

Broadening the Perspective of Technology in Architectural Practice

October 19, 2012 | Stanford, CA
Stanford University Center for Integrated Facility Engineering

Algorithms Are Thoughts

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Director, Computational Design

CASE Design Inc.



Broadening the Perspective of Technology in Architectural Practice is registered with AIA CES.

Online + Components: **TAP101912W**

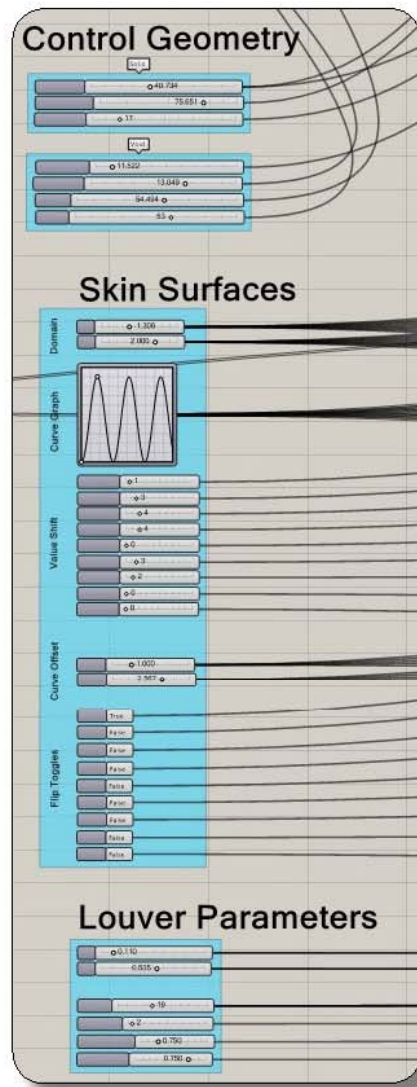
Stanford CIFE Live Event: **TAP101912S**

