master plan and funding from the government and Council of Ministers. The "KRG IT Strategy" was named as "Building Capacity and Infrastructures in Iraq". Every student would have an ID card today and there are 200 students who do their Master degree in the field of IT.

A lot of the graduates would go to India, then they will come back to write their PhD in Iraq. Afterwards they are to work for the MoHESR and lead the Admission Center. That's why he could say that especially Salahaddin University did something to improve the development of IT in Iraq.

All communication works over e-mail services nowadays. Also, many labs have been established. He mentioned that they would have got the possibility to use video conferences with the ministries and the partners. Job application forms would also be available online.

Salahaddin University has recently changed its curriculum with the help of international people. Now, the university has got two departments: CS and Software Engineering.

It is a fact that even children and students already deal with computers. That's why it would be so important to advance the students', teachers' and lecturers' skills to develop IT in society.

H.E. Dr. Dezaye also said that his university would have an ICT center and network, a website and video conferences to communicate with each other. Next year they would start to test, work and use the changes they had established.

He concluded that they had a strategy as well as the MoHESR. Today, everybody has got a laptop and electricity would be no problem in Iraq. A laptop costs round about 200 Dollars, he mentioned, so it would be very cheap and available for everyone.

Iraq suffered a lot in the last 15 years, but now it would be time to change everything. The curriculum at Salahaddin University changed even this year. They also started with basic subjects, for example how to create presentations. To his mind, there was no difference between all Iraqi universities.

The only difference was that the Iraqi universities started to implement IT and CS in 2003 and Salahaddin University already started in 1991. Nevertheless, they all live together and have to share their knowledge, he demanded.

H.E. Dr. Dezaye thanked for the attention and looked forward to have a successful second day of conference.

Dr. Ebtesam Al-Bistenchy:

Information Technology in Education and Women's Awareness of ICT in Iraq

Kufa University

Dr. Al-Bistenchy welcomed all colleagues, Dr. Peroz and students. It was a pleasure for her to speak in front of them all.

She wanted to discuss the public sphere in Iraq from the perspective of women's uses of ICT. She agreed that the socio-political transformation unfolding in many countries in the Middle East and North Africa were not taking place in the absence of women's contribution and participation.

Drawing on examples from different countries, Dr. Al-Bistenchy demonstrated how women are shaping, affecting and redefining the public sphere by producing alternative discourses and images about womanhood, and political participation in their societies.

"Information and Communication Technology" (ICT) had rapidly become the most important pillar of modern societies. Many countries now regard the comprehension of

ICT, skills and mastery of basic concepts as a part of basic higher education in addition to reading, writing and arithmetic.

Technology has improved the lives of individuals in a myriad of ways. Innovative products and services facilitate communication, empower consumers, helped students to learn more effectively and easily, reduced the labor of performing household chores and made life safer.

Women had been recently involved in the field of IT which was no longer exclusive to men. Where sometimes women and men use and adopt technologies at different rates, technological advances had been just as important to women as they had been to men.

UNESCO in cooperation with the Economic and Social Commission for Western Asia (UN-ESCWA) were developing the sources of e-Learning and training courses to ensure a better education system in Iraq. Before 1991 the Higher Education system in Iraq was among the best in the region. However, the following years of war and international sanctions caused damage to the higher education system in Iraq. Also to the facilities and applications of ICT.

The educator's knowledge of these techniques was almost non-existent, therefore they could not play their role in creating a generation of students who had the knowledge in ICT. The introduction of IT in Higher Education in Iraqi universities would help to overcome this problem through the promotion of literacy in IT and communication among students, professors, administrators and staff of the MoHE.

The "Iraqi National Strategy Statistics Center" adopted the strategy of merging gender in social-statistical systems. In addition, to improve national human resources, UN-ESCWA swiftly adopted the initiative of cooperation with the Central Organization for Statistics and IT.

In 2007, the project included the development of gender statistics in Iraq, with the participation of the United Nations Development Program (UNDP).

Women and technology

Dr. Al-Bistenchy went affirmed that it is important for women to raise awareness to the principles of feminism and cast the issue of women's empowerment as one of the most important elements of development. It was through expanding knowledge and making use of the methods of modern statistics that women could boost their role in the development of society and increase their contributions to work and their influence as decision-makers. It also contributed to creating awareness for the main aspects of the information society.

Women, as she went on to explain, had been recently involved in the field of IT which was no longer exclusive for men. The survey's results of using IT for families in Iraq in 2008 indicated clearly the manifold benefits of this technology for women in various fields. The awareness level among women for using IT as one of the most important means to enable them to take leading roles in society was rising. Women had actually realized enormous benefits from computers, the Internet, cell phones and the growth of other electronic media, to say nothing of technology as a whole.

At the same time, attempts to increase the percentage of female Internet users by producing women specific services contributed to the reproduction of gender stereotypes and to a naturalization of the status quo.

The survey results also indicated a growing ratio of women using the Internet during the last three years. Men and women also differed in their patterns of Internet use, with the men tending to be the early adopters. But as she showed, women were not that far behind: Men use to go more for news (especially sports scores), music and stock trades, while women are more interested in health or general support.

Conclusion

The bottom line, as Dr. Al-Bistenchy concluded, was that men and women use technologies differently. Especially the users of computer-related technologies, developers and early adopters were more often male than female. According to her presentation, men tended to obtain access to advanced communications technologies somewhat more rapidly than women; men and women adopted technologies for somewhat different purposes.

Technology could not eliminate all problems overnight and sometimes in eliminating one set of difficulties it introduced new ones. But who would want go back to life as it was twenty or thirty years ago, Dr. Al-Bistenchy asked.

Technology promises to continue to make our lives easier, richer going forward, improving education for children and adult students around the globe. To facilitate the creation and spread of these technologies, public policies have to be embraced to create an environment conducive to innovation, including less regulation and lower taxes.

Dr. Qutaiba Ibrahim Ali:

Information Technology (IT) – Tools to strengthen the development of Iraqi universities

Mosul University

Dr. Qutaiba Ibrahim Ali began his presentation with the statement that it is obvious that the IT revolution changed the face of the world and led the development in all fields. One of the areas in which IT tools proved to be useful is the field of higher education and its different institutions.

Nowadays, one of the most important metrics to evaluate an education facility was its proficiency in using various IT tools to enhance its teaching and research operations. In his talk he would like to concentrate on the necessary IT tools needed to enhance the Higher Education system and the main steps needed to integrate them into the development procedure of the Iraqi universities.

