

Foreword

When I was only 5 or 6 years old, I decided to become a structural engineer like my father. Every weekend, my dad would take me to visit the construction sites he was working on. I enjoyed watching concrete being poured, rebar being bended and installed, and was fascinated by the cranes, formwork, and cement trucks. As a teenager, I got my first computer, and realized the power of programming and its ability to automate tedious work. I had a big dilemma: Which career should I choose? Should I pick computer science or structural engineering? I decided to pursue both. My graduation thesis was naturally a mix of computer science and structural engineering. My passion for conceiving how I might be able to blend these two different fields of study led me to develop load distribution software for concrete structures. The software enabled engineers to pre-size concrete structures in a matter of hours, thus being able to evaluate the material quantities of steel and concrete. In realizing how fragmented the industry was in terms of process, roles, responsibilities, and task automation, I then decided that I would spend my career trying to create tools to streamline the design-to-construction process. Over the past 20 years, I have been involved in the design of software for structural engineers, drafters, and fabricators in Europe and North America. I've worked on a wide variety of products that cover all areas of the structural industry including structural modeling, structural analysis and design, steel and concrete detailing, and finally, design of post-tensioned and precast concrete structures.

In April of 2003, one year after Autodesk acquired Revit Corporation, I was hired by the founders of Revit to extend the product beyond simply an architectural based product to a complete structural package based on the same principles. I remember when I used Revit technology for the first time. I was amazed by its parametric approach and the great potential for the structural engineering community. I was very overwhelmed. I thought to myself, *how do I get started? What do I include?* On the positive side, I was starting with a blank canvas. The challenge for me was that I had no paint or brushes, or even subject! Through my past experiences, I've learned that you should never design software for yourself. I also remembered a line from a product management course that I had taken which was simply, "Your opinion, although interesting, is irrelevant!" Not a very comforting thought, but probably very accurate.

With that in mind, I needed to gather information and input from potential users, industry experts, and engineers. I had to find people that could help me. I found myself chasing structural folks, who were interested in Revit Technology in blogs and forums, when I found Tom Weir from Brandow & Johnston in Los Angeles. I sent him an email to ask for his help. His reply was a resounding, "YES, YES, YES!" He reminded me that he had been in the industry for over 20 years, too! Tom was an early user of AutoCAD V2.6 and Softdesk Structural. He has been a model enthusiast since the beginning. Given Tom's passion and energy, I jumped on a plane to pay him a visit. We spent quite some time reviewing his process and exploring his ideas. It was the beginning of a fruitful relationship that still continues to this day, and in fact, Tom has been involved in every release of Revit Structure.

A few months later, I was put in touch with Walter P Moore and Associates (WPM). We met to discuss software and technology. At WPM, all roads eventually lead to David Harrington. When it comes to technology, David has extensive experience on model-based technology, and specifically, Architectural Desktop. He is also a power user of AutoCAD. David and I had some very interesting discussions on how to move from an AutoCAD environment to a Revit environment. We still share the same passions and always continue our discussions each time we meet.

In June 2005, we launched the first release of Revit Structure. Even with such a young product, we immediately experienced tremendous interest from the community. I was invited to present BIM vision for structural engineers by Jamie Richardson from Ericksen Roed & Associates, Inc. Shortly thereafter, Jamie started working on multiple projects and rapidly became a Revit Structure expert. Jamie has made significant contributions in the development of the product.

Lastly, I am one of the most loyal readers of the content put forth by Eric Wing, editor and writer for Revit in *AUGIWorld* magazine. Eric's creative ideas and desire to take Revit Structure to a higher level for the Structural Engineering community is an inspiration that I am very excited about.

In my opinion, these four authors are a virtual "dream team" of Revit Structure expertise and industry knowledge. They all share the energy, the passion, and even the emotion for Revit Structure. Combined with thousands of users around the world, they play a vital role for the continued success and future enhancement for Revit Structure to make it the best product for the structural engineering community.

With a tighter introduction of analysis in the BIM process, with the new simulation concepts based on analysis, a more complete BIM including more data and details, and with more interoperability between the different disciplines (architects, MEP, fabricators, civil), we see a viral adoption of BIM within the structural community. We also know that we are just beginning a massive industry process change that will streamline the lifecycle of a project from design to construction and maintenance. Very few people have the opportunity to see their industry be transformed so dramatically. These are very exciting times and Tom, David, Jamie, and Eric are active contributors to this phenomenon.

I hope you enjoy this book. I know it will help you to become a more productive user of Revit Structure as it will open your eyes to new technologies and ideas while providing the vital tools necessary to design and build the greatest structures in the world!

Regards,
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