Questions? Contact tap@aia.org

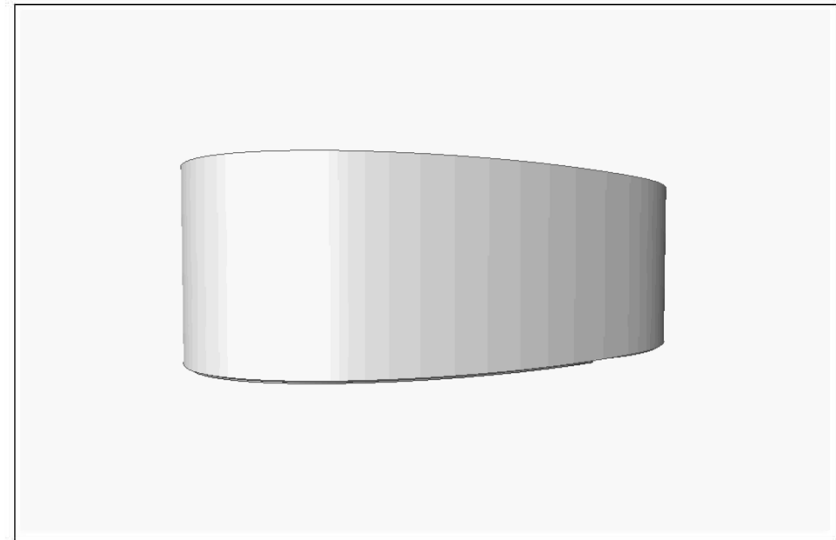


Design Concept

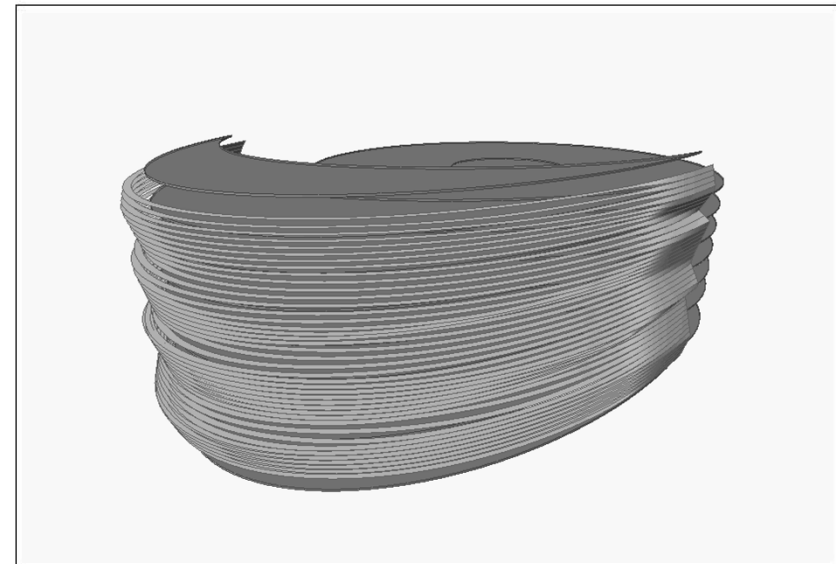
Omantel - HDR



Form Iterations

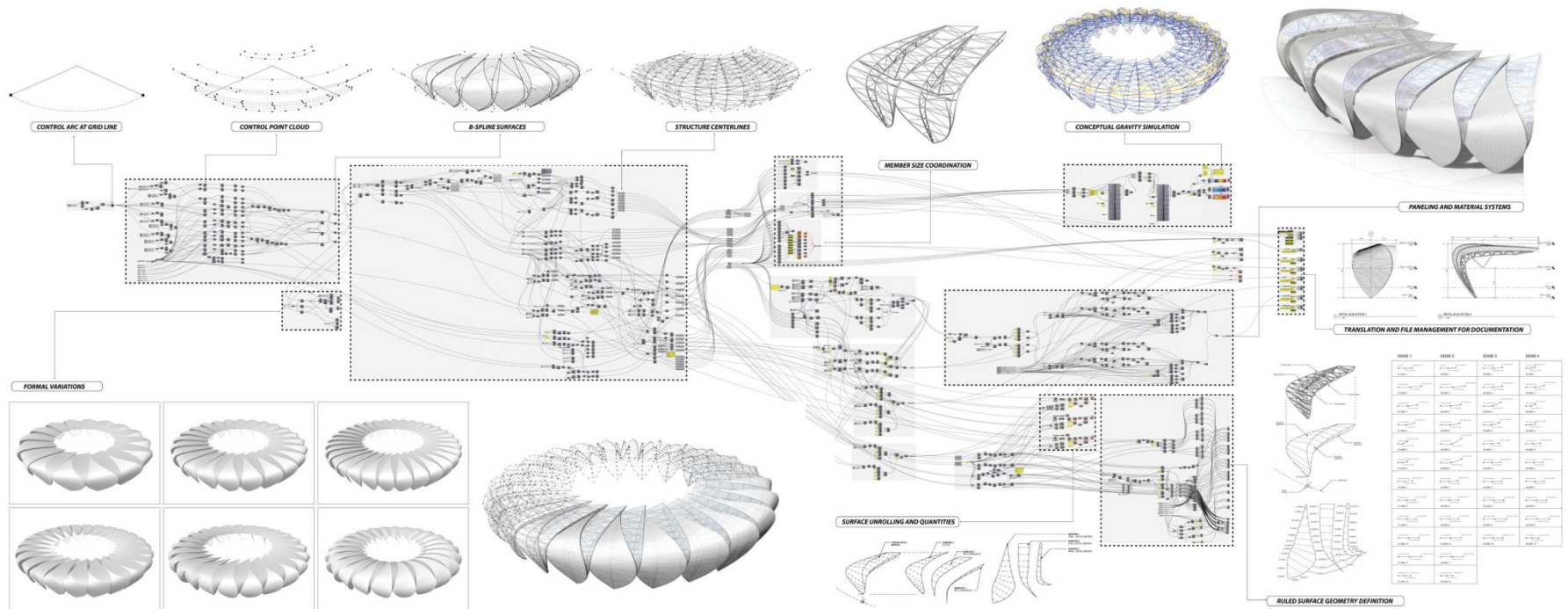


Louver Iterations



Computational Design

Omantel - HDR



Computational Design

Hangzhou Tennis Center - NBBJ

“

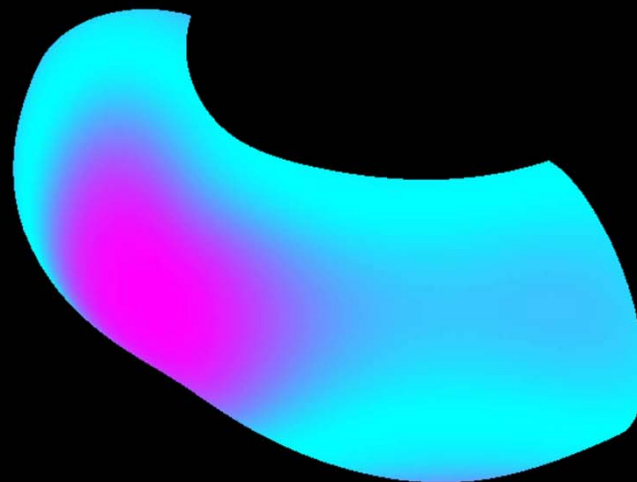
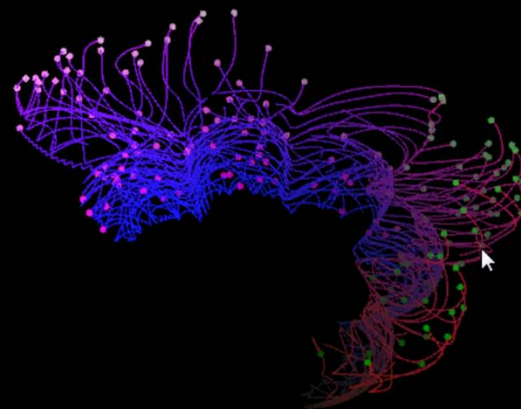
*...Design thinking
in an automated world...*

