Hardware plays an important role in this issue of the IJCIM. Arularasan R. and Velraj R. examines the critical engineering problem of keeping electronic devices running properly by preventing overheating. This problem is so important that it should not be addressed by trial and error and the authors use a more systematic approach of modeling and simulation to find optimal fin height, fin thickness, base height, and fin pitch in heat sinks. Antennas are another often overlooked elements of the modern digital world. Ch. Santhi Rani, P. V. Subbaiah and K. Chennakesava Reddy address this component of mobile communications environments in a highly sophisticated manner, examining the characteristics of “smart antennas” that adapt to the current communications environment rather than just passively receive signals. This is a hardware issue but clearly software must play an important role in analyzing the environment and the authors explore the use of sophisticated mathematical analysis that makes the adaptability possible.

Mobility itself is a major theme of this issue, with authors exploring the use of mobile technology in Thailand in both civilian and military contexts. Dulyalak Phuangthong and Settapong Malisuwan seek to evaluate one aspect of the introduction of mobile internet connectivity in Thailand: the use of multimedia content by users and an analysis of the factors associated with such use. Montree Sungkasap, Settapong Malisuwan, and Vichate Ungvichian look at the technology in terms of a very specific function: the use of internet connections for communications, including multimedia, within high-mobility military units. More specifically, the authors evaluate the feasibility of using commercial WCDMA systems to replace the current one used by the Thai military.

The mobility of the data itself as it moves through networks provides the topics of several other articles. S. Sudha and N. Ammasaigounden are concerned with token allocation for TCP traffic in DiffServ networks and Trilok Chand Aseri and Deepak Bagai examine the properties of rate control for ABR service class in Asynchronous Transfer Mode ATM networks using a fuzzy technique. As networks become increasingly important such issues of making certain that data moves efficiently through the network becomes more and more important.

Vikas Singla, Rakesh Singla, and Sandeep Gupta move us from hardware to a more specifically software topic in their comparison of arithmetic and Huffman coding methods of data compression. The traditional assumption has been that the latter is the accepted method but the authors find that the former are effective and computationally efficient. Finally, Mohammed I. Younis and Kamal Z. Zamli examine the larger systemic engineering dimensions of software testing products. Both of these articles seek to address important overall issues involved in software and will be of interest to a wide variety of academics and developers.

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The distinction between hardware and software seems on the surface to be so clear but as one examines the issue closer the relationship becomes closer and the distinction a bit fuzzier. This fuzziness is an essential and exciting aspect of our field and I believe that in its wide range of articles this issue exemplifies the complexity in a manner that illuminates.

Prof. Dr. Srisakdi Charmonman
Editor-in-Chief