BIM-enabled condition assessment tool for asset maintenance with integrated Dutch inspection standard

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Abstract: (250 to 500 words: for each heading use the bullet points or narrative - the submission including graphics should not exceed one page)

Problems - Issues / Challenges-Needs
Real estate assets have become more and more vital. Thus, a proper maintenance and timely rehabilitation is required to ensure: 1) Building operation and maintenance costs are minimized and 2) Levels of service and quality standards are met. Inspection of building components is a necessary step to ensure that maintenance and rehabilitation needs are properly understood. In most cases, the assessment procedure and condition rating process depends on the personal judgment of the building inspector. And it is therefore very difficult to optimize the quality and sustainability within an available budget.

Solutions - Methods / Results - Findings
The large amounts of data that are created and required by various stakeholders through the lifecycle of a building create a daunting information management task. The use of BIM aims at simplifying this task by creating a single unified information repository that can serve various actors involved at different stages of the facility lifecycle.

The Asset Management tool of DEMO Consultants is a software solution used for condition assessment on -site and management of assets with embedded Building Information Model (BIM) software. The main aim of the tool is to leverage the existing data in BIM to expedite and enhance the quality of building inspections. The solution provides the possibility to not only assess the condition in a professional way, but also to optimize the maintenance planning according to different ambition levels and needs. A well elaborated and used standard for Condition Assessment is integrated and tailored on Cultural Heritage.

Novelty - Value / Relevance to …
The BIM-enabled building condition assessment tool ensures consistent and cost-effective inspection of building components making use of the integrated Dutch condition-based maintenance (NEN2767). The tool controls the inspection of building components where new inspection data are added such as assessment score, repair urgency, and type of component defect. Input and modification of inspection data can be done with the iPad which is synchronized with the ofsite tool. Inspection results including the observed defect and its characteristics (scale, intensity, etc.) and costs incurred to remedy the defect through an activity can be reported on the BIM. The inspection reports and the generated Multi-Annual Maintenance Planning helps for proper repair decision making in terms of ambition of quality, cost and planning.

Forum statement
Maintaining assets of the past with technologies of the future.

Keywords: (up to 5 keywords)
BIM 1; asset management 2; condition assessment 3

Graphics: (please use the gray area bellow for representative graphics or graphical summary: select the gray area bellow and paste your graphics)