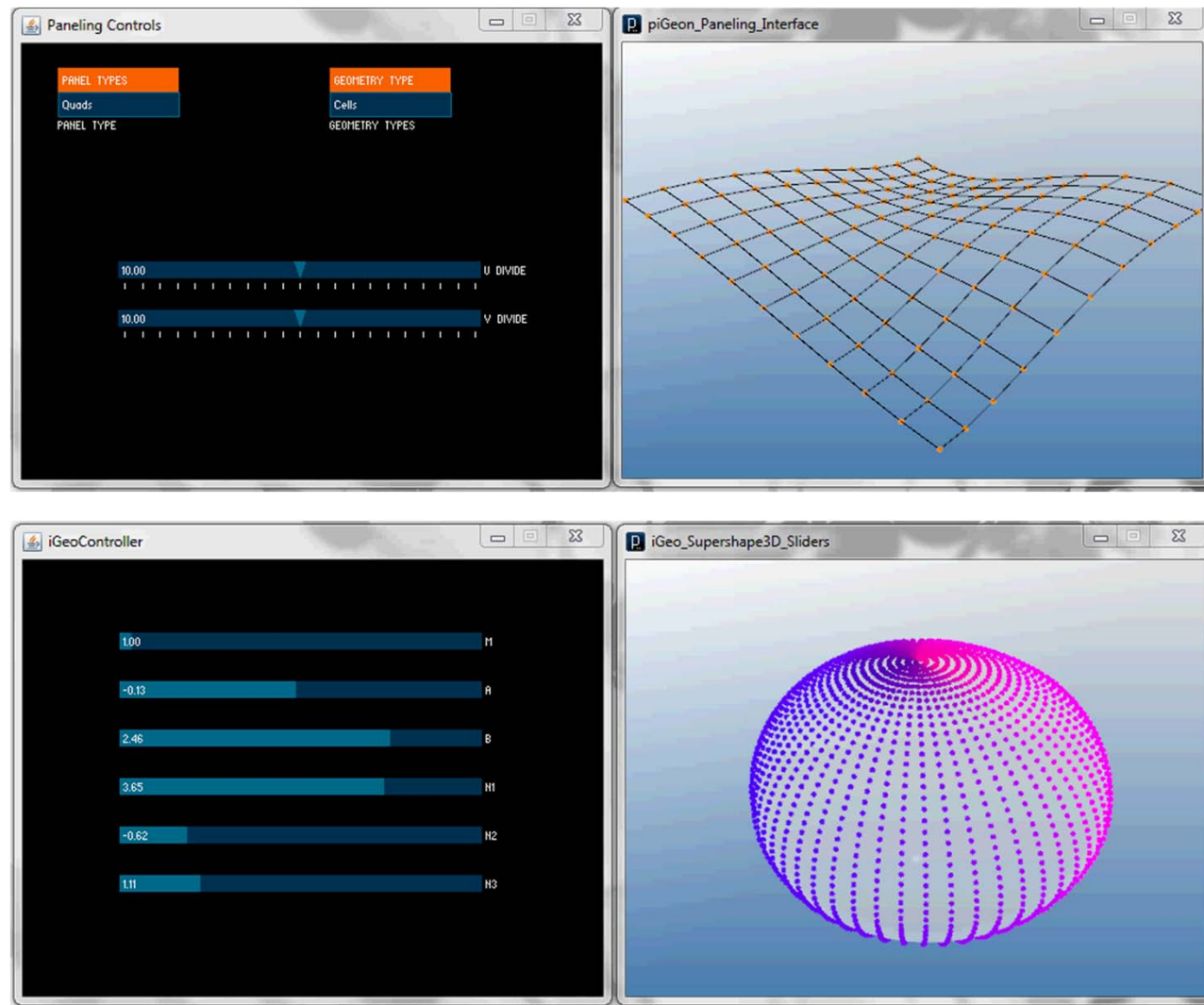
”