Also, he would like to present a model specified to serve Iraq conditions by presenting our efforts in this field at Mosul university. IT innovation might now be changing the way that universities teach and students learn. Distance education, sophisticated learning-management systems and the opportunity to collaborate with research partners from around the world were just some of the transformational benefits that universities are embracing.

Technology has had – and will continue to have – a significant impact on higher education. Nearly 63% of surveys respondents from both the public and private sectors said that technological innovation would have a major influence on teaching methodologies over the next five years. In fact, technology would become a core differentiator in attracting students and corporate partners.

Plan to insert IT tools in higher education

He went on to explain that Mosul University has just started an ambitious project to make use of different IT tools to enhance teaching, research and administration processes. The goal was the gradual and careful addition of these tools in the various university's sections.

This plan made use of computers and the Internet to produce different IT projects which were to improve the infrastructure and network resources of the university.

The purpose of the network is to connect the different locations of the university by high speed (1 Gigabit) network links. The network provides several services to its clients (3500 users in 2011), such as Internet access, Email accounts, web hosting and chatting.

For the future, extended application such as database sharing and interactive multimedia applications are planned.

Security and reliability

Network security, as he pointed out, was enforced by applying eleven security methods against internal threats and six against external threats. These methods had both software and hardware aspects and work in all network layers.

IT tools and services

In 2010, as he explained, the following IT facilities were established at Mosul University:

- E-Learning System
- Distance learning & video conferences
- International Corner
- Online registration and examinations results announcements
- Internal e-mail
- Administrative database systems
- University official web site
- ITAT and international certifications

E-learning-system

Dr. Ibrahim Ali explained that Mosul University started an experiment in the Engineering College / Computer Department to adopt e-Learning concepts as a complementary tool to assist teaching process. The Open Source software "Moodle" was used for this purpose.

Mosul University provides distance learning facility to its students through five video-conferencing rooms. As a first step, they had successfully established a scientific cooperation agreement with No.1 ranked Turkish University "BILKENT". Since 2010, 12 different courses were given in various fields of expertise.

The next step would be to extend this work with other world class universities and to use this system for other purposes such as joint supervision for postgraduate students and remote lab learning.

Online registration project

He went on to explain that in 2010, the College of Engineering of the University of Mosul had started a new program to automate the students registration procedure using a web-based system. After the successful implementation of this project it is employed at other university's colleges as well.

In 2010 another program for "Examination Results Announcement Engineering" had started using its secure online system through the official web site of Mosul University. After the successful implementation of this project, it is to be used at other university's colleges.

The internal (intranet) e-mail system is based on an Open Source System. It is a secured e-mail system used to connect the different categories of Mosul University employers. It is also used for daily administration work.

IT training courses & certifications

In order to facilitate IT education, different types of courses and certifications were established in a variety of fields such as: MS Windows, MS Office, Linux, web design, wired and wireless networking, Oracle, AutoCAD, Corel Draw, Photoshop, computer maintenance, Cisco, IC3, programming languages and so on.

The Computer Center at Mosul University was established in 1972 and was the first in its inception in the northern region of Iraq. The success and the continuation of creative work of this center was achieved by employing staff members and educate them in Iraq and abroad.

The current needs

As Dr. Qutaiba Ibrahim Ali showed, several IT projects have been designed and implemented depending on the current technical skills of the CIC team. In order to develop

more sophisticated projects, they need to improve and strengthen technical expertise.

Conclusion

IT plays an important role in the development of Iraqi universities. In particular, Dr. Qutaiba Ibrahim Ali demanded the following steps to be realized to adopt the necessary IT tools and to enhance research and teaching processes:

- Determining the most important fields in which the new IT tools will replace the existing systems and procedures.
- Careful planning, gradual addition of IT tools and control through feedback minimize the risks and costs but create general acceptance by the users.
- Providing the necessary human and logistic resources to implement the different IT projects.
- The continuity of the adopted solutions is achieved through creating user dependability on them, which is made when the end user determines their importance on daily life and feels comfortable by using them.

Dr. Ibrahim Ali explained that the needs have to be defined clearly. If the traditional thinking is to be changed, is has to happen in a careful way. It would not be possible to achieve change without convincing the society. Change and development are slow processes that have to come from the grounds of society.

The second discussion block had the topic:

Achievements and Challenges of Curriculum Development for Computer Science

First, Dr. Noori Farhan Adhab from Al-Qadisiya University gave his presentation.

Dr. Noori Farhan Adhab Mayyahi:

The Evaluation of the Curriculum Development since the last conference in September, 2010

Al Qadisiya University

First, Dr. Noori Farhan Adhab Mayyahi welcomed all conference guests. He introduced his presentation with the words that they had met each other here before in the last year. At this time they had discussed different points last year. Points of discussion were the development of a curriculum, of study rights and duties of students.

He noted that some of the representatives of Iraqi universities organized a conference with several discussion threads including a workshop about the preparation of the recommendations. The management of these

sessions was held by representatives of the Iraqi universities who were at the Berlin conference last year and lecturers from the faculties of mathematics at the universities of Al-Qadisiyah, Kufa and Babylon.

Recommendations

As a result of this conference Dr. Noori Farhan Adhab Mayyahi recommended the following steps as concrete measures:

1. The formation of a central committee of deans of the faculties of Mathematics and specialists from academic institutions. This committee is to develop a mechanism as a basis for the classification of the main topics of the sections of computer science. It is to be divided into specialized sub-committees to study the reality of curriculum and work for their development and improvement. This is to take into account the approaches adopted internationally as well as the labor market in the Iraqi society.

2. Advancement of computer education requirements through keeping up with global development and adoption of modern methods of computer education. This is to take into account the material and human resources of the colleges involved.

3. Upgrading computer education material in the stages of secondary school and the computer material as a core subject as interference in the daily life of citizens, institutions and the government.

4. Adoption of a special mechanism for admission to the departments of computing which is to provide aspects for the selection process which have to concentrate on creativity and innovation.

5. Adoption of the principles of specialization in preliminary studies. The development of computer systems at the University of Al-Qadisiya has become a large and broad field of study. Now it's very difficult to satisfy all the students' needs and wishes for all systems and disciplines.

6. Implementation of a comprehensive curriculum to educate faculty members and to enable them to deal with modern concepts of computer systems and applications.

7. Adoption of the principles of a full-time scientific teaching in the field of CS in order to acquire more experience. The state departments should get to know better what this field is about and how programmatic processes work.

8. Review of the mechanism of selection of scientific topics and focusing heavily on the practical sides and the aspect of creativity and innovation.

