Challenges and lessons learned in the renovation of historical landmarks

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Problem Statement

• Renovation projects play a critical role in upgrading the existing infrastructure and preserving the historical landmarks. About 2555 structures are deemed worthy of preservation by National Registry of Historic Places. Challenges in the current renovation projects include unavailability of up-to-date facility geometric information that reflects the as-is geometric and spatial information and seamless integration of the proposed renovation projects with the existing parts of the facilities.
• Building Information Modelling (BIM) and laser scanning help to overcome the challenges within the current practice. However, there are challenges in the process of using BIMs and point cloud data in historical landmark renovations.

Motivating Case Study

Modeling Requirements
- Existing Documentation
- Laser Scans
- Modelling Tools

Setbacks
- Poor existing documentation
- Lack of scanned data on constrained locations
- Software interoperability
- Spatial constraints

Model Generation

Findings/ Challenges identified

Expected contributions/ Recommendations

- Identification of the challenges faced in the renovation of historical landmarks
- A formalized approach to streamline renovation projects in historical landmarks

Publications