ARAB CENTRE FOR eCONTENT DEVELOPMENT

Arab Centre for eContent Development

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TOWARDS A KNOWLEDGE BASED SOCIETY

Expert-level Workshop

February 13-14, 2011
Kingdom of Bahrain

Workshop Report

Kingdom of Bahrain
eGovernment Authority

UN
DP

SPEAKERS

The Arab Centre for eContent Development (the Centre) invited speakers from the United States, Bahrain, United Arab Emirates, Saudi Arabia, Egypt, Syria and Lebanon to participate in a two day expert-level workshop to share their experiences in the area of Arabic e-content. In addition to researchers and academics, the participants included industry experts, government officials and potential investors in the e-content sector. A total of 12 experts participated in the workshop while three others had to withdraw in the days leading up to the event due to unforeseen circumstances.

SUMMARY

The Arab Centre for eContent Development organized an expert-level workshop titled "Towards a Knowledge Based Society" in cooperation with the eGovernment Authority in the Kingdom of Bahrain, the UNDP and UNDESA on 13 and 14 February 2011.

Within the overall vision of contributing to the building of the aspired for Knowledge-Based Society (KBS), the Centre invited leading intellectuals and industry experts from around the Arab world to discuss the challenges facing individuals, organizations, and government entities building Arabic electronic content and their attempts to bring it through effective and accessible online services and sustainable channels.

High on the list of objectives of the workshop was the need to assess the current status of Arabic content (electronic and non-electronic) and the overall crisis of Arabic content in general and Arabic e-content in particular. Workshop participants attempted to identify the knowledge gaps that threaten to negatively impact the presence of the Arabic language on the Internet as well as the many efforts that are underway in the Arab world to increase Arabic e-content online.

During the two day workshop, the experts, through presentations and open discussion, sought to address the following key areas:

- Identify challenges currently facing the Arabic language as more of the world moves online (technical and non-technical).
- Identify legal issues and copyright challenges faced by e-content developers, publishers, and distributors.
- Define the potential market for Arabic online e-content and services.
- Map efforts in the region underway to address these challenges.
- Identify ways to improve searching for Arabic e-content online.
- Approaches to enhance/increase and stimulate e-content innovations in the Arab world.
- Approaches to step up youth participation in Arabic e-content development and utilization.
- Assess the impact of technological advances on the Arabic language (how technology can handle character recognition, speech, and semantics).

OPENING

The workshop began with opening statements from H.E. Sayed Aqa, Dr. Zakareya Al Khaja, and Mr. Richard Kerby respectively.

The UN Resident Coordinator and Resident Representative of UNDP in the Kingdom of Bahrain, H.E. Sayed Aqa, welcomed the participants and highlighted the cooperation between UNDP, UNDESA and eGA that lead to the establishment of the Arab Centre for eContent Development. He pointed out the deficiency in knowledge capabilities in the Arab region and the need to acquire the knowledge and the technological capacities that will be indispensible for the prosperity of Arab countries in the new millennium and inferred that it can only be achieved through cooperation both within Arab countries and with their regional and global partners. He underlined the Centre's efforts to break barriers of access to knowledge for millions of people in the region that will in turn provide employment opportunities and enhance growth and development.

Dr. Zakareya Al Khaja, Director of Policies and Business Process Re-engineering at the eGA, described the primary aims of the Centre and the expectation that the Centre will play a major role in fostering the friendly business environment and sustainable economic growth, in line with the objectives of Bahrain's Vision 2030 catering to both the private and public sectors locally and regionally. He went on to highlight the low contribution of Arabic e-content on the web relative to other languages with far less speakers. In order to meet these objectives and address the challenges facing Arabic e-content, Dr. Al Khaja emphasized that all stakeholders should collaborate to support the development of Arabic e-content as we build the knowledge-based society.

Mr. Richard Kerby, Senior Inter-regional Advisor on E-government and Knowledge Management from UNDESA, presented the issues affecting Arabic content development, described the possible reasons for the lack of content and presented statistics to support them. He highlighted the lack of a standard Arabic language, the presence of a strong secondary language in most Arabic countries (English and French), and the lack of a financial incentive as some of the key reasons behind the current state of Arabic e-content. He emphasized the need to increase investments in order to encourage Arabic content development and to increase youth participation in Arabic e-content development and utilization because the future of Arabic content will be in the hands of the youth.