According to the needed modernizations in the area of higher education, there should be an annual specialist conference about research and education next to the Society of Informatics. Further, the conference papers are still to be published. Also, as he finished, there were discussions about a new PhD system and about academic partnerships in Iraq and abroad.

Dr. Kamal Hamid Yasir:

Achievements and Challenges of Curriculum Development for Iraq

Thi Qar University

Dr. Kamal Hamid Yasir began his speech by stating that the reorganization in the IT area should be finished soon in order to avoid the big gap between Iraq and the rest of the world.

He reported that the new examination regulations in Iraq were accepted. Problems occurred for students because the curricula didn't focus on practical education; the curricula and examination regulations still have to be changed and modernized.

These measures have to be realized considering that the faculty of IT wants to create a good atmosphere for students according to practical and theoretical education. Also, certain research fields are to be established, for example artificial intelligence and computer language.

Furthermore, it would be necessary to improve the atmosphere for lecturers and students alike. Students of IT should complete two monthly summer work experiences at a public institution to get in touch with administrative tasks.

In addition, Thi Qar University decided that special national cooperations should be

realized, as many students would not be able to find a job for their working experience. That's why the university had to increase the attention to this problem. Students should present these problems in documentations.

Dr. Yasir's next point referred to the active situation of post-graduated studies in Informatics. The lecturers should acquire special expertise to ensure the quality of the lectures. A strict inspection would be needed to detect the domestic and abroad situation of requirements.

People who didn't achieve a graduation at school could reach it later at so called evening schools in Iraq, as he mentioned.

Duties and rights of lecturers should be in balance. Therefore, the university has to be encouraged to develop and to change special points at regional level. In this context they had to develop new guide lines for the granting of academic titles and salaries.

Dr. Yasir explained that there have already been discussions after the last conference about creating special fields of computer science as well as about modernizing the organizational structure of universities.

As a conclusion, he said that Iraq is able to modernize itself anywhere, not only in the field of IT.

The third discussion block had the topic:

The Role of IT: Internet and Social Media

First speaker was Mr. Jamal Ali Hussein from Sulaimaniya University.

Mr. Jamal Ali Hussein:

The role of Social Networks in the development process

University of Sulaimaniya

Mr. Jamal Ali Hussein began his presentation by explaining how social networks were a social structure made up of nodes. These nodes might be individuals or organizations connected by one or more specific types of interdependency like friendship, kinship, common interests, financial exchanges, dislike and other relationships. According to him, individuals can belong to specific groups or communities.

Types of Social Networks

- Collaborate projects (e.g. Wikipedia)
- Blogs (e.g. Twitter)
- Content communities (e.g. YouTube)
- Social Networking Sites (e.g. Facebook)

Advantages of social networks

- They are free to use
- Offering the experience of virtual meetings
- Offering opportunities to promote blogs and other services
- They are used as a medium to raise visibility, getting attention, telling about companies or services and getting more clients
- By joining different communities people easily get to know about the latest news related to that community
- advice can be obtained for free easily from experts related to the topic of interest
- They are able to increase transparency in government and organizations

Disadvantages

- Security is one of the topmost concerns of social networking sites because these sites display personal information such as name, location and email address
- Risks of fake identities are existing. Identity is hard to prove online
- Joining unknown communities which make use of fake identities or involve in illegal activities may spoil the participant's image
- Its use can easily become a waste of time

Role of Social Media in the Middle East

Mr. Hussein pointed out that social networking sites were also used by people in countries with limited freedom of the people and with high corruption rates. In the Middle East, Facebook and Twitter served as critical tools for people seeking to topple over long-time rulers. Social media played an important role before and during the Egyptian uprising. Egyptian activists used social networking sites to engage people and to motivate them to become active, not just online but also in real life.

Role of social networks in Iraq

He explained that in Iraq and the Kurdistan Region social networking sites would play an important role to bridge the gap between the different ethnic and religious groups. They would also be able to create an atmosphere of optimism and confidence among those groups. Furthermore, these sites could be used to combat financial and administrative corruption and would urge the authorities to serve the country more. Iraq could take benefit from social network sites, but for this achievement it needs:

- Building a strong IT infrastructure to provide fast Internet connections
- Building local social networking sites to helping to raise the benefits of using social media
- Make users aware of security risks when using social networks

Academic social networks had become an important tool for many students to collaborate in writing, conferencing, online scheduling and meeting arrangements. In the future, the physical and digital worlds should be more connected with each other. Companies like Google, Facebook and Amazon will collect information about everyone.

The university will no longer need to search for information on the web as information will find them based on all this data which companies are collecting. The right information will be served to the right people at the right time, saving them a lot of time, effort and energy. Human relationships will no longer be as physically dependent and people will befriend with people from all over the world.

Accordingly, as he concluded, the Iraqi people will no longer be passive media consumers, but they will interact with media in dynamic ways on all platforms.

Mr. Saadi Hamad T. Alluhaibi:

The role of Internet and Social Networks at Tikrit University

Tikrit University

Mr. Saadi Hamad T. Alluhaibi began his speech with highlighting the fact that social networks, online dating and Internet communities are experiencing an increase in popularity and the number of members. They enable people all over the world to interact with each other and to meet friends and share files, photos and videos. All social networking sites used in Iraq offer a platform, free of charge for its users and to share exiting content, videos and files.
The computer and IT center at Tikrit University, as he went on, developed an e-Government system for the university. It included e-Administration applications, a central database and a video conference system. Furthermore, e-Education projects are planned.

Due to the inefficiency of the existing e-Government, the university would need a more efficient e-Government in order to keep pace with the expansion in this area and to meet the increasing demands and cover new fields such as e-Education.

The local electronic administration

According to Mr. Saadi Hamad T. Alluhaibi, local administration systems have been established on the campus of the university which consists of about thirty nanostations.

The website of the university has been activated a year ago, and the problems of updating and security are not yet solved, even though efforts were increased to address these issues. For this task, more experienced staff would be necessary.

The establishment of a central database that includes information about the university, its personnel and the students would be in process, but for security precautions the uploading of such information to the university website would bear major risks. A live video conference system has been set up at the university four years ago. But since then, the system has not evolved and thus fell back behind international standards at western universities in terms of e.g. video quality or multi station systems.

Networking study facts

Regarding networking technologies, as he continued to explain, there are a lot of things that have changed during the past years, especially at the universities. These changes would be led by Cisco. As far as there was no constant contact with Cisco, Tikrit University has to initiate a close contact with the company to update the curricula and the labs and to get personnel trained according to Cisco criteria.

