



EDITORIAL

Introduction

Chimay J. Anumba

This issue of IT-AEC contains a set of papers drawn from regular submissions to the journal. The papers address a variety of topics that are of interest to both practitioners and researchers. Wu *et al* discuss the importance of managing the knowledge that is generated by construction project teams. They present a project knowledge management tool for the construction industry, which is based on the Process Protocol framework. The paper argues that the realisation of IT benefits can only be achieved by knowledge-based systems, which are underpinned by a consistent design and construction knowledge framework.

The paper by Peña-Mora and Craig presents a collaboration system for disaster search and rescue operations using autonomous vehicles. It examines previous work done on the use of autonomous vehicles for military operations and explores its applicability to the field of disaster relief involving critical physical infrastructure. It then presents a system that addresses the need for inter-user communication and flexible command structures in an unstable and hostile environment, and which can be dynamically arranged to meet the specific needs of a given situation.

Oguejiofor *et al* present a novel methodology for building intelligent tutoring systems, using an ontology-based approach. They start with a discussion of how the developments in information technology are leading to paradigm shifts in engineering education. The use of the proposed approach in the development of a prototype system, the GMU Educator, is presented and examples used to illustrate the key concepts.

The use of Case Based Reasoning in the selection of a dispute resolution process is the subject of the paper by Cheung *et al*. The intention is to minimise the subjectivity associated with selecting the most appropriate dispute resolution method in a given situation. The development of the system is described including information on the case base. It is claimed that a high degree of accuracy is possible using the approach presented.

The last paper in this issue is by Trucco and Kaka, who propose a computational framework to capture and measure construction progress automatically from video images taken on site. The paper also presents an algorithm for recognising objects and structures in unconstrained outdoors site imagery, and which can be used to determine the location of a part of a building or structure within a site. Experiments from two construction sites are used to illustrate the approach.

The mix of papers is both interesting and stimulating and should generate useful discussions within IT-AEC's readership.