“

*...Algorithms are thoughts;
chainsaws are tools...*

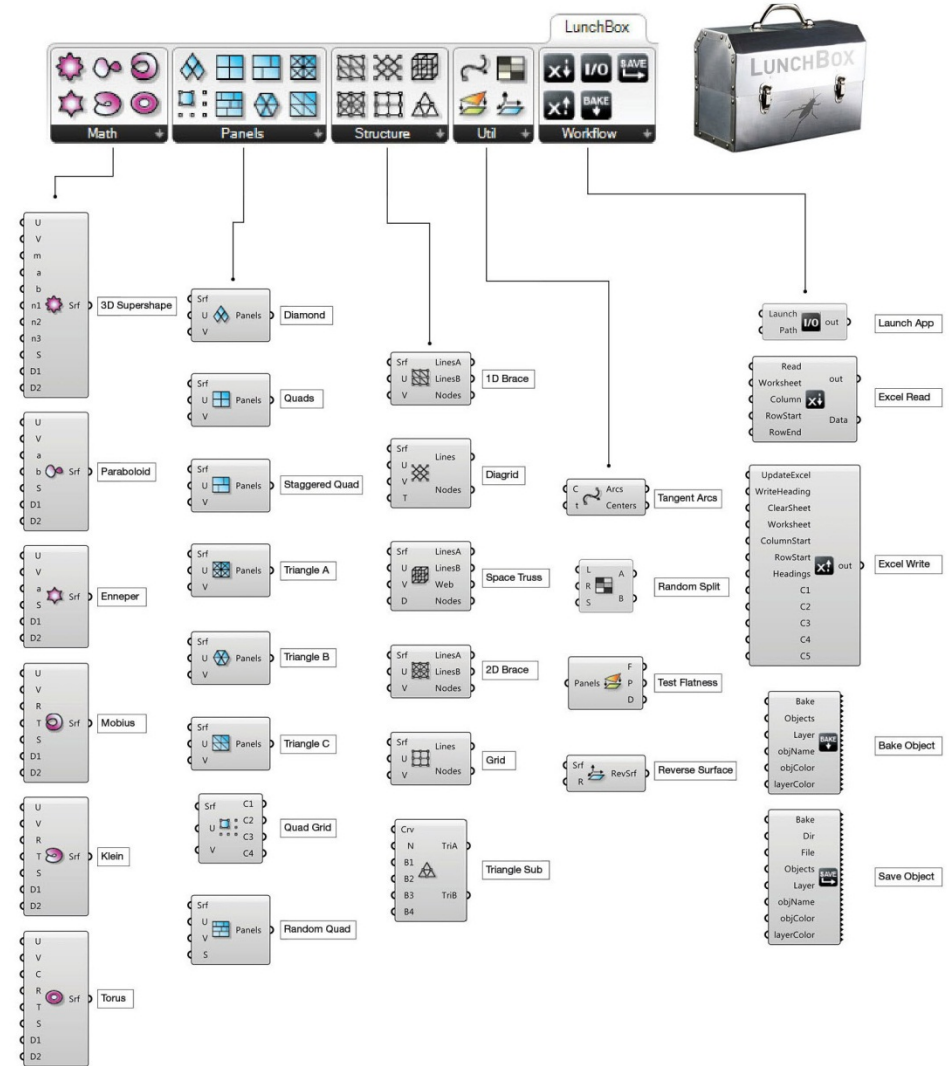
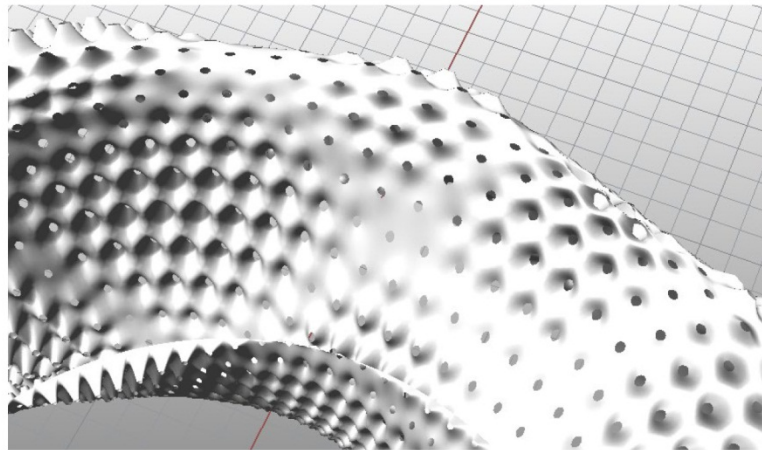
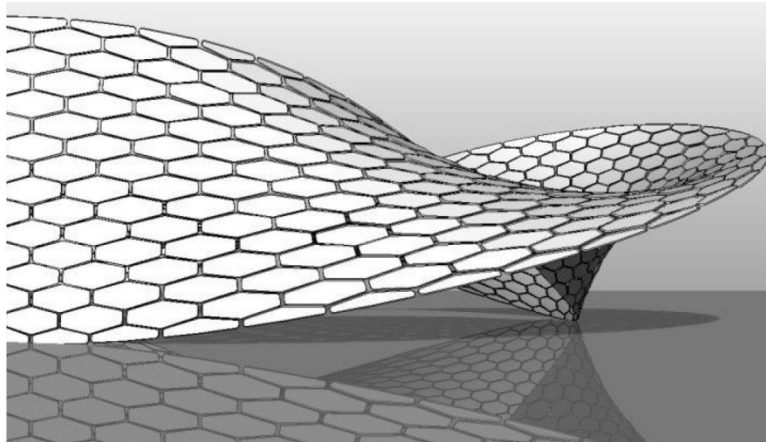
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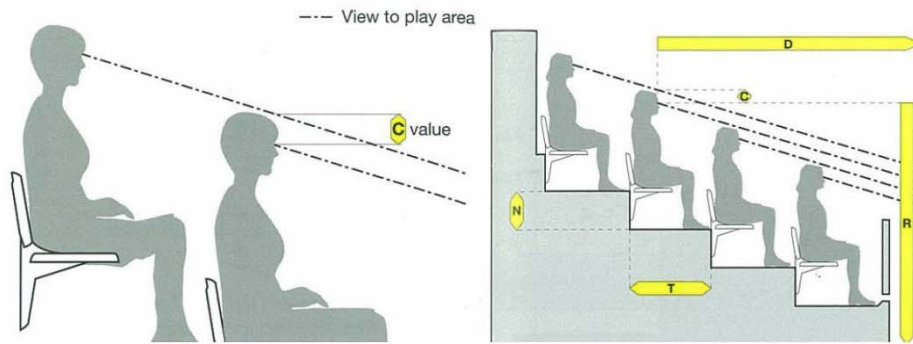
Tool Making