The computer and IT center would need servers that are compatible with Linux or Sun systems and the wireless network system needs to be updated to meet latest international standards.

At Tikrit University, there is a syllabus of six subjects for networking studies within the IT Bachelor study course:

- Optical networks
- Broadband communication
- Wireless networks
- Voice over IP
- Satellite communication networks
- Internet working with TCP/IP

For optical networks, the topics offered are:

- Basics of data transmission
- Fiber optics components
- Fiber, transmitters, receivers, amplifiers, simple couplers, channel impairment
- Parameters (signal power attenuation, dispersion, noise) WDM line systems
- Routing and traffic grooming
- Traffic models
- Switching, access networks

For broadband communication:

- Introduction to broadband communication
- Concept of bandwidth signals and systems
- Baseband and bandpass broadband signals
- Line-of-Sight propagation (LOS)

For Wireless networks, the topics offered are:

- Introduction of Wireless Networks
- Wireless communication/radio characteristics
- Ad-hoc wireless networks
- Media access control (MAC)protocols
- Routing protocols

For Voice over IP, the topics offered are:

- PSTN and VoIP
- Enterprise Telephony Signaling
- Signaling System 7
- PSTN Services
- VoIP benefits and applications
- Basics of Internet protocol
- Analysis of VoIP

Conclusion

The number of Internet and social network users was increasing very fast. According to Mr. Saadi Hamad T. Alluhaibi, there is an urgent need for establishing compact and advanced Internet facilities at Tikrit University to cope with the growing use of social networking programs. In this regard, experts would be needed for adopting practical and proficient methods of programming and Internet facility maintenance and control tools.

The fourth block had the topic:

The Role of IT: Public and Administration

Mr. Alaa Harif:

The role of Information Technology in Iraq

Baghdad University

Mr. Harif started his presentation with the thought that Iraq would be and had been an important place in the world for innovations in IT and thinking. He went on saying that Iraq even was the cradle of civilization because of Adam and Eve and the history of Mesopotamia.

In Iraq they also invented the wheel chariot, sail boats, irrigation systems, mathematics (the zero, square equations, Pythagorean Theorem). The arch was one of the innovative buildings in the world – even today. How could people innovate such things, he asked himself.

Then he wanted to come to the topic "Iraq and IT". Mr. Harif was glad to be one of the first persons in Iraq who got the chance to build a network in 1999. At this time Iraq was still under embargo. The engineers needed some tricks and then he told that they said they would be constructors from Qatar for example, to work on. He and two other colleagues had built an IT connection finally in May 2003.

The infrastructure would be much better now and the Iraqi people were able to speak to other people in the world. Sanctions have been imposed until two years ago. Today they would have got more freedom. The IT engineers achieved to lay wires in the near of the Jordanian Border. Mr. Harif was one of the people of this project.

Further, he asked why the connections were not stable enough? He answered his question with the words that the reason for these circumstances would be sabotages and attacks by terrorists. They wanted to build a water channel e.g. so they destroyed the cables and the people didn't have any Internet connection any more.

He added that Iraq would be a state which lays in the middle of the world. Mr. Harif always thinks of any kind of communication they could initiate between the other countries because of this beneficial location.

Six months ago there was a big cut of the communication wires between East and West. Experts all over the world needed about 15 days to solve this problem. Up to now it didn't come to reliability.

The Ministry of Communication owns most of the infrastructure in Iraq and would have got own fiber networks. So Mr. Harif raised the question what experts could do about the situation in Iraq. IT plays a very important role in the country. How could the people defeat corruption, he asked. Unfortunately, the ministries work still for their own, as he said.
According to him, the current status includes

- Lack of clear policy
- Lack of clear plans
- Limited experience
- Individual workstations
- Very weak infrastructure
- Missing qualified persons
- Paper oriented use minds

- Open corruption gates

He asked again how they could fix the situation. It would be important that people in Iraq should be able to at least start with something. There were a few projects of the government like the first "Iraqi Driving System". But Iraqi citizens would have also problems with the passports.

He emphasized, that thanks to todays technologies, people have the chance to spell their name correctly during online passport application services instead of being dependent on the spelling of the authorities. This would be a great easement for arrangements of inspections at airports or for booking hotels.

The social media networks had also changed dramatically. Before January 2011 nobody in Iraq had ever thought about platforms like Facebook. The Egyptian people used it to communicate during the protests and demonstrations. Months ago, Iraqi students asked him what was that thing about Facebook. TV channels used it, too. If one would go to private companies and one had not a Facebook profile it would be a very strange case.

He went on to ask the audience how many of them have a profile on Facebook, Twitter or MySpace. Most of the Iraqis would have got a Facebook profile now. But besides all these advantages one should also bear in mind that Facebook could also be used for political discussions and for advertisement of course.

Estimated participation

Mr. Harif added that about 70% of the Iraqi Internet users and 90% of the Iraqi students have got a Facebook profile. 50% of the Iraqi citizens knew about Facebook and 20% of Iraqi citizens would use Twitter, MySpace and other platforms.

They would use it for:

- Chatting
- Learning
- Following up friends
- Scientific, public or political discussions
- Advertising
- Finding new friends

Dr. Jaleel Kadoori Al Robayie:

E-Government as a tool for Development, Reform and Modernization

Diyala University

Dr. Jaleel Kadoori Al Robayie began his presentation by stating that the employment of ICT in the form of e-Government could yield great benefits in reform and modernization processes of the public sector. He is convinced that the experience of e-Governance in a number of developed and developing countries has already shown that ICT can be a tool to improve the overall service quality.

Electronic government, or e-Government, increases the convenience and accessibility of government services and information for citizens.

Despite the benefits of e-Government – to increase government accountability to citizens, a greater public access to information and a more efficient, cost-effective government – success and acceptance of initiatives such as online voting and license renewal are depending on the citizens' willingness to adopt these innovations.

In order to develop "citizen-centered" e-Government services that provide participants with accessible, relevant information and quality services, government agencies must understand the factors that influence the citizens' adoption of this innovation first. It would be important that this model becomes integrated into the education of future leaders of the public service

What is e-Government?

E-Government is the use of ICTs to improve the activities of the public sector organizations.

In another definition e-Government is defined as a government model which utilizes IT in exchange of information, services and goods between citizens and commercial institutions in order to increase performance and efficiency.

Computers, mobile phones, Internet

Dr. Al Robayie believes that people live in a thoroughly technical and technological society and would be, without noticing it, completely surrounded by technology today. Mobile networks and the web were "new" communication systems, without them, society would not be able to function today.

