

# Can we all just get along?

Working together in a BIM Environment

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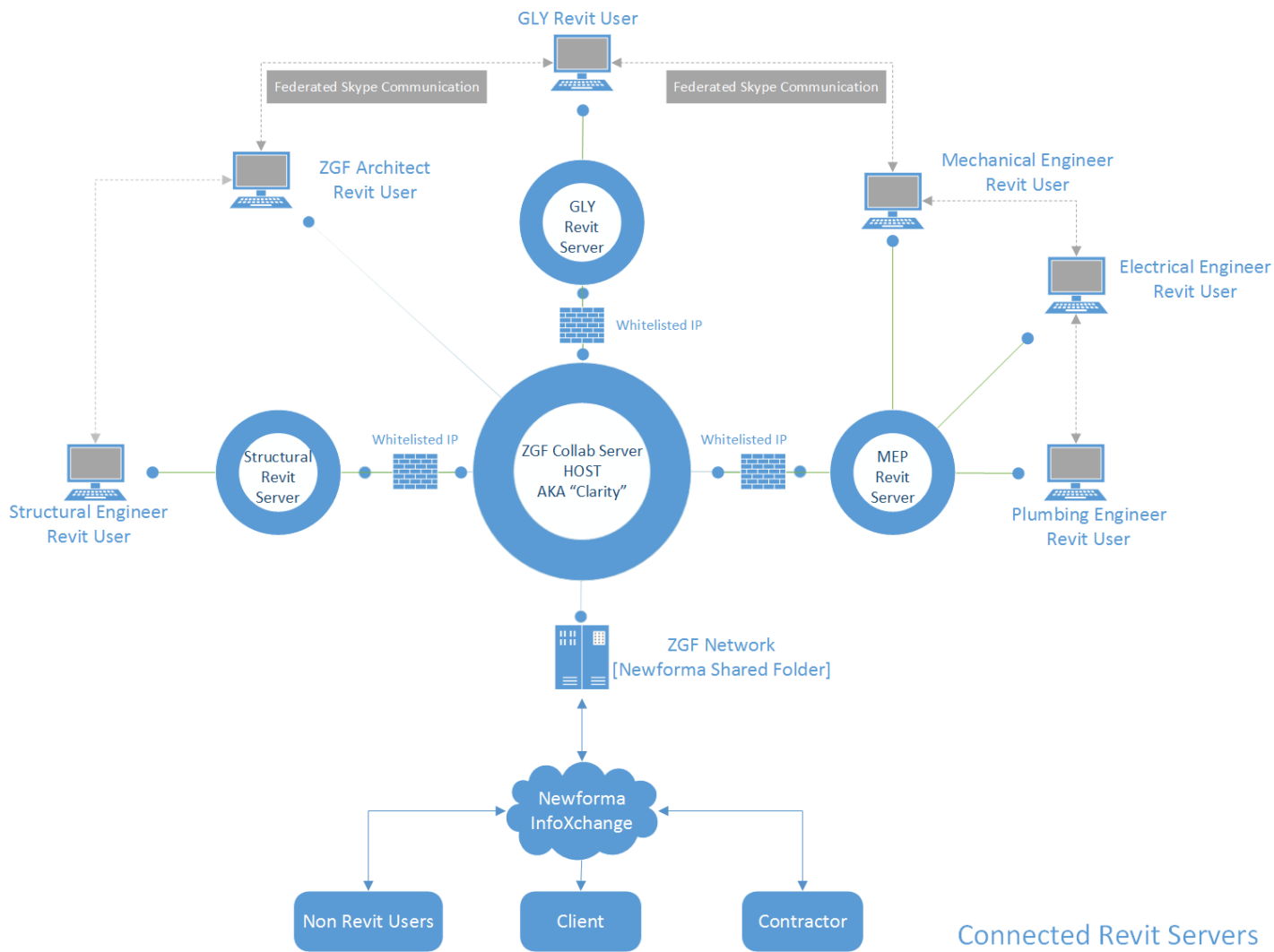
{what are you  
going to walk  
away with?}

1. Lunch
2. Have a dialogue/connect
3. Share - open source mentality
4. Work smart



# {project.focus}

1. 160k SF Corporate office building interior remodel. 1 year to design and detail. 6 month to construct.
2. D&B Contract with Early Procurement Packages.
3. Existing MEP modelled by contractor.
4. Project Engineer relocates to the architects office 2/5 days per week.
5. Design models are on the same server and can be accessed *live* by both construction and design teams.
6. Skype for Business federated with design and construction team to enhance communication



Connected Revit Servers



# {project.lessons.learned}

We allowed the "why" (architecture) and the "how" (construction) to talk together within the same "canvas" (REVIT) very early in the project where changes are free. Jess Donneberg. Project Engineer GLY.