PROCEEDINGS

DR. GHAITH FARIZ
Director, Arab Knowledge Report, UNDP
Presentation: Knowledge Society and Digital Content: Inherent Challenges and Ambitions

In his presentation, Dr. Fariz provided an overview of the 2009 Arab Knowledge Report and discussed the state of Arabic content and its role in building a KBS. He explained that building a KBS requires the integration of technology, content and freedom. Freedom is at the core of any knowledge-based society; it is the means to inspire creativity and richness in content. In assessing the current status of the Arab region in its pursuit of becoming a KBS, indicators such as freedom of press and corruption show that there are serious problems in the Arab world. Dr. Fariz argued that although change is happening and many countries initiated reforms, these reforms are either not sufficient or have not been fully implemented.

Dr. Fariz outlined the priorities that must be addressed in order to move towards a KBS and build a strong base for creating e-content in the Arab world. These priorities include the provisioning of enabling environments, reviewing laws and legislations, and modernizing education policies to

cultivate the creation of knowledge. He highlighted the need to utilize existing technologies and tools to empower content developers and improve Arabic e-content. In addition, Dr. Fariz emphasized the importance of transferring and localizing knowledge; more efforts must be exerted in translation, research and development, and training. This collective knowledge should then be utilized to develop social and economical strategies for building a KBS.

DR. MANSOOR ALGHAMDI
Director of National Digital Content Program, KACST
Presentation: King Abdullah Initiative for Arabic Content

Dr. Alghamdi provided an overview of the King Abdullah Initiative for Arabic Content, which aims to enhance Arabic content development and usage towards building a KBS. Dr. Alghamdi described over fifty projects and initiatives that have been developed and/or undertaken by King Abdulaziz City for Science and Technology (KACST) in cooperation with local, regional, and international partners to address specific problems. These projects cover areas such as translation, speech recognition and portal development and the solutions have been implemented at KACST. Products and tools that can be made public have been made available to the public. Dr. Alghamdi explained that according to the latest estimates made by KACST, Arabic e-content now makes up 2.3% of online content and not the widely used figure of 1%, which dates back to 2002. He acknowledged that the projects developed by KACST can be adopted to enrich Arabic e-content; however, marketing of such projects is a shortcoming that should be addressed. During the open discussions, it was suggested that industry support for such projects could be improved with incubation facilities as incubators host entrepreneurs and their new ideas, and support them financially and logistically.

MRS. NAWAL ALKHATER
Chief, Electronic Content Research, King Hamad's Schools of the Future Project
Presentation: Open Educational Resources (OERs): Teachers' Site as an Example

Mrs. AlKhater used her presentation to provide an overview of the teachers' portal that was developed under the King Hamad's Schools of the Future Project. She led the development of the portal with the aim of motivating creativity and sharing expertise in the teachers' community. The teacher's website uses open source tools like Moodle to create a portal for creating and sharing educational content. Currently the portal is limited to teachers participating, however, it is planned to get more content online progressively in the period 2011-2016, during this period the portal will be open to the public. Mrs. AlKhater highlighted the Issue of copyright; people are reluctant to share their creative content in fear of losing credit for their work. She emphasized that copyright laws and regulations must be enforced and awareness should be communicated to the public – understood and respected. Providing the public with technology tools and copyright protection could enrich content.

DR. NIBAL IDLEBI
Chief, ICT Applications Sections, ICTD, ESCWA
Presentation: Promotion of Digital Arabic Content through Incubation

During her presentation, Dr. Idlebi gave an overview of ESCWA's project for the promotion of Digital Arabic Content through Incubation. The project aimed to prove that incubation of Arabic content developers is an effective approach to create Arabic e-content and generate income. Dr. Idlebi highlighted that e-content projects have the potential to achieve a return-on-investment by creating added value to products and services. She stressed that governments play a major role in encouraging e-content development and improving the entrepreneurship environment by providing tax cuts, investment incentives, and government programs in addition to being a customer. Dr. Idlebi emphasized that more capital must be invested in research and development in this field to spur development.

MS. NADIA AL-KHATEEB
Director, ArabScientist.org
Presentation: ArabScientist.org: A Case Study in Publishing and Advancing Scientific Research on the Internet in the Arab World

Ms. Al-Khateeb gave the workshop participants an overview of the arabscientist.org website which was developed with minimal resources and through the help of volunteers. The website publishes original scientific research in Arabic and, if resources are available, is then translated into English and French. She noted that there is no demand or support from governments or corporations for scientific research. As a result, there are no clear national goals or directives to encourage such scientific research. Ms. Al-Khateeb stated that one of the goals of the arabscientist.org website was to address this deficiency and attempt to fill this need. During open discussions, the issue of intellectual property was brought and it was recommended that intellectual property must be protected by means of copyright laws and regulations. Enforcing such laws will protect investments and bring in more capital into new projects thereby providing the base for creating quality Arabic e-content.

