

# Practical BIM

Questions and Answers from the July 13, 2012 webinar

Q: Your talk's title "Practical BIM." Please cite examples of "IMPRACTICAL BIM" [Ralph Kurtz]

Q: Is your model builder using 3D printer(s)? Or is it hand built? [Paul Adams]

Q: How many team members were sharing the model for Century Center during the process? [Elias Torre]

Q: So how did the model rather than the documents get used downstream? Did the builder use the model after or during the design process? [John Tocci]

Q: In the JiaDing study, were construction probable costs evaluated at the same time as the design was evolving? Was this done automatically within the BIM? [Elias Torre]

Q: My question is that I'm curious if Johnson Fain has an ROI (Return on Investment) they are willing to share for their use of BIM. [Ann Price]

Q: For Johnson Fain, it is evident that your human capital and IT are crucial factors in supporting the use of BIM as a design and documentation tool. Will you describe how your corporate culture has changed in order to better use this tool? [Ann Price]

Q: For Anton, it is interesting to hear you talk about building and utilizing the "single-component model"; as architects, will we incur added liability for performing this work and can we claim additional value for doing so?[Ann Price]

The only way for the single, component based model for pre-constructing a building virtually would work is to redefine the model of practice more towards an Integrated Project Delivery model or perhaps a radically new partnership between architect, engineer, contractors, fabricators and manufacturers. In this model, all parties would participate in the construction of the virtual model from the beginning so their input, expertise and knowledge could be harvested much earlier. The liability in this case would be equally shared since no one would be able to say "I didn't see that one coming." We are likely very far from adopting a model like this on projects of significant scale but on small design-build projects I have seen this model work exceedingly well where the architect is also the builder and involves subcontractors, engineers etc. throughout the process. [Anton Harfmann]

Q: Gutman's presentation is what I'd call IMPRACTICAL BIM for a more typical firm than P&W or Johnson Fain. [Ralph Kurtz]

Several comments and questions raised issues about how BIM in general, and my Revit API customizations in particular, were truly "practical"; about whether software has taken as away from "real" architecture. As a second-generation architect, now of retirement age, I sympathize and also worry that the profession is changing in ways that are intellectually dishonest and detrimental to our values.

Nevertheless, an accelerating rate of technology change in the culture at large is clearly upon us for at least the next generation. Where I am taking a stand is that I am not willing to capitulate to these forces out of a sense of inevitability. I want to own the automation of my own profession. My purpose in customizing BIM is bring the technology back in line with the fundamentally human relationships between architects, clients, and their communities, that has made architecture important in the past.

The historical practice of architecture made use of abstraction and structured data in ways that became inspirations to the pioneers of computer science. That industry is happily stealing from ours (beginning with the word “architect”, which is now commonly used to mean someone who designs computer systems) to ideas like Christopher Alexander’s “patterns”, which are used in software design even as they are being forgotten by a new generation of architecture students.

The other side of the coin is that we cannot shape our own future by purposefully avoiding current information theory and software development. It is our ignorance about these things that has allowed the software industry to define our practice for us. We need to understand database theory because it is the modern language of the historical art that we practice. We need to effect the automation of mass-customization so that we are not forced into mass-produced mediocrity.

I also want to push back (gently) against the idea that technology is solely the domain of geeks and salesman who have sucked the art out of our profession. I see my computer work as extending a progression of human thought that goes back to the beginnings of civilization. The science of our era has a beauty in its own right that, as members of an aesthetic profession, we can learn to appreciate.

Is this “practical”? In showing what I do I don’t mean to suggest that everyone should emulate it. What I hope is that you understand what is possible and have conviction about what demand from your technical staff and the software vendors. What would not be practical is to be passive in the face of this change. [Mario Guttman]