3D Processing Applications



Tool Making

LunchBox for Grasshopper



$$N = (((R+C)*(D+T))/D) - R$$

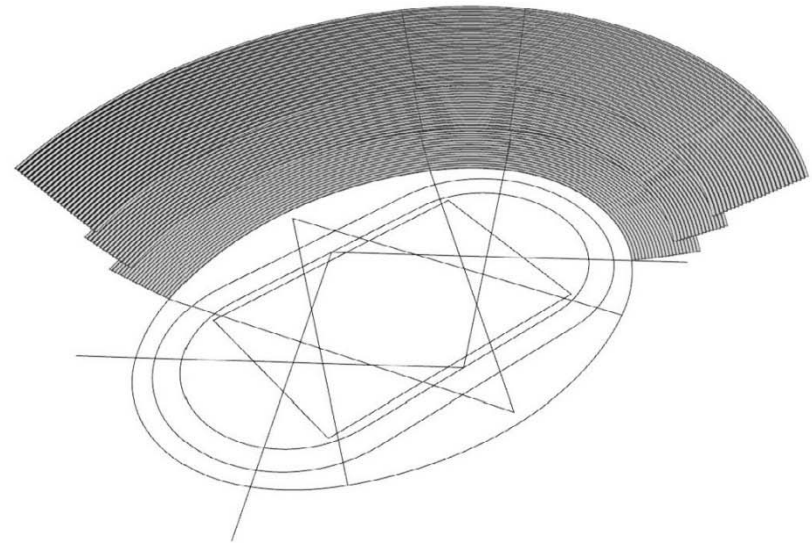
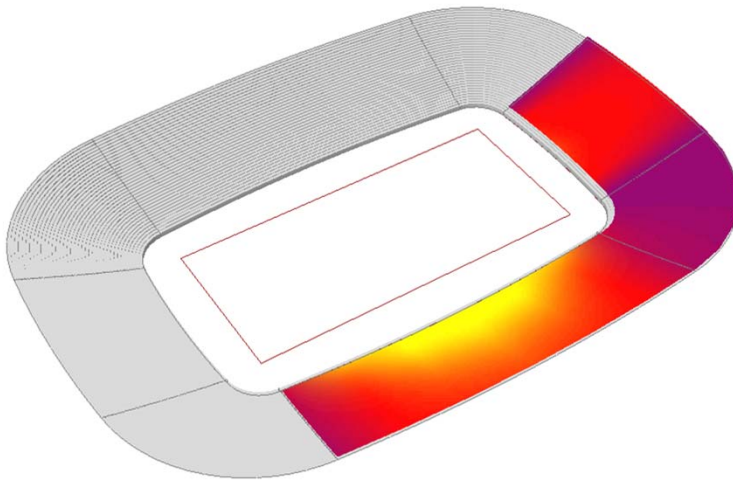
N = Riser Height

R = Height between eye on 'point of focus'

D = Distance from eye to 'point of focus'