MR. MOHAMED AL SABBA
eTraining Director, Bahrain Institute of Public Administration
Presentation: Identifying Markets and Demand for Arabic e-Content

Mr. Al Sabba began his discussion by explaining that there is a great demand in the Middle East for self-paced e-learning products; but most of the products currently in the market are not suitable for trainees in the Arab region because of linguistic and cultural barriers. He emphasized that to overcome this problem, e-learning training material had to be localized to conform to cultural and religious traditions in order to have a positive impact on the trainees. Mr. Al Sabba went on to explain that games make a great tool for training and education and stressed on the importance of incorporating games into e-learning training material. He suggested the Arab Centre for eContent Development take the initiative to build e-content for training and educational games but he cautioned that the issues of turning content from its original form to voice, video and games should be addressed.

DR. OMAR BIZRI
Consultant on Science, Technology and Innovation Policy
Presentation: Priority Issues and Modalities Relating to Promoting Arabic Content

In his presentation, Dr. Bizri provided an explanation for the poor status of Arabic content in general and Arabic e-content in specific. He stated that some of the key contributors to this poor assessment are the absence of a national strategy for Arabic e-content development, the relatively low contribution in creating knowledge in the Arabic world and the lack of content enriching catalysts such as research and translations as well as the limited penetration of Internet access in many Arab countries. Dr. Bizri stressed that emerging technologies such as semantic web, which requires machine text recognition and analysis, will further complicate Arabic e-content problems and reforms in Arabic language are a must to face these challenges.

To overcome these difficulties, Dr. Bizri reiterated his call to tackle the intrinsic problems in the language and the way we write/use it. He went on to issue a strong warning that without such reform, there is a strong possibility that our language will wither, as many ancient languages did in the past. While he provided some hope that a number of programmes are now being implemented with objectives that directly or indirectly address language reform, these programmes are still too few in numbers and receive scant support.

According to Dr. Bizri, governments must still play a critical role by adopting regional policies that will address the issues facing the Arabic language and Arabic e-content. In addition, the public and private sectors must increase investment in education and research and development in Arabic content development and information technology.

DR. MOHSEN RASHWAN
CEO of Arabic Language Technology Center (ALTEC), Cairo University
Presentation: Arabic Human Language Technologies: Importance, Challenges and their Impact on the Arabic Content

Dr. Rashwan gave participants a brief overview of the impact of technology on the everyday life. He went on to explain the application of Human Language Technologies (HLT) to the Arabic language, the efforts in processing the Arabic language and the impact on Arabic content. HLT attempts to enhance oral and written communication among man-man and man-machine in an attempt to ease access to information and to provide better and improved services. Dr. Rashwan pointed out that in order to accomplish that content must be logically organized and represented systematically to enable information retrieval. However, due to the nature of the Arabic language, special processing is required to handle the problems encountered when dealing with Arabic content. To address this issue, Dr. Rashwan recommended a regional effort to build a roadmap; creating centres of excellence for various technical fields, and increasing the number of linguists in the marketplace. Dr. Rashwan suggested the Arab Centre for eContent Development take the initiative to develop standards to represent Arabic e-content. In addition, he recommended that the Arab Centre establish a platform for Arab experts to network and collaborate on special projects relevant to HLT.

MR. AL-AYHAM SALEH
Managing Director, EGHNA Development and Support
Presentation: Technical challenges for Arabic e-content projects

Mr. Saleh discussed the challenges of developing successful Arabic e-content projects and the benefits of employing the incremental model for implementing e-content projects. He went on to demonstrate the difficulties of publishing clear and easy-to-read e-content due to the lack of Arabic fonts designed specifically for the Web. Mr. Saleh suggested designing easy to read and scalable fonts as a major step towards creating better quality content and, since font production is relatively easy and low cost, it provides the Centre with a great opportunity for branding the Centre and Bahrain as leaders in e-content development. In addition, he recommended the development of a portal for e-content development. During open discussions, the challenge of marketing e-content products and e-services was brought up. Mr. Saleh suggested developers design and build their e-services with Application Programming Interface (API) to allow external users to use the service through a defined interface while the service owner maintains control and ownership over the service and related data.