1. Good teamwork with GLY / ZGF. Use the expertise of each chosen field at the appropriate time which helped enforce the partnership.
2. Contractor learned to sit back and breath - letting the specialist perform their work and not be micromanaged.
3. The Client had difficultly making a decision and delayed subs early engagement to be useful. They were responded well to tech innovation and implementation.
4. Workpackages conflicted with adequate design development.
5. Build team authoring software was not visible design model.



## {missed.opportunities}

1. A *live* Model for MEP.
2. Alternative solutions? - Using Revizto (soft clash & issue tracking) → using Navisworks (hard clash). *Should the GG be performing clash detection than the MEP Sub?*
3. Reduce the amount of design drawing by relying on partnering subs to assist in detailing?
4. Utilize IDE or BIM Lead into the project.
5. Client to be integrated with team.

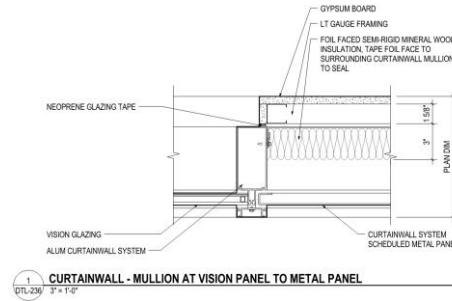
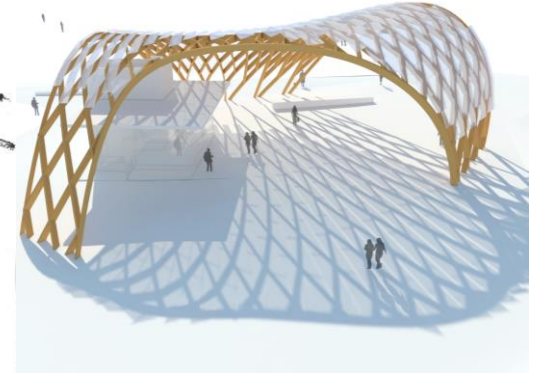
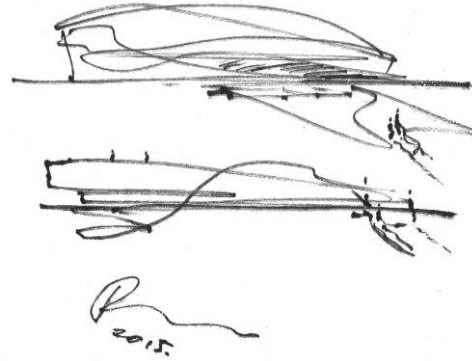
## {project.successes}

1. Quality of As-Built modeling.
2. Co-location.
3. No major MEP clash.
4. Project BIM kickoff meeting.
5. Implementation of new technologies - AR/VR.



# {what do we do right now?}

1. Schematic Design > Napkin Sketch
2. Design Dev > SketchUp
3. Construction Docs > 2D Prints
4. Construction Admin > Fix mistakes



