BIM Region East – Choosing the right tool for the job

Well, what can I say – that was a fascinating event. In fact I think it may be the first of its kind where we managed to get four different design authoring tools together AND working on the same challenge set by us!

Let's take a step back so that I can share how we got to this stage. The leadership team behind **BIM Regions East** got together to discuss events and a suggestion made by one of the team was to see if we could some of the leading design authoring tools together, in a way where they can share features of latest versions, but also pitch them against each other. Lots of discussions took place and a challenge was created.

A mixture of vendors/resellers stepped up to the challenge representing four of the leading design authoring tools:
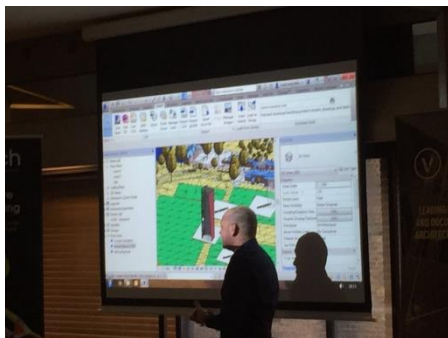
> Autodesk Revit – demonstrated by **Matt Baker**, Excitech
> Vectorworks – demonstrated by **Samit Patel**, Exertis
> AECOsim – demoed by **Rob Jones**, Cadventure
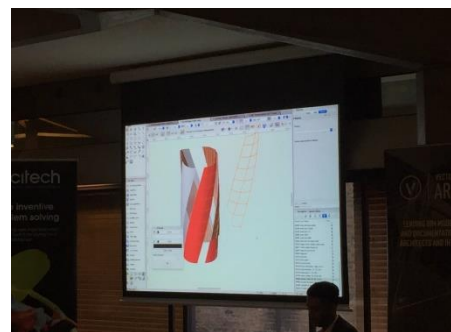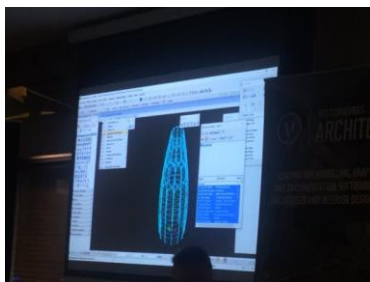> ARCHICAD – demoed by **Pelin Gurkan**, Graphisoft

May 18th soon approached and following a quick welcome and talk through of the challenge, Andy Boutle and Karl handed the reins over to **Matt**, from Excitech, to show **Revit**.

A quick audience poll highlighted that a large percentage of them were using Revit. Matt started by outlining the workflow of how to create a site model to place your production model in the right coordinate system using shared coordinates. He then concentrated on creating his concept design in his production model using massing tools to extrude a basic shape then manipulate it by twisting it etc. Once an outline form was in place he then added slabs and facades to create a concept model which he exported to IFC for federation.

Second up was **Vectorworks**. Surprisingly the audience poll highlighted that none of them were using it. **Samit**, from Exertis, set up a simple 3D geometry which was similarly twisted and manipulated to create the basic outline form. This was sliced into typical storey heights and slabs were added showing how to assign the IFC properties you want to each element as you go along. He then went on to demonstrate how the façade faces could be split up to allow different material finishes to be applied to different sweeping faces before setting coordinates and exporting to IFC.
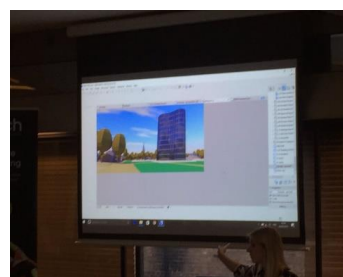
Next up was **AECOsim**. **Rob** from Cadventure started by outlining that it is based on a lot of traditional CAD based workflows which may be easier for users to pick up coming from their current CAD package. He also pointed out that he had spotted there were some errors in the original IFC site file he had been provided with (oops! No blame culture here – Karl did it). Before the event using one of the tools available to him he could re-build the IFC and compress its size so it was easier to work with. This updated file w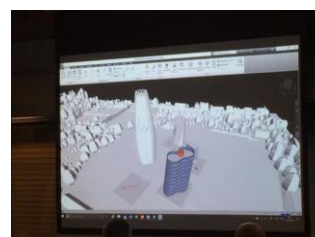as then utilised during the demonstration to extract the coordinates to place the building once complete. This included referencing the site to Google Earth. Using similar extrusion tools a building shape was formed that looked a bit like the Gherkin. The building was then placed on site before exporting to IFC.

Last up was **ARCHICAD**. An audience poll showed a small portion of them were using it. **Pelin** from Graphisoft started by creating a simple 2D outline and extruded it. She then showed how easy it was to alter its profile using the magic wand tool. Pelin felt it needed to look more 'sexy' so twisted each floorplate and pulled the building out of vertical alignment again with help from the magic wand. Classifications were assigned to various elements and the model was exported to IFC for federation. Pelin took the opportunity to demonstrate how quickly you can create renders

within the tool whilst you work which took 60 seconds to return an impressive looking render. Lastly, she showed how the link between ARCHICAD, Rhino and Grasshopper can be used to create model forms using simple visual scripting.

Following all the demonstrations, it was now time to see the IFC results. Andy Boutle (Chair) had the task of federating all the IFC models in Navisworks.

All came in on the site with only AECOsim needing a slight adjustment to get it onto its allocated plot. All were winners of the challenge! A short Q&A followed with the presenters covering topics on best practice, placing your model in world coordinates, how each package deals with work-sharing elements within a single model, linking in with cloud storage services, and interoperability with IFC.

The challenge we set was quite significant and we were impressed with the quality of presentations and what the demonstrators managed to do in the timeframe, all approached with the professionalism from presenters that it was the audience to decide what tool suited them to fit in with their own workflows.

A huge thank you goes out to all our presenters and sponsors. We look forward to seeing you all at our next event.

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