

## Guest Editorial Preface

# Special Issue on New Advances in Information Technology Systems and Its Applications in Social Change Under Crises

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This special issue entitled “New Advances in Information Technology Systems and Its Applications in Social Change under Crises” is managed in the aim of providing the latest information and technologies that can help the social change under crises. This topic is one of the most important topics in the demand for the modern life especially for the countries that facing some crises. The modern and comfortable life that we have is a result of the huge evolutionary in the technology that happened in the last century. In the last century, the electricity became part of our life, which resulted in advances in the computation and communication systems. These advances made the life easier and more comfort. However, the raised crises in the last two decades have indicted the need for further advancements for facing the new challenges and issues of the modern life. The scientific community needs to truly investigate the impacts of these advancements on the social behaviour and providing new techniques that can be used for real-time monitoring of the results of these advancements.

The active integration between the technology and the social studies can improve the modern life efficiency. Such integration also helps with high reduction in the life costs in the different aspects. For an instance, using the virtual reality in managing the maintenance of the different parties can highly improve the efficiency and reduce the maintenance costs.

This special issue of the International Journal of Information Systems and Social Change (IJISSC) contains five articles that have been reviewed by experts in their field. The five papers in this special issue cover a range of social changes, information and new technologies and their impacts in modern sociology, aspects of computer sciences and their impacts in society, virtual reality in its applications for reducing the costs in maintenances, as well as discussions on supporting students in developing countries and in indigenous education. Each of these peer-reviewed papers has undergone full double-blind peer review, prior to being selected for this special issue.

The first paper which is titled, “*Enhancing public buildings maintenance using integration between knowledge management and BIM*,” provide a discussion on Building maintenance which is gaining increased attention in the various fields of scientific research, Building Information modelling (BIM) is used in maintenance management and helped Facility Management to handle a large volume of maintenance information including drawings, specifications, lists and reports. BIM proved its effectiveness as a repository for various types of data in buildings maintenance and a tool to support decision making in maintenance. Stepping the best decision

at the facility is not only based on quantitative data but also on the knowledge and experience acquired by the company and the employees. This experience may be lost forever due to resignation and retirement if they are not documented. In the first article, authors provide a methodology for obtaining knowledge while performing maintenance of public buildings using BIM and DYNAMO application, where parametric models provide us with a high-central frame for storing information and by adopting of visual programming (VISUAL PROGRAMMING), which provides great capabilities for processing, extraction, classification and export of data from the BIM model.

In “*The Culture of Volunteerism and the Role of Social Media in its Development*,” authors discussed the volunteering which is one of the various social activities that human societies have known and practiced since their inception. It is not the outcome of the last decades of the life of these societies, but it was present in almost every human civilization in its various forms and methods. Voluntary work is of great importance as far as individuals and societies are concerned. It is a symbol of solidarity among the members of the community and all its institutions. It positively affects people’s lives as well as the community at large. It symbolizes the meanings of good and giving and help. Accordingly, volunteering has become a cornerstone in building society and social cohesion among its members. In this regard, voluntary work is of great importance. It necessitates the need to spread this culture in the society and to promote and develop volunteerism among young people using all available and possible methods.

The third article is titled as “*Performance Evaluation of UDP, DCCP and TCP in Congested Wired Networks*.” Communication through the Internet is one of the dominant methods of exchanging information. TCP and UDP are the transport layer protocols responsible for transit of nearly all Internet communications. Due to the growth of real-time audio and video applications, UDP is being used more frequently as a transport protocol, but unlike TCP, UDP has no mechanism for congestion control leading to wasted bandwidth and poor performance, so DCCP protocol appeared as replacement of UDP. In the third paper, we perform some simulations using NS2 for Drop Tail and RED queuing models to evaluate the performance of TCP, UDP, DCCP CCID2, and DCCP CCID3 protocols in Congested wired networks. The performance metrics used are throughput, end to end delay, number of sent and lost packets. The obtained results show that the DCCP CCID2 performs the best throughput with the minimum of delay as compared to UDP, TCP, and DCCP CCID3.

The issue of disability is studied in the fourth paper entitled “*Obstacles to Work of Social Worker in School Considering Advancement of Information Technology*.” Disability has become particularly important as a result of the statistics done by many international organizations and bodies. These statistics have strikingly confirmed high rates of disability. It is worth noting that these high rates of disability are viewed as a real waste of human resources in the human society, where human resources are one of the most important elements of its development. Every child who is born in a family and diagnosed as a disabled child with one of the motor, mental, sensory or social disabilities makes changes in the social environment where he or she lives. The change starts in concepts and determinants of family members’ understanding of the new situation.

The fifth paper “*Maintenance management for public buildings using building information modelling BIM*,” study the building maintenance is gaining an increasing attention in the various fields of scientific research and there was a need for the use of new technologies in maintenance management, as the facility management deal with a large amount of information relating to maintenance, which includes drawings and specifications, lists, and reports, and the use of paper files leads to decrease the efficiency and create a shortage of data and information.

May these contributions pave the way for the broad and open waters ahead with all the new developments in information and technology for the modern societies. The guest editors

thank the editor-in-chief Prof. John Wang and the co-editor-in-chief Prof. Jungwoo Lee of IJSSC for providing this opportunity to conclude this important special issue for the science community. We also thank the IGI-global, the managing editor Prof. H. Haes and Ms. Kayla Bishard for their great assistance and help. Finally, we wish all the success to IJSSC and its team, many appreciations!!

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