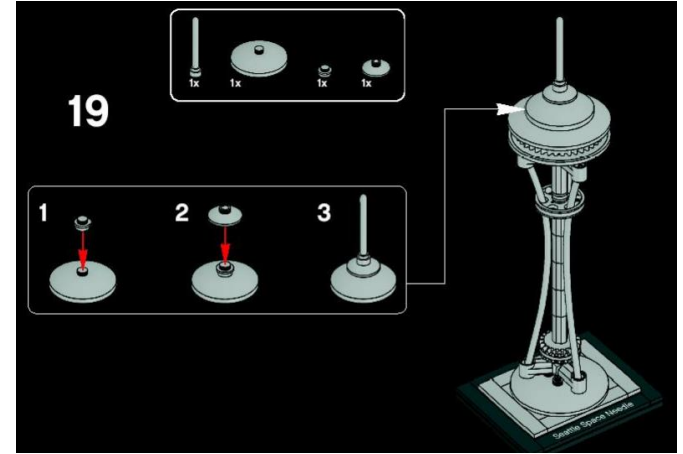
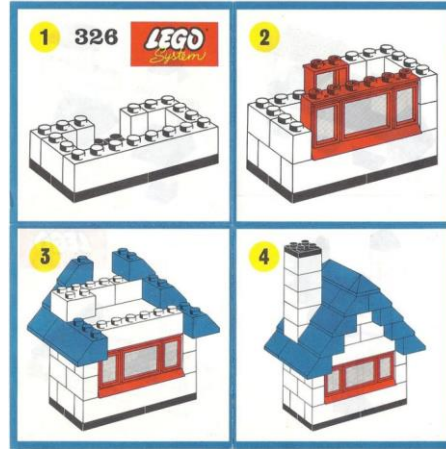
# {what's next?}

1. Partnering >Big  
Room.IPD.Integrated  
Networks
2. Design  
>VR.Iterate.Simulate.Valid  
ate.Quantify.
3. Making  
>Prototype.AR.Robotics



# {model vs drawings}

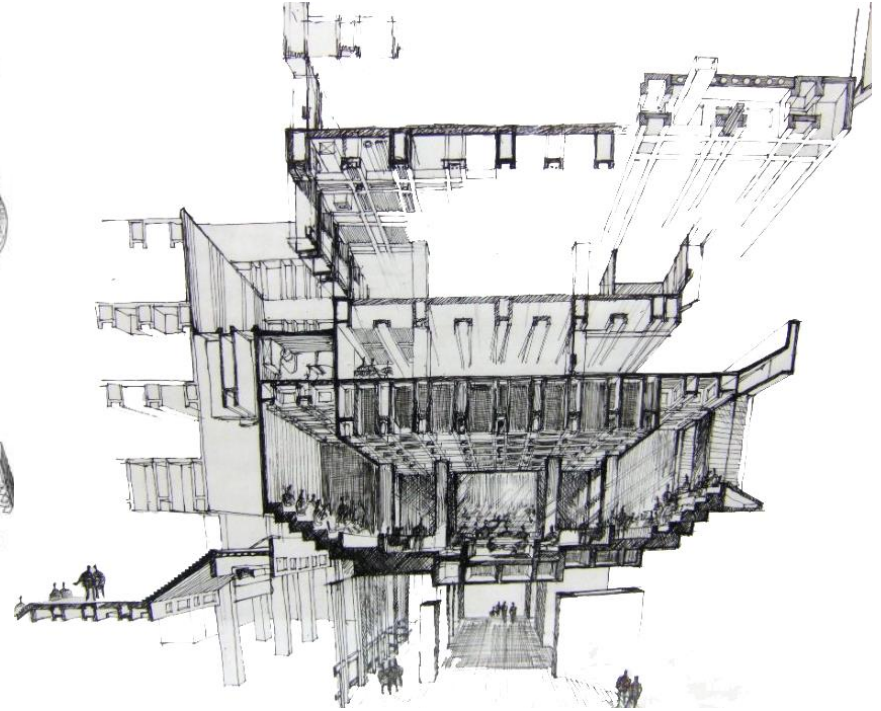
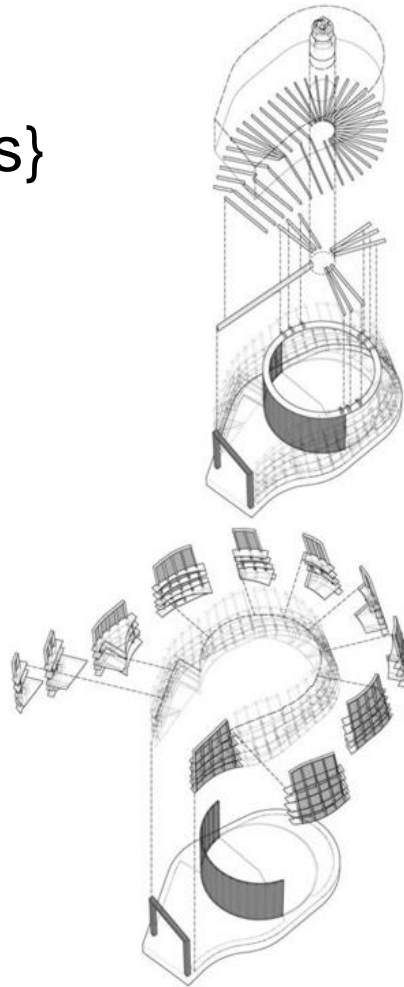
1. Lego >Printed Building  
Instructions.iPad 3D  
instructions>AR.



