AUTODESK UNIVERSITY 2014

A Reality Check of BIM Standards

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MP5243-R 60 Minute Roundtable Notes

This round-table discussion will focus on the various Building Information Modeling (BIM) standards from around the world, the benefits and adverse effects they cause, and the ways they may help or hinder progress as it grows. Comments from experience are welcomed and encouraged.

Learning Objectives

At the end of this class, you will be able to:

- Think about which standards are growing
- Think about if a single model can work throughout the development of a project from design to construction
- Discuss whether open source will win over proprietary
- Discuss the incentives to conform to a standard

About the Speaker

Craig Chappell is the Building Information Modeling (BIM) coordinator for Purdy-McGuire, Inc. (PMI) in Dallas, Texas. He has been developing Revit software tools and techniques since 2008. He has extensive experience in managing project models and providing guidance. His role at PMI includes working with employees to advance the production teams and help the teams learn how to use BIM technology to work more intelligently and efficiently. Craig works with PMI's business partners to provide training on Revit software and assist with the development of their own standards and design tools. He is also an adjunct faculty member in the Department of Architectural Engineering and Construction Science at Kansas State University, where he has developed his own curriculum and teaches students in numerous disciplines about how to use Revit software to aid in the design process.

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Thank you again for your time and any comments you may have provided to the room. The following notes are based on content and opinions that were discussed during the roundtable discussion and not necessarily based on fact. The summary is provided as a courtesy and not all comments from the hour may be included.

I. THE POSSIBILITY OF WORKING IN ONE MODEL

a. More likely with Design-Build teams
b. When Contractors are on board for Fast Track projects.
c. A workflow can be used in one model, but may need multiple platforms as the project evolves.
    i. Revit is limited to L.O.D. 300/350
    ii. Other software is needed to elevate to LOD 400/500.
d. Liability may be the biggest problem.
e. Getting the Design Intent to the Contractor.
f. Not a One Size Fits All
g. What is the Perceived Value of One Model? How would it help different trades?
h. One model is being accomplished in other countries.
i. Need to have the right contracts and fees set up.
j. It is important to have the FM solution determined from the beginning.
k. WHAT IS THE TRUE DELIVERABLE?
l. Problems with conflicting plans from different consultants/team players
m. Proactive Owners that can plan this process from the beginning.
n. Making sure that software plays nice together.
o. Making sure that people play nice together.
p. What is the model's purpose?
q. The model serving all the different needs of the FM.
r. How is the Owner going to use the model?
s. What is the scale of the Project?
t. Owners that want 'BIM' but not sure what to do with it.

II. DIFFERENT BIM STANDARDS

a. People are starving for BIM Standards
b. How do you want it?
c. Trying not to reinvent the wheel.
d. Australia and Europe have government standards that are trying to expand to private projects.
e. The goal is to be Software Agnostic
f. Developing a Data Dictionary
g. What to call everything when dealing with different regions as well as systems potentially using multiple systems.
h. Utilizing IFC and Uniformat standards.

i. Design is a moving target with consultants simultaneously working at different phases of a project.
j. May not take until New Generations where this becomes the norm.
k. Standard is a Dictionary for framework of work, not dictation.
l. Not our job to tell you what to do.
m. Modeling is a business, what is the value to the company?
    i. Time and effort spent on a component that provides little revenue.
    ii. Will the content provide savings in coordination?
n. Designers are basically using placeholders for content before knowing what the Contractor is going to install.
o. Time allotted in projects has diminished.
p. Consultants knowing industry standards to push back on bad ideas.
q. Architectural and Engineering groups working in the same firm may work in one model.
r. Project Management, Direction and Communication are vital.
s. Everyone needs to have some BIM Standards.
    i. Owners knowing what they want and creating a contractual relationship
    ii. Designers/Contractors knowing the contractual requirements
    iii. Owners not knowing what they are asking for can lead to push back from consultants from lack of value or cost detriment to project.
    iv. Again, what is the end deliverable?

III. PROS/CONS FOR STANDARDIZATION

a. It creates a starting point and baseline for projects
b. Levels the field for price comparison.
c. Owners know what to ask for and Consultants know what they can provide.
d. LOD Model cannot have one number, that each category carries a specific number, because different elements in a model could be at different LODs.
e. No Surprises.
f. Including large companies with 'Mom & Pop' shops under the same standards.
g. One problem is when a project has conflicting BIM standards developed from multiple sources and decisions are made referencing more than one source.

IV. INCENTIVES FOR CONFORMING TO A STANDARD

a. Owners can price Apples to Apples in project costs.
b. It gives the Design Process a way to know what to do in the scope of a project
c. Saving Money on Change Orders.

V. UNIVERSAL DATA CONTENT

a. GUIDs need to be developed separate from one specific software.
b. Varying Regions make it hard to accomplish standards.
c. Manufacturers and Companies using the same groups of standards.

VI. LINKS THAT MAY HAVE BEEN MENTIONED

a. https://bimforum.org/
b. http://www.buildingsmart-tech.org/
c. http://www.buildingsmart.org/
d. http://www.nibs.org/?page=bsa
e. http://www.buildingsmart.org/standards/standards-library/
f. http://bim.psu.edu/
g. http://esbd.cpa.state.tx.us/docs/710/100928_1.pdf
h. http://en.wikipedia.org/wiki/Globally_unique_identifier
i. http://betterexplained.com/articles/the-quick-guide-to-guids/
j. http://www.anzrs.org/blog/
k. http://www.nibs.org/?page=bsa_cobie
l. http://docs.buildingsmartalliance.org/MVD_COBIE/
m. http://www.wbdg.org/resources/cobie.php