

## **A Review of BIM Applications for Heritage and Historic Buildings: Challenges and Solutions**

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**Abstract :** Building Information Modeling (BIM) is growing so fast in construction projects around the world. Considering BIM's weaknesses in implementing existing heritage and historical buildings, it is critical to facilitate BIM application for such structures. One of the pieces of information to build a model in BIM is to import material and its characteristics. Material library is essential to speed up the entry of project information. To save time and prevent cost overrun, a BIM object material library should be provided. However, historical buildings' lack of information and documents is typically a challenge in renovation and retrofitting projects. Due to the lack of case documents for historic buildings, importing data is a time-consuming task, which can be improved by creating BIM libraries. Based on previous research, this paper reviews the complexities and challenges in BIM modeling for heritage, historic, and architectural buildings. Through identifying the strengths and weaknesses of the standard BIM systems, recommendations are provided to enhance the modeling platform.

**Keywords :** building Information modeling, historic, heritage buildings, material library

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