# {model vs drawings}

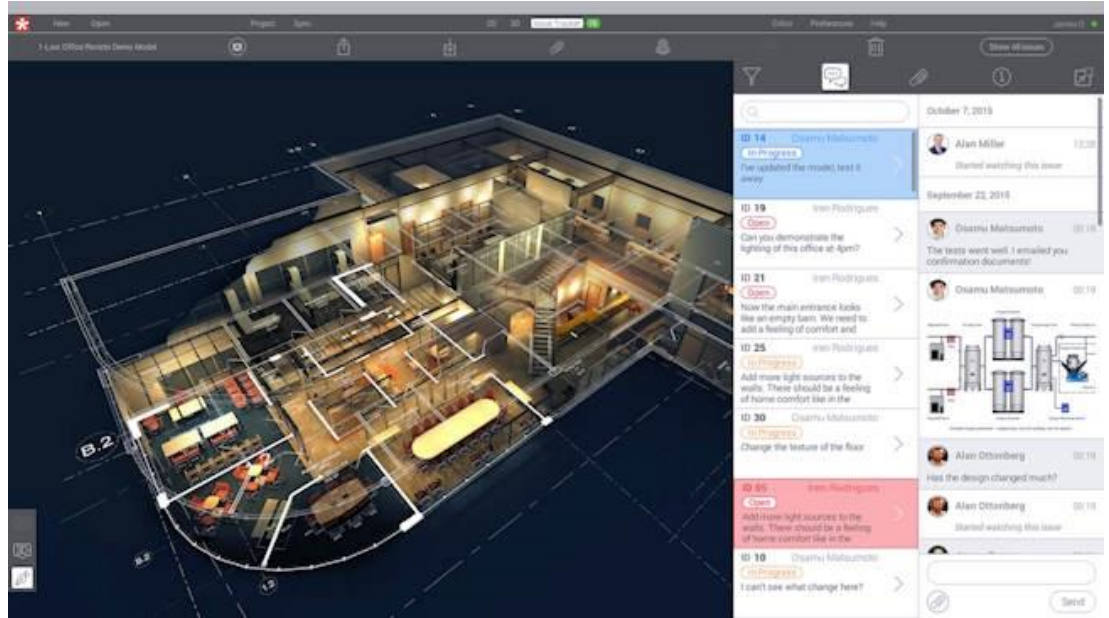
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2. Worship the drawings as  
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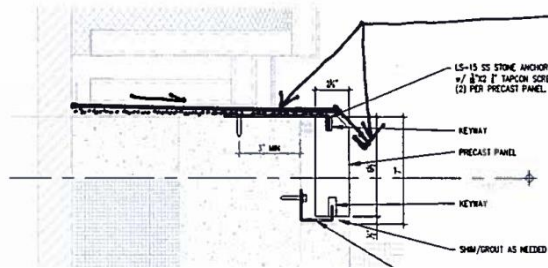
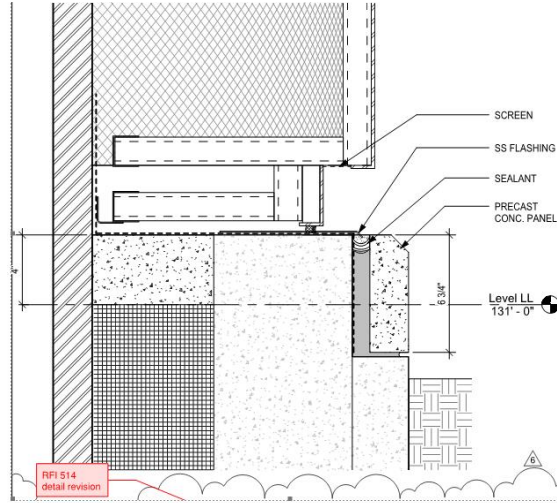
# {model vs drawings}