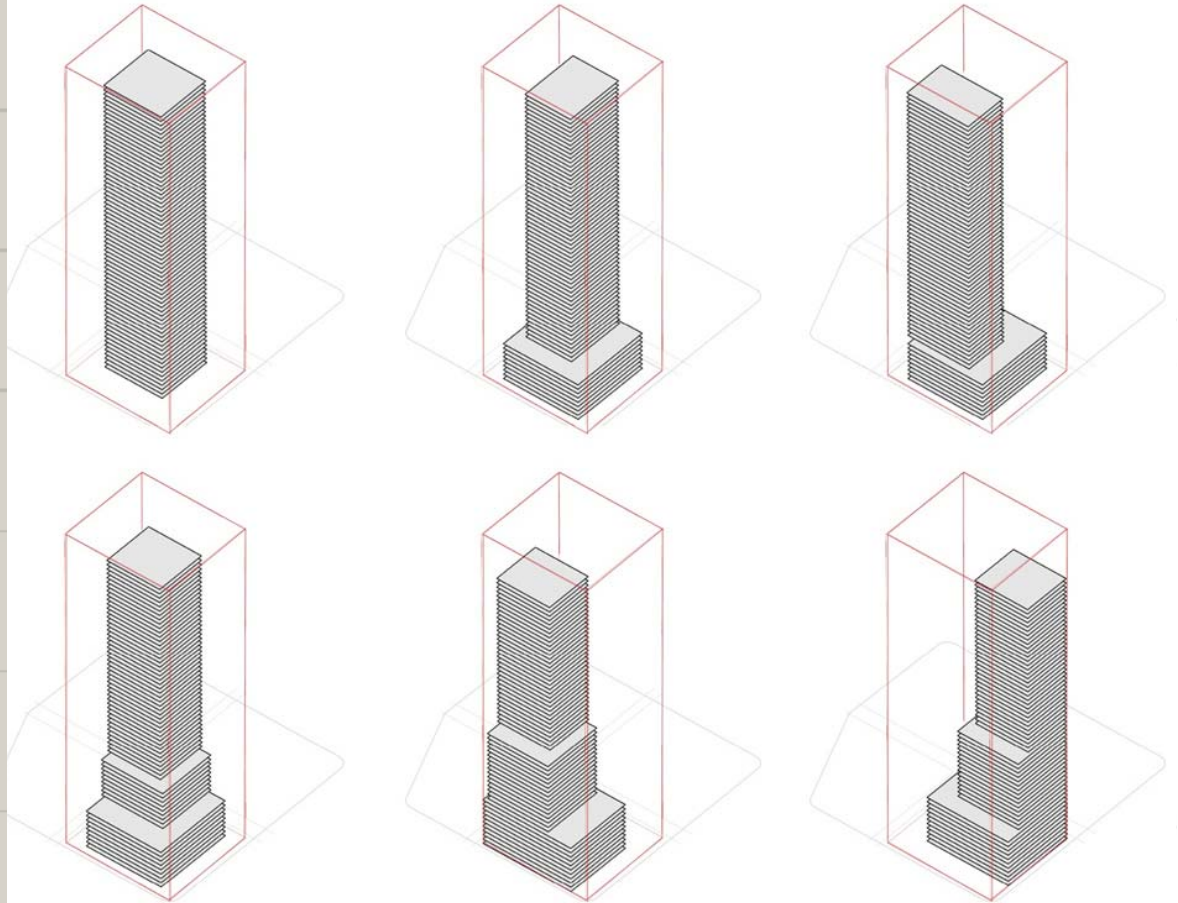
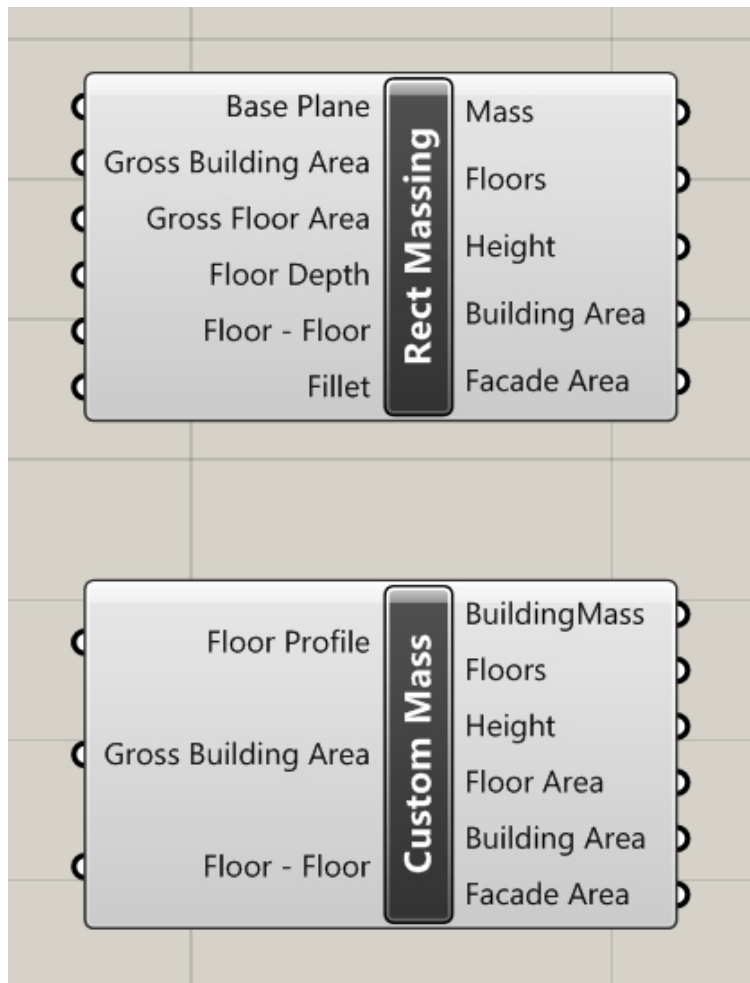
C = "C" Value (150mm, 120mm, 90mm)