But it were not just citizens who are living a digital lifestyle. Public administrations and authorities would also fully embrace IT in order to communicate in modern ways. The term "e-Government" has already been coined years ago to describe this concept.

Improving government processes: e-Administration

E-Government initiatives within this domain deal particularly with improving the internal work flow of the public sector.

This includes:

- *Cutting process costs*: Improving the input/output ratio by cutting financial costs and/or time costs.
- *Managing process performance*: Planning, monitoring and controlling the performance of resources (human, financial and others)
- *Creating strategic connections in governments*: Connecting arms, agencies, levels and data stores of government to strengthen capacity to investigate, develop and implement the strategy and policy which guides government processes.
- *Creating empowerment*: Transferring power, authority and resources for processes to responsible parties

Connecting citizens: e-Citizens and e-Services

Such initiatives, as Dr. Al Robayie went on, deal particularly with the relationship between the government and the citizens, either as voters/stakeholders from whom the public sector should derive its legitimacy, or as customers who consume public services. These initiatives may well incorporate the process improvements.

According to a definition in this context, e-Government would mean the realization of mutual duties and obligations and relations between the state and individuals in modern societies in an online and secure context. He explained that e-Government was the sum of all the new options offered by state institutions to communicate by electronic means. All various forms of transactions, decision making or simple communication can be handled using IT (e.g. WWW, E-mail).

Independently of place and time, citizens could e.g. create applications electronically, view files directly or contact state institutions and their staff by e-mail.

E-Government represents the following advantages for citizens

Furthermore, verifications could be submitted by electronic means. In certain cases, citizens would be able to download the verifications themselves (e.g. confirmation of residence, extract from criminal records etc.).

In further stages, the transferred data would be assumed automatically into the various applications within the administration. With a legally secure electronic signature it will also be possible for citizens to directly view the files and acquire information about the status of proceedings.

E-Government would be the set of all electronic public administration services available to everyone in the country. Dr. Al Robayie is convinced that it would also be a synonym for a modern and innovative state, in which quality, trust and quickness were key aspects.

Public authorities use technologies such as the Internet or mobile services to get in contact with citizens and businesses. They also use these technologies to carry out internal work processes. E-Government has an impact on every citizen, business and public authority.

The use of communication technologies allows citizens and businesses to communicate interactively with public authorities. The Internet is practically open around-the-clock, which means that applications and forms could be sent to the electronic public authority any time, no matter if it is day or night.

However, e-Government would not mean that traditional offices were not necessary anymore. Although transactions with public authorities could be conducted over the Internet, citizens wouldn't be forced to actually do so. For all those who would prefer personal contact or those who were uncomfortable using the Internet will still be able to go to the public offices in person.

The IT's aim is to increase public awareness and encourage public participation in fighting corrupt practices. Those tools are used by every modern society – not just for citizens but also for public administrations and governments. Dr. Al Robayie expressed his belief that e-Government is a synonym for modernization in general.

Conclusion

For him, e-Government would mean transparency. But there would be still a big problem with corruption in Iraq. Unfortunately, it would be very hard to minimize corruption at this time. But he expressed his hope for improvement of the situation.

Mr. Ziad Sabah Abir Al-Khafajy:

The impact of a well technically-structured university on its community

Kerbala University

Mr. Ziad Sabah Abir Al-Khafajy began his speech with presenting some facts about Kerbala University. Established in 2002, it is a relatively young university. It has two main campuses, one research center and two training centers. These two campuses extend over an area of about 170,000m².

One of them lies in the urban area while the second lays outside the city in a distance of 7,8km. Kerbala University has 1050 employees and about 400 scheduled contact employees. The university has 30 professors, 123 assistant professors and 617 lecturers. Kerbala University has 11 colleges and this year, four new colleges have been opened for students which altogether sums up to about 850 study subject titles in 35 major study fields.

Annually, the number of Kerbala University's new students increases by about 5% (about 7500 students from 2010-2011). New opportunities for higher education are opened each year for both M.SC. and PhD under supervision by the MoHE. There is an engineering consultation office which resides inside Kerbala city. With three assistant professors and four senior engi-

neers this office covers all the local demand for consultation in the major fields like mechanics, control, electronic and civil work.

The economic consultation bureau realizes studies about feasibility, business logic and work flow of projects. From last year up to now there were 19 projects that had been completed and eight other are still under process from 2010 to 2011.

Kerbala University is a young university with big dreams, as Mr. Al-Khafajy said. As a matter of course they would know this and would work to make them come true. The university administration believes in active participation in all local government directorates and society events as well as the private sector.

The university believes that the electronic interaction with the community can be increased by advancing the level of the e-readiness and e-awareness. However, there would be no sense to provide services for someone who doesn't know how to use it a secure manner.

So far, achievements of the university in this area include:

- A basic student information system
- A university intranet (for one campus)
- Design and implementation of an assets database
- A central library offline and an online catalog
- Designed and implementation of a hostel student information system
- Designed and implementation of the Kerbala "Education Directorate Buildings Management System"
- Performing a feasibility study for a vehicle number plate and driving license issuing system for the Kerbala Police Directorate
- Performed a feasibility study for a document management system for Kerbala Local Governorate

- Design and implementation of a simple human resources management system for Babylon Governorate / Electricity Guardian Force
- Providing a training and test center for official certificates which were IC3 and IBT TOEFL, in the near future, offering ICDL and ICT TOEFL certificates

Mr. Al-Khafajy noted that Kerbala University does not participate electronically in the community as it aimed to yet, since there would be no professional private sector to fulfill these tasks. Thus, Kerbala University should be put in charge to provide a model of reliability, security and well supported electronic services.

Kerbala University established the "IT and Data Base Unit" (ITDBU) in 2009 as a result of the first IT conference, later in 2010 a communication had been added to the name ITCDBU.

This unit was now waiting for the right time and enough technical resources to be upgraded to an IT center with specialized divisions (or to be integrated with a computer center). Secondly, the IT conference gave them a clear idea how to adapt our CSD curriculum in a way to meet the strategic plan.

The CS Department is currently updating its curriculum to meet the required goals, e.g.:

- Inserting web applications engineering and programming (especially database driven websites)
- Focusing on object oriented programming language rather than structure programming
- Inserting advanced database courses
- Upgrading networking and multimedia (especially labs)

Challenges

According to Mr. Al-Khafajy, the university currently lacks qualified professors, personnel and technicians to:

- Plan, design and decide about an ICT infrastructure
- Implement what has already been decided
- Provide sufficient support for the users

Conclusion

Mr. Al-Khafajy finished his speech by concluding that Kerbala University needs a long term strategic plan to build up its IT infrastructure. He is guessing that this would take three to ten years. They wish to take advantage of software, hardware, planning and implementation experiences and also would like to continue the training program at TU Berlin either for new IT administrators or for a second round for the existing ones to help them to carry out the aforementioned plans - depending on a trainer--trainee concept to share more knowledge for a short time and reducing the gap between theory and practice.

