Architectural Bim Design Construction

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Design Coordination

Design coordination is a multidisciplinary activity that is focused on the management of technical issues and decision making, providing support to design development. This activity usually implies communication with all the project designers in coordination meetings.

The spaces where these meetings occur can be physical or virtual (Liston et al. 2000) and are used to share information, for consultation and for decision-making about project issues. A growing trend among project teams is collaborative project development supported by processes such as Building Information Modeling (BIM). Building information models are information-rich, geometric representations of the components of a building and typically serve for visualization and coordination of projects (GSA 2007), among other uses.

In the traditional, paper-based design coordination space, meetings are supported by printed sheets of digital files used for sharing information and design decision-making. During the coordination meeting, exchange of information can occur in various forms: by hand-writing, with annotations on printed floor plans, in the form of sketches, typing in word processing applications, viewing documents.

Building Information Modelling (Bim):

BIM is a process supported by various tools, technologies and contracts involving the generation and management of digital representations of physical and functional characteristics of places. Building information models (BIMs) are computer files (often but not always in proprietary formats and containing proprietary data) which can be extracted, exchanged or networked to support decision-making regarding a built asset. BIM software is used by individuals, businesses and government agencies who plan, design, construct, operate and maintain buildings and diverse physical infrastructures, such as water, refuse, electricity, gas, communication utilities, roads, railways, bridges, ports and tunnels.

The concept of BIM has been in development since the 1970s, but it only became an agreed term in the early 2000s. Development of standards and adoption of BIM has progressed at different speeds in different countries; standards developed in the United Kingdom from 2007 onwards have formed the basis of international standard ISO 19650, launched in January 2019 Editorial 2021 Open Access

Interoperability and Bim Standards

As some BIM software developers have created proprietary data structures in their software, data and files created by one vendor's applications may not work in other vendor solutions.To achieve interoperability between applications, neutral, non-proprietary or open standards for sharing BIM data among different software applications have been developed.

Poor software interoperability has long been regarded as an obstacle to industry efficiency in general and to BIM adoption in particular. In August 2004 a US National Institute of Standards and Technology (NIST) report[19] conservatively estimated that $15.8 billion was lost annually by the U.S. capital facilities industry due to inadequate interoperability arising from "the highly fragmented nature of the industry, the industry's continued paper-based business practices, a lack of standardization, and inconsistent technology adoption among stakeholders".

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