T = Depth of seating row



Computational Design

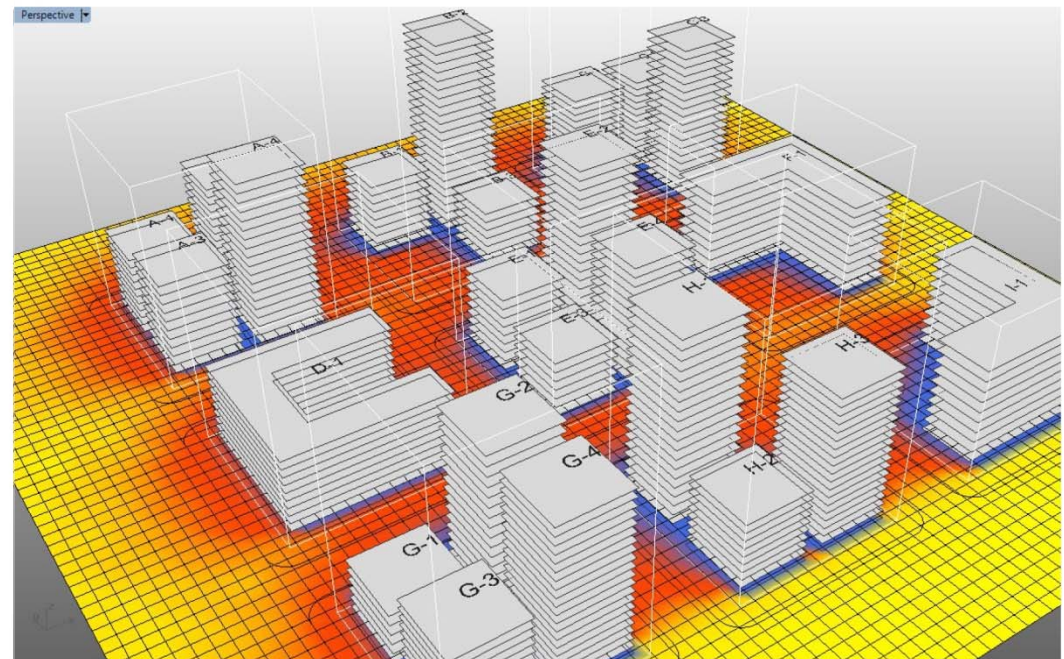
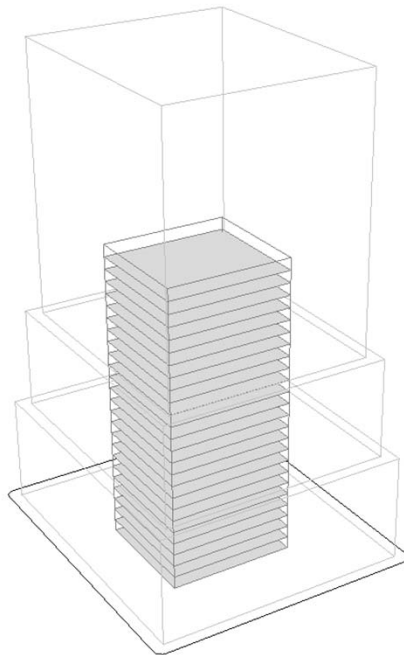
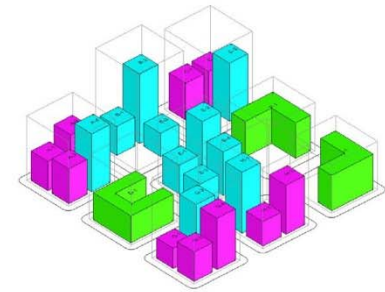
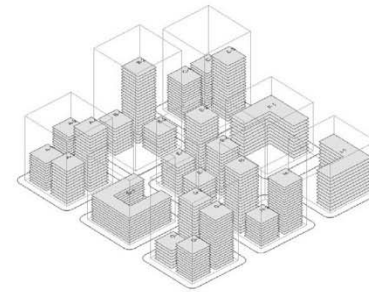
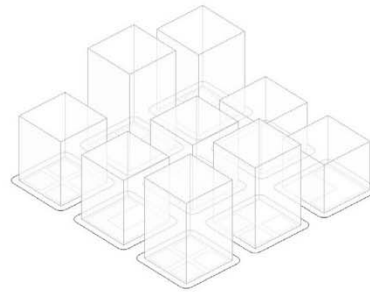
Bowl Creation Prototype