Building a robust infrastructure (with personnel and systems) would be the most important step to provide an adequate environment for a future exchange of scientists to complete their research or implement it back home. At the same time, the community should be informed about the benefits of the new technologies to avoid reservations. In particular, these technologies would

- not replace any employees
- be secure and private
- be reliable and recoverable
- be accurate if used correctly
- be fast and effort saver
- not cause any problems without solutions

Mr. Al-Khafajy closed his presentation with a proverb: "Every change even if it was for his own good, should stick with what it works".

Third Conference Day
30th September, 2011

Moderation:

Prof. Dr. Uwe Nestmann
Technische Universität Berlin

Prof. Dr. Nestmann welcomed all guests to the third day of the conference. He expressed his pleasure to meet again those participants who took part in the conference in the previous year.

After the presentations from the past days, he said he would be looking forward to a fruitful discussion to exchange ideas, questions, suggestions and solutions.

Mr. Harith A. Hussein:
Higher Education toward ICT market needs

Tikrit University

Mr. Harith A. Hussein started his speech by pointing at a problem between higher education and the marketplace, of which many international and local partners are already concerned about. The higher education sector in Iraq should play a vital role in developing the country politically, socially and should deliver manpower and economics to advance peace-building.

The marketplace is more specific. It is necessary that higher education and the marketplace are connected with each other. Higher education is experience – economy is money. The disproportion between these two factors is really serious and a big problem, as he suggested.

The logical task would be to meet these needs. Any crisis in this relationship would effect the functionality of both sides – university and the marketplace. Economy and education are closely related, economy contains a strong reference to education and training. Education is the producer of knowledge and qualified employees for the

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marketplace. That's why it also plays a big role for the society. Qualified employees are most important for economy. On the other hand, economy gives back human resources to education.

Higher education in Iraq stems from the fact that education often is not linked to the needs of the labor market and the development of future perspectives (UN, 2009).

According to Mr. Hussein, the problem is that Iraq's CS curriculum emphasizes on mathematics and generalization, but it is out of date and has no clear link to the institution objectives (Jhon, M. 2006). As a result, the future job market will demand further specialization for example in the areas of e-Government, SME computerization and atomization (AOAD, 2009).

Higher education graduates are often not fully qualified for proper employments because of the gap between the educational curriculum and the industrial needs (Furat Abdulla, 2008). Limitations of the Iraqi private sector are compounded by a serious lack of enough skills and employment opportunities for graduate students, especially in ICT (UN, 2009). Mr. Hussein underlined that it would be important to have a relationship between these two factors.

He went on that literature would have many interesting texts that proof the gap between the marketplace and education. Some were local and some would refer on international studies. Some of them believe that the CS curriculum would have no link to the college objective. He explained that the market would need more development to use e-Government.

It is a fact that the higher education in Iraq is focused on mathematics. According to another report the future job market demand is focused on high educated people but unfortunately a lot of them won't get a job because of the gap.

Bridging the gap between higher education and the market economy

There are different approaches how to minimize this gap. On the one hand there are short-term strategies like establishing university IT-training courses and consultation centers. On the other hand there are long-term strategies, like the adaption of curricula and the job market to higher education. But also the policies of the MoHE are key aspects in closing the gap between the two sides.

Who should drive whom?

Mr. Hussein went on to explain that the marketplace would have to navigate the education system based on the needs or the universities would have to find the right way to the needs of the marketplace. To update the curricula based on the market needs, the marketplace itself would have to be analyzed according to IT. He stressed that not everyone would be able to benefit from this program.

His answer to this question was that universities should start to navigate the Iraqi market in order to benefit from the advantages of ICT. All the markets in Iraq were still local because of the many years of separation. The connection between the marketplace and higher education will be a fundament of future curricula.

Short time solution

As a solution, Mr. Hussein suggested to change the curriculum and to promote trainings, workshops etc. This short time solution would concentrate on IT training courses and consultation centers. These are institutes that launch and operate at the universities and could be a connector between universities and the marketplace.

It is his vision to bridge the gap between the education institutes and corporations with this and to react flexibly to changes of

the needs of the marketplace. It would be an applicable solution to transform the talented graduates from knowledgeable individuals to corporate professionals who are required in IT and other related industry fields.

For this, he imagined a special institution ("UITTC"), which would act as an interface between the ICT market's demands and higher education institutions.

Also, the output of CS should be improved by concentrating on the technical sides. In Iraq, the focus would be more on the theoretical side. He wanted UITTC to be understood as a pattern based on the local needs of the country.

Goals

- Impart practical training mainly – but not limited – to the university students at all levels
- Train and support the internal staff of the university
- Introduce open source systems and cross-platform applications
- Conduct practical trainings focusing on lecturers and offering them new teaching methods in teacher's training programs
- Assist graduate, post-graduate and research students through providing them technical information
- Listen to the problems of the marketplace
- Analyze the market's needs for IT with experts
- To support companies in transforming from paper-based systems to ICT-based technology

Benefits and expected outcome from this special institution:

- Enable small scale testing
- Quickly and cheaply handle many small university programs

- Increase and enhance innovations where the center can afford providing and creating
- opportunities to test small ideas that might not have the sufficient support for an entire research project
- Providing job opportunities for qualified students at the center during their study progression
- Financial benefits for the university

UITTC doesn't fit into every university as it is only a pattern. As a conclusion, he said that

- Iraqi universities need an immediate boost to close the existing gap
- The Curriculum should reflect market requirements
- Can work parallel with improving the curricula in ICT sector
- Suggested courses are based on the local ICT market needs
- The UITTC is a flexible institute based on the market's developments

Prof. Dr. Jochen Koubek:

Defining Computer Science in Society

University of Bayreuth

Prof. Dr. Jochen Koubek began his speech by asking the question of what should be reached at the university and the whole society. For answering these questions, he first wanted to give some clues for creating a curriculum for a university. Then it would be important to find out how the curriculum could be defined. This measure again would consist of several steps.

At first, it would be important to address the field of professional work, as it is not the highest priority to teach abstract CS but to teach practical CS. With this expertise, they would be able to connect and tackle professional, individual and social problems.