CLOSING

The closing session was attended by H.E. Sayed Aqa, Mr. Mohammed Al Qaed (CEO, eGovernment authority), Mr. Richard Kerby, Dr. Zakareya Al Khaja, and all workshop participants. The session began with closing remarks from the experts followed by closing statements from Mr. Aqa, Mr. Kerby, and Mr. Al Qaed.

In their closing remarks, the experts commended the Arab Centre for eContent Development for organizing the workshop and bringing together leading intellectuals and industry experts from around the Arab world to collaborate on addressing the challenges facing Arabic e-content.

The experts agreed that co-operation, both at governmental and non-governmental levels, in the development of a long-term approach to knowledge-based services and innovations is crucial to the advancement of Arabic e-content. High on the list of recommendations was the creation of a regional portal that will enable e-content experts and developers to collaborate and share knowledge and experiences. Participants emphasized the need for institutions and universities from across the region to work together in a coordinated effort to create an enabling environment that will address these challenges and issues going forward. Governments were urged to spend more on research and development, and to collaborate with NGO's and the private sector to ensure the survival of the Arabic language online.

H.E. Sayed Aqa thanked "the eGov, Mr. Al Qaed and his team for making sure the Centre's objectives are met." He also thanked the experts for their contributions and participation in the workshop. "The development of Arabic e-content is very important," he said. "I believe through co-operation, the Centre will be an industry which is enriched and will work to enrich the Arabic e-content. The UN as a whole is a contributor and a main aspect of the personnel."

Mr. Richard Kerby praised the workshop as productive and a great gathering. "The youth of these regions are the ones who will carry the torch and that torch has to be in Arabic to continue the

heritage," he said. "The youth need to understand and maintain the objective of the Centre to comprehend the heritage and culture of the Centre."

In closing, Mr. Mohammed Al Qaed thanked the speakers and participants for their valuable contributions. "The Centre is trying to create and form a link by means of gathering experts and taking the Centre forward." He reiterated the Centre's commitment to improve the quality of Arabic e-content by adopting e-content standards and increasing standards awareness and compliance through certification and capacity building. "This is the beginning and not the end; the end is very far."

RECOMMENDATIONS

Throughout the workshop, the experts were eager to share not only their experiences but their outlook and recommendations for the advancement of Arabic e-content. There was unanimous agreement that Arab governments must co-operate more at higher levels in order to develop common strategies and policies that will address the issues facing the Arabic language in today's digital world.

During the numerous open discussions held throughout the workshop, the experts made several recommendations and suggestions to address issues facing Arabic e-content in general. Some of the recommendations were directed at the Centre while others were more general and broader in scope. Below is a listing of the recommendations that were made and resonated with the experts during the two day workshop:

- Increase co-operation, both at governmental and non-governmental levels, in the development of a long-term strategy to the implementation of knowledge-based services and innovations.
- Adopt Arab-wide intellectual property laws and regulations to protect and encourage investments in Arabic e-content.
- Affirm the right to freedom of speech, which will spur innovations in the field of Arabic e-content and protect developers.
- Modernize the education systems in the Arab world to cope with the new challenges facing the Arabic language.
- Implement reforms in the Arabic language to allow the use of technologies such as semantic web which requires machine text recognition and analysis.
- Build a portal for Arabic e-content development to include all initiatives and facilitate a creative environment that will encourage networking and collaboration among experts throughout the Arab world. The experts agreed that the Arab Centre for eContent Development is well positioned to spearhead the initiative to build such a portal to form a database of e-content projects and programs and facilitate the gathering of experts and sharing of ideas, knowledge, and skills.
- Develop a market place for Arabic e-content to allow products and services to be marketed at both the regional and global levels.
- Improve the quality of Arabic e-content by setting industry standards and raising awareness among developers.

- Design screen-friendly, easy-to-read, scalable Arabic fonts, with a unique Arabic font for the Centre.
- Support and promote research in Arabic Human Language Technologies in areas including but not limited to information retrieval, machine translation, speech recognition, and text to speech.
- Empower women and youth to engage in creating Arabic e-content.
- Encourage the adoption of open source software and resources to develop Arabic e-content.
- Develop native Arabic applications.
- Establish a digital library that will contain Arabic books, publications and translations.
- Increase investments in e-training.
- Develop e-content for the training and educational sectors with a focus on incorporating games into e- material.