Automatic BIM Standards Checking in BIM360

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I established this organization to enable passionate innovators in the AEC and Manufacturing industry to create impactful 3D engineering & construction solutions. Leveraging our domain expertise in CAD-BIM, we provide solutions that reduce time to market and meet business goals. Each of our CAD and BIM software solutions is meant to provide you ease, convenience, time and cost saving so that you can focus on things that matter more.
Why Check BIM Standards

We all know why Model checks, BIM Standards Checks, and Code Compliance Checks are important

• Reduce the iteration time

• Reduce rework

• Better collaboration

• More money in your pockets
How do I implement these in my company?
It is an overhead people don't like.

Timelines are tight, and this process breaks easily!
I believe in changing the process rather than changing the culture of people
Learning Objectives

LEARNING OBJECTIVE 1
Discovering innovative workflows for automatic BIM standard checking in BIM360

LEARNING OBJECTIVE 2
Understanding how BIM standards can be checked through a set of computer programs instead of manual checking

LEARNING OBJECTIVE 3
Learning about better collaboration across disciplines and roles, including design professionals, MEP engineers, and others

LEARNING OBJECTIVE 4
Discover some of the best practices in BIM standards
Are BIM Standards being followed and implemented in your projects?

- 62.8% Followed 100% All rules are checked
- 24.7% Followed, but needs improvement
- 12.5% Need significant improvement
- 0% Not followed
Insights

How do you check these standards or rules currently?

- 50.8% Manually
- 37.6% Revit plugin
- 11.6% Cloud software
- Others
Insights

How much time is spent on an average on BIM Standards checking?

- 1-5 hours per week: 76.2%
- 5-10 hours per week: 12.5%
- More than 10 hours per week: 11.3%
- Others: 0%
Insights

MOST TIME-CONSUMING CHECKS

• Geometrical checks
• Data import and validation
• Family name, type & parameters
• Alignment of origin of linked files
How will you change the game

REDUCE DEPENDENCY on manual checking and human expertise

CHECK ON TIME every time without adding any overheads

“We can achieve these results by making a very small Change in the process.”
In software development, as soon as any line of code is changed, there are a series of checks that run on the entire application, to check for any regressions, code quality, unit test, integration test, etc.
Great innovations happen when you take ideas from one domain and apply it creatively in another domain!
How is it done?

We have automated the process of checking BIM standards in the building design within BIM360 software.

• Perform automatic rule checks in the building design uploaded or modified in BIM360

• Summary of check results is automatically sent over email

• View the file in Forge viewer

With the help of BIM Connector
User Uploads a new File

App integration

Login and Signup

Create Event Trigger

Create Action

Webhooks API

Register Webhook for File Upload event

Event for new File Upload

Query Action

Get action for the invoked trigger

Event on Job Complete

Query Next Action

Get Result file

Result File upload

BIM Connections

Trigger on Model Checker completion

Webhooks API
Let’s See The Magic In Action

...because *Videos* are better understood than *Visuals*!
Learning Objective 1

Discovering innovative workflows for automatic BIM standard checking in BIM360
What did we accomplish in this workflow?

- Lesser time to check model designs
- Accuracy in checks
- Negligence ruled out
- No manual dependency or intervention
- One time configuration
Learning Objective 2

Understanding how BIM standards can be checked through a set of computer programs instead of manual checking
Learning Objective 3

Learning about better collaboration across disciplines and roles, including design professionals, MEP engineers, and others
When the Design meets protocols, it implies a Design that complies to the BIM Standards.
Let’s take an example
It is one thing to know the tools and another to know its rules!
Learning Objective 4

Discover some of the best practices in BIM standards
Best Practices For Your Automation

Who should run the rule checker? Everyone!

Identify rules that can be machine checked and cannot be machine checked

- Check frequently
- Check automatically
- Report immediately
- Correct immediately
Future

INTEGRATION WITH POWER BI

MORE GEOMETRIC MODEL CHECKS

AUTOMATIC ISSUES IN BIM 360

MANY MORE (PREDICTIVE ANALYSIS)
Automation is to your time what compounding interest is to your money.

~Rory Vaden
Let’s Embrace Automation
Thank you!