In general, he said that it might not be possible to transfer the solutions and models from Germany to other countries.

As a start, it would be beneficial to take one reference project, transform it into a practical one and then analyze the resulting problems. He explained that the next step for creating a curriculum is to find out that all these processes have got sub proces-

ses. After acquiring the reference project data, modeling would be necessary.

It would not have to be a real relationship but it should be related to one, as Prof. Koubek went on. When the identification process is closed, information management would have to follow, and the question to be answered if it's adaptable for Iraq or not.

The so called "Body of Knowledge" shows what to work with and what to teach. Several units make up several topics, the "Body of Competencies". Data modeling systems pretend real problems. By regarding these factors it should be possible to find out what would be really necessary for the people and the country.

After this identification, everything would have to be put into a curriculum which is outcome or output oriented. He showed an example curriculum that was designed since the last fifteen years at the TU Berlin.

What society needs is that students should be able to solve problems. They must not only pass an exam and reproduce definitions, but they need to learn practical behavior and different competencies.

Content of teaching

Prof. Koubek continued to discuss the so called "Body of Knowledge" and how it is able to provide means to analyze how teaching is organized. According to the curriculum it would be also important to know that it is not possible to teach everything everywhere. Thus, one has to think of the two aspects of the resources and the demand one country where the teaching is to be implemented. Based on such facts, a syllabus can then be created.

Further, he asked how this work could be organized. A Society of Informatics for example would be an international and national organization. It is to identify and list problems, facts and demands in this area.

It would be also necessary to work in co-operation with the MoHE. In fact, Iraq really would need a national forum, as he mentioned.

Other questions that have to be answered are how social and cultural impacts could be reflected and what the impacts on society would be. During all curriculum development the background and the special uses of their work should be considered.

It would also be important to establish an academic course between universities (conferences, exhibitions and so on). If these courses and projects grow then it will be possible to face bigger projects later on.

The computer society should be a partner for all. He added that it must not be forgotten to talk with younger people, because some day, the old ones will be too old to engage. He gave the advise to look for gifted pupils in schools because they actually are the future.

Mr. Daniel Tippmann:

Impulses for establishing a Society of Computer Science in Iraq

**Center for international and intercultural Communication (ZiiK),
Technische Universität Berlin**

Mr. Tippmann began his speech by stating that IT has to be a tool, a motor and a promoter for dialog, for communication, for science and for the economy. The basis to reach these goals would be an elaborate IT strategy plan that concentrates on the frame conditions for the society.

So, the Society of IT or CS should be an institution which promotes the correlations of modern technology through

- Education
- Research
- Development
- Advising
- Supervision

within the Iraqi society. It should work to increase IT literacy as a basic competence of day-to-day life with the help of the university's competences. Politics have to actively create and support the Society of IT.

The objectives of the Society of IT should support and coordinate:

- Planning
- Acquisition
- Employment
- Operation
- Consulting
- Education and Training

in the area of IT. It should also give advice to the development of an IT policy and strategy and raise public awareness and create consciousness about:

- Data security,
- Privacy and
- Copyright.

The Society of IT would follow only non-profit goals which will be attained by:

- Giving advice in the run-up concepts and the development of IT strategies and policies
- Assisting in the areas of IT norms, standards and validations
- Developing concepts to counter the lack of qualified IT staff
- Improving higher education and the creation of domestic IT capabilities and infratructures
- Giving public recommendations on different societal topics

According to Mr. Tippmann, these goals would be reached by

- Supporting the scientific offspring and its competition
- Issuing and supporting the publishing of scientific papers
- Developing and revising of IT curricula
- Providing professional communication forums by offering workshops, symposia, conferences and exhibitions
- Cooperation with national institutions and offices

- Cooperation with international societies and associations

Mr. Tippmann went on to describe the general principles of the Society of IT or CS, which consist of

- Rules
- Cooperate purpose
- Organs
- Structure
- Ethical guidelines

It would be necessary for the Society of IT and CS to create a leadership, a board of directors on the one hand and a steering committee on the other one.

Members of both committees represent the interests of the Society of IT internally and externally. For the achievement of particular professional and technical tasks, departments are to be created, e.g. "software engineering", "Informatics and society", "didactics of Informatics", "man-machine-Interaction", "graphical data processing" and so on and so forth.

The foundation of the constitution, organs, departments and structure of the Society will be prepared by a group of scientists, IT professionals and lawyers. The board of directors will decide about the foundations and elect the steering committee. The steering committee will determine the tasks for a certain period of time and propose the ethical guidelines.

This will eventually result in a platform which brings together the interests from economy, politics, science and the whole society. The Society of IT and CS could be founded by Iraqi universities.

Mr. Tippmann finished his speech by stating that a cooperation with the German Society of Informatics could be used to initialize and support the founding process. The ZiiK is offering its kind support and assistance during this process.

Discussion and Future Prospective

After the presentations of the invited guests, Dr. Peroz posed the central question what the task is now and what to do in the future. In the past three years, the ZiiK collected many experiences with the Iraqi universities and observed that the situation is rather heterogeneous in the areas of IT infrastructure, IT curriculum and IT expertise. This conference showed that Iraq needs more support in the areas of education. Dr. Peroz stressed that he defines two levels of education: professional training and academic education. He went on to describe that there are three topics which have to be discussed:

- Continuing the IT administrator training
- Creating a CS Master study course for Iraqi lectures at TU Berlin
- Founding of a society for CS or IT in Iraq

The great problem, as he went on, is the funding of these projects.

H.E. Dr. Dezaye stated that money would not be the problem. During the weeks before the conference he had talks at the DAAD with Mr. Haridi and with Dr. Helmut Blumbach, DAAD. They remarked that the DAAD wishes to go on supporting the Iraqi universities for three more years. Dr. Peroz explained that the DAAD will however reduce the funding of the projects by 40% and that therefore, they could not be continued in the same scope as from 2009 until 2011 but will depend on the financial support of the Iraqi Government now.

All participants agreed on the high necessity of the IT training courses at the TU Berlin for the Iraqi universities. Prof. Dr. Al-A'araji stated that a general analysis of the IT situation at the Iraqi universities has to be performed to evaluate the actual needs. The results have to be discussed with the MoHE to plan the next steps. He was convinced of the high level and quality of the TU Berlin training program and agreed to the fact, that the education of IT experts plays an important role at his university. Hence, this program needs to be continued.