1. Lego >Printed Building Instructions.iPad 3D instructions>AR.
2. Worship the drawings as art vs communication to builders
3. Issues >model and drawing not coordinated."Contract Documents".Legal issues.Cost concerns



{detail.appropriately}

1. Detail vs Specify or Craft vs Industrial.
2. Maker vs Fabricator.



SS FLASHING ON SLOPING MORTAR BED W/ DRAKE METAL DRIP EDGE OVER PRECAST PANEL SS STONE ANCHOR.



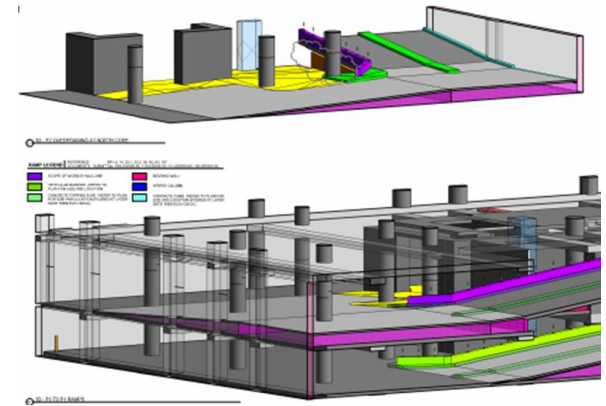
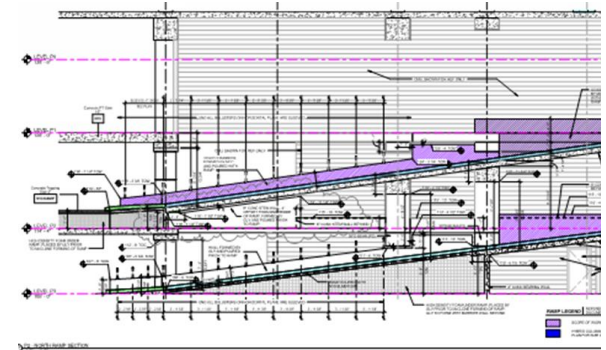
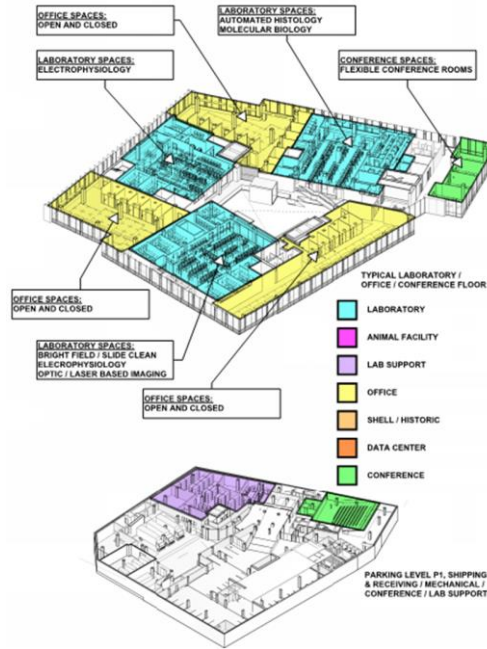
100kGarages.com

connect. collaborate. create.



# {design vs construction model}

1. What are the differences between the two?
2. Why remodel?
3. What does the contractor need from the design model?



# {technology.skills}

1. Scary with lots of tears. Evolution from drawings to CAD, CAD to BIM.
2. Does it deliver on the benefits? Complexity in form and construction. Clash detection - not redo in the field. New ways to communicating space.
3. Allows for rapid change. cost. Deprecation.
4. What to invest in? Will it be supported?
5. Learning + productivity = time = money
6. Get involved by having dialogue with software. What tools do we want and need to shape our industry?