

Enhancing Problem Communication and Management Using Civil Information Modeling for Infrastructure Projects

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Abstract : Generally, there are many numerous existing problems during the construction phase special in civil engineering. The problems communication and management (PCM) of civil engineering are important and necessary to enhance the performance of construction management. The civil information modelling (CIM) approach is used to retain information with digital format and assist easy updating and transferring of information in the 3D environment for all related civil and infrastructure projects. When the application of CIM technology is adopted in infrastructure projects, all the related project participants can discuss problems and obtain feedback and responds among project participants integrated with the assistance of CIM models 3D illustration. Usually, electronic mail (e-mail) is one of the most popular communication tools among all related participants for rapid transit system (MRT), also known as a subway or metro, construction project in Taiwan. Furthermore, all interfaces should be traced and managed effectively during the process. However, there are many problems with the use of e-mail for communication of all interfaces. To solve the above problems, this study proposes a CIM-based Problem Communication and Management (CPCM) system to improve performance of problem communication and management. The CPCM system is applied to a case study of an MRT project in Taiwan to identify its CPCM effectiveness. Case study results show that the proposed CPCM system and Markup-enabled CIM Viewer are effective CIM-based communication tools in CIM-supported PCM work of civil engineering. Finally, this study identifies conclusion, suggestion, benefits, and limitations for further applications.

Keywords : building information modeling, civil information modeling, infrastructure, general contractor

Conference Title : ICBINMS 2018 : International Conference on Building Information Models and Software

Conference Location : London, United Kingdom

Conference Dates : October 15-16, 2018