H.E. Dr. Asmat Khalid stated that, according to his point of view, an example project at one particular university should be realized which could act as a model for the other Iraqi universities. If a modern computer center would be established, other universities will follow the example. H.E. Dr. Asmat saw the importance of people being educated as well.

Regarding the academic education all participants agreed that it would be an important task for the Iraqi participants to take part in a PhD program. H.E. Prof. Al-Aaraji said he would be able to send some people to TU Berlin for this. Dr. Peroz answered, higher education has three pillars, Bachelor, Master and PhD and Iraqi universities urgently would need this kind of education programs.

The big problem, however, is the mentoring of the PhD candidates. Therefore, first a Master program needs to be established and on this basis, a PhD program later on. A special program for young Iraqi lecturers has been developed by the ZiiK, in which they would come to Berlin for three years: In the first year there will be a preparation course and after that, a two-year Master study course will take place. During the two-year course, a stay of the participants at their home universities is planned, during which they will analyse and evaluate the needs on IT at the universities and in the whole society.

Dr. Jalil stressed that there were scholarships from the German government for this purpose already, which should be used. Some participants answered that these scholarships do not include any mentoring

like in the proposed ZiiK program. During these programs, a full program is offered to the participants which includes not only academic education but also a cultural program and personal support and counselling. Also, the Master thesis will have very concrete topics which are important for the society of Iraq.

Some participants came to the conclusion that the program is too expensive. Dr. Peroz answered that it only appears expensive, because in the end it is very cheap and yet sustainable because the participants will be educated particularly for the requirements of Iraq.

At the end of the discussion, the founding of a society for CS or IT had been talked about. H.E. Prof. Dr. Al-Aaraji promised to further discuss this with responsible representatives from several universities. Dr. Peroz added that Iraq has the chance now to realize a sustainable development in area of IT which should be supported by the Iraqi Government. It would be different from Afghanistan.

After this discussion, the question came up on how to continue. It has been agreed that Dr. Peroz will develop a proposal and send it to Prof. Dr. Al-Aaraji. This proposal will include a cost plan and the particular tasks for the universities. Dr. Peroz kindly asked H.E. Prof. Dr. Al-Aaraji to organize this in cooperation with the other Iraqi universities. For this reason, H.E. Prof. Dr. Al-Aaraji and H.E Dr. Asmat Khalid invited Dr. Peroz and Mr. Tippmann to come to Babylon and Erbil soon.

Dr. Peroz expressed his thanks to the Iraqi guests, especially to their Excellencies the three university presidents, for their participation at the conference and presentations, to Prof. Dr. Jähnichen and Prof. Dr. Koubek for their contributions and Prof. Dr. Heiß for his welcome speech and Prof. Dr. Nestmann for the moderation of the third conference day.

He especially thanked Mr. Haridi and the DAAD for the funding of this project and the good cooperation and the Iraqi Embassy, especially Prof. Dr. Al-Abbasi for opening the conference. Finally, he thanked the team of the ZiiK for the successful organization of this conference. The Iraqi guests took the chance to also thank the team of the ZiiK and all involved parties for the organization of the conference.

List of Participants

- H.E. Prof. Dr. Salah Aliwi Al-Abbasi, Iraqi Embassy Berlin
- H.E. Dr. Asmat Mohammed Khalid, Dohuk University
- H.E. Prof. Dr. Nabeel Hashem Al-A'araji, Babylon University
- H.E. Dr. Ahmed Anwar Dezaye, Salahaddin University Erbil
- Dr. Ebtesam Al-Bistenchy, Kufa University
- Dr. Qutaiba Ibrahim Ali, Mosul University
- Dr. Noori Farhan Adhab Mayyahi, Al-Qadisiya University
- Dr. Kamal Hamid Yasir, Thiqar University
- Mr. Jamal Ali Hussein, Sulaimaniya University
- Mr. Saadi Hamad T. Alluhaibi, Tikrit University
- Mr. Alaa Harif, Baghdad University
- Dr. Jaleel Kadoori Al-Robayie, Diyala University
- Mr. Ziad Sabah Abir Al-Khafajy, Kerbala University
- Mr. Yakoob Karomy Hanna Dabool, Mustansiriyah University Baghdad
- Mrs. Rasha Falah Kadhem Alnghesh, Al Qadisiya University
- Mr. Mohammad Jawad Kadhim Janabi, Babylon University
- Mrs. Maryam Abdulraheem Yasir Al-Talqani, Baghdad University
- Mrs. Ruaa Younus Hasan Al-Hasani, University of Technology Baghdad
- Mrs. Shereen Jasim M. Ali Al-Raheym, Basrah University
- Mr. Hassan K. Ibrahim Al-Mahdawi, Diyala University
- Mr. Omed Ahmed Ibrahim, Dohuk University
- Mr. Ahmed Sileh Gifal Al Tememe, Kerbala University
- Mr. Hayder Kudhair Abdullah Fatlawi, Kufa University
- Mr. Ashraf Nabeel Mohammed Taib Almallah, Mosul University
- Mrs. Kareez Kamil Ezzat, Mustansiriyah University
- Mr. Murtadha Najah Rasol, Thiqar University
- Mr. Harith Abdulla Hussein, Tikrit University
- Mr. Khedir Majow Qassim, Sulaimaniya University
- Mr. Bakhtiar Muhammed Hamad Amin, Salahaddin University Erbil
- Mr. Alexander Haridi, DAAD
- Prof. Dr. Jochen Koubek, University of Bayreuth
- Prof. Dr. Stefan Jähnichen, TU Berlin
- Prof. Dr. Uwe Nestmann, TU Berlin
- Prof. Dr. Hans-Ulrich Heiß, TU Berlin
- Dr. Nazir Peroz, TU Berlin
- Mr. Daniel Tippmann, TU Berlin
- Mrs. Agnieszka Zielinska, TU Berlin
- Mrs. Franziska Bathelt, TU Berlin
- Mr. Tilman Schieber, TU Berlin
- Mr. Jonas Bucher, TU Berlin
- Mr. Christoph Herbst, TU Berlin
- Mr. Cornelius Griep, TU Berlin
- Mrs. Julia Beck, TU Berlin
- Mr. Sarkaft Shareef, TU Berlin
- Mr. Ralph Magnus, TU Berlin

- Mrs. Saskia Steinbeck, TU Berlin
- Mr. Xun Zhou, TU Berlin
- Mr. Daniel Tröder, TU Berlin
- Mr. Tobias Wölk, TU Berlin
- Mr. Salam Rubaii, TU Berlin
- Mrs. Fatima El Sayed
- Mrs. Wian Al-Berwari