3D Job Site Viewer Enhancement

Proposal for Colorado School of Mines CS Field Session, Summer 2016

Client:

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Introduction

MiTek is an industry leader for structural connectors, with a central focus on wood-frame, platform construction. We would like to enhance our mobile viewer application as a tool for on-site verification of structural connectors. The current mobile viewer provides a 3D interactive model of the building using mobile phone or tablet with positional inputs and gyroscopic tracking to help orient the user within the building. This enhancement would use scan codes or other tagging methods to validate connector placement and produce an inspection report.

Objectives

- Enhance the mobile viewer to highlight connectors in the virtual model
- Enhance the mobile viewer to list metadata associated with modeled connectors
- Add the ability to scan an in situ connector and compare the actual connector to the modeled connector
- Add the ability to manually validate the model number of an in situ connector (in cases where the scan/tag cannot be read electronically)
- Generate a report of all the connectors in the model with verification results (Pass/Fail/Not Inspected) with details of verification method (scan/manual) and design model number v. installed model number

Work Environment

The team could be between 3 and 4 students. Students would have weekly meetings with mentor at local MiTek office located in Denver Tech Center.

Desired Skills

- Mobile App development in either iOS or Windows
- Willingness to learn about the construction industry
- 3D Graphics experience