Guest Editorial Preface

An Overview of International Journal of 3-D Information Modelling - Volume 5, Issue 1

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In an effort to overview our previously published Special Issue in IJ3DIM—5(1)—we would like to provide the following editorial:

An interesting characteristic of many recent papers in IJ3DIM has been the consideration of how Building Information Modelling (BIM) is likely to continue to have an effect on different sectors of the industry, or on different types of building. For example, the relationships between BIM and the design and construction of educational buildings, housing or in off-site manufacture, have been recently explored, and have provided useful case study material.

One aspect of current debate within BIM, which greatly interests us is that of BIM through the lifecycle, from design inception and eventually through the lifetime of a building. When guest editing the compilation of papers for Volume 5(1), our clear intention was to ensure that we invited papers for inclusion which would collectively seek to reflect this exact point. Indeed, we were also keen to avoid falling into the trap of regarding buildings and projects as being entities which somehow have a clearly defined beginning and ending, when in actual fact notions and conceptions of the client, project duration, work stages and even the life-cycle itself may vary quite considerably over time.

Therefore, it is no accident that two of the papers deal quite explicitly with the use of BIM in contexts where the buildings being studied and used came into being before the widespread advent of BIM technologies. In the case of Achille *et al.*, we consider a situation which is likely to become increasingly prevalent in the industry, where we wish to engage with new design or construction work, but where the building is under consideration may have been constructed many centuries before digital technologies were available. Whilst the example considered in the paper is that of a building that could be regarded as being part of the built heritage, the data capture techniques and the conversion of these into a format that can be useful within a BIM environment will hold in a much wider range of contexts. Likewise, the paper presented by Carbonari et al. provides some useful context and guidance with regards to the use of digitisation and information-rich models within the context of estates and facilities management. Taken together, these papers begin to extend our understanding of how BIM can be used, and is likely to be used, outside of the construction and manufacturing phases.

The papers by Saleeb and Demian extend these notions further, by considering how the importance of information accuracy and data extraction can be understood and enacted in practice. As the adoption of BIM has taken hold across the construction industry, one might also argue that this has been accepted and became part of mainstream construction most clearly from the technical design stages through to the completion of construction. That we are in possession of highly detailed and

fully populated as-built models upon delivery appears to offer huge potential for transformational change in terms of how we deal with buildings in terms of estate management.

The work of Dwairi et al. deals specifically with helping construction clients to define their requirements in a more meaningful way to enable the construction team to gain an improved understanding of their needs and translate this in their execution plans. Given that it is the client who will be in receipt of such as-built models, and it is the Client who may find themselves in a position of being able to utilise those models to their greatest effect, what eventually happens with the BIM during the operational life-cycle of buildings will to a very significant extent come down to the behaviour of clients, or those who come after (tenants, factors, and future owners). In other industries and disciplines (perhaps notably those of the Oil and Gas industry) the value of the as-built model perhaps only becomes apparent at too late a stage. That is, when one comes to decommission a building (or an oil platform), to discover that we have in sufficiently detailed 3D data would be unfortunate, but probably too late in the day to enact change. Therefore, ensuring that BIMs are both accurate, updated and available, remains vital.

As the journal continues to mature, and the rich collection of papers and information contained within its pages continue to expand, these questions of the usefulness of digitisation and information modelling will come to the fore.

We are already arguably approaching a time where questions of the philosophical bases underpinning BIM within construction will have given way to the technical consideration of how to undertake certain tasks. One could argue that a natural extension of debate concerning BIM will need to explore how the technology and approaches inherent within the systems are likely to find a foothold within much longer-term concerns.

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