Computational Design

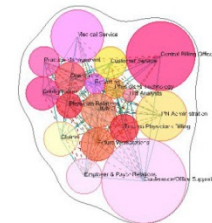
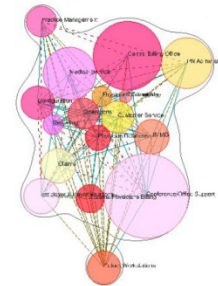
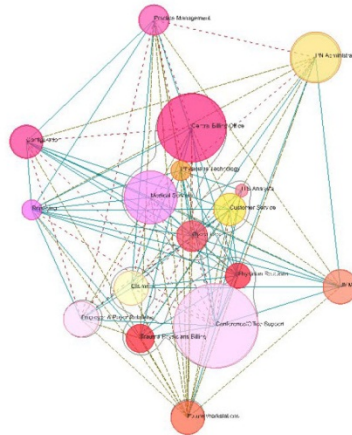
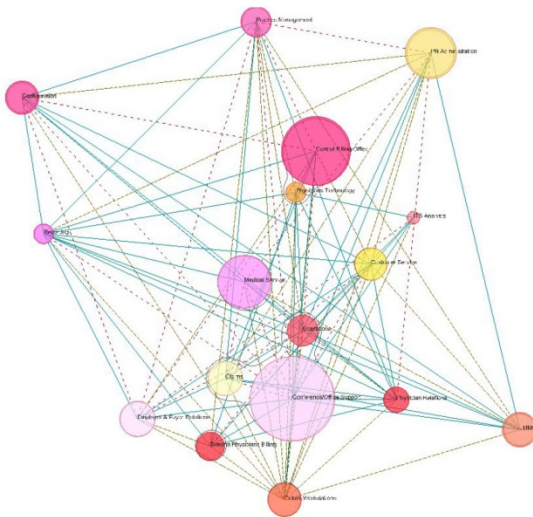
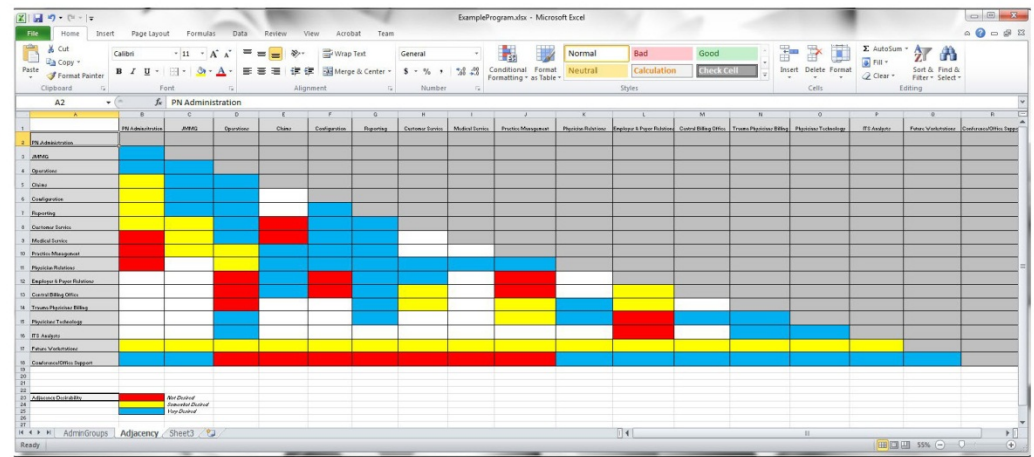
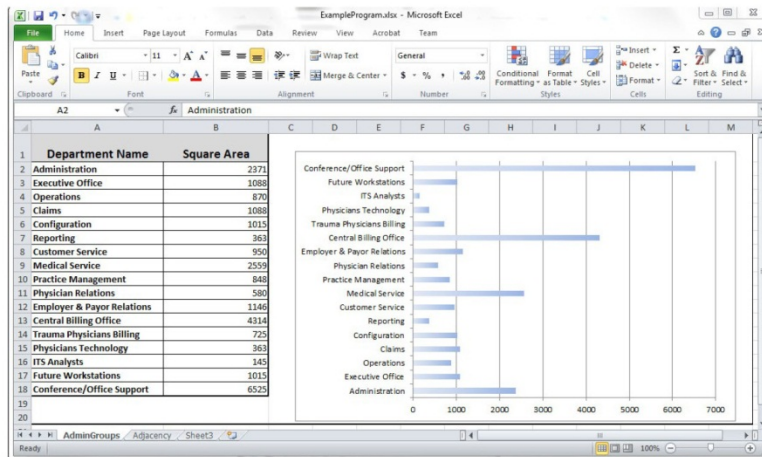
Master Plan Prototype

Unit	Building	Building Area (sq. meters)	Floor Area (sq. meters)	Program Type
1	A	10000	10000	Commercial
2	A	10000	10000	Commercial
3	A	10000	10000	Commercial
4	A	10000	10000	Commercial
5	A	10000	10000	Commercial
6	A	10000	10000	Commercial
7	A	10000	10000	Commercial
8	A	10000	10000	Commercial
9	A	10000	10000	Commercial
10	A	10000	10000	Commercial
11	A	10000	10000	Commercial
12	A	10000	10000	Commercial
13	A	10000	10000	Commercial
14	A	10000	10000	Commercial
15	A	10000	10000	Commercial
16	A	10000	10000	Commercial
17	A	10000	10000	Commercial
18	A	10000	10000	Commercial
19	A	10000	10000	Commercial
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23	A	10000	10000	Commercial
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26	A	10000	10000	Commercial
27	A	10000	10000	Commercial
28	A	10000	10000	Commercial
29	A	10000	10000	Commercial
30	A	10000	10000	Commercial
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37	A	10000	10000	Commercial
38	A	10000	10000	Commercial
39	A	10000	10000	Commercial
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48	A	10000	10000	Commercial
49	A	10000	10000	Commercial
50	A	10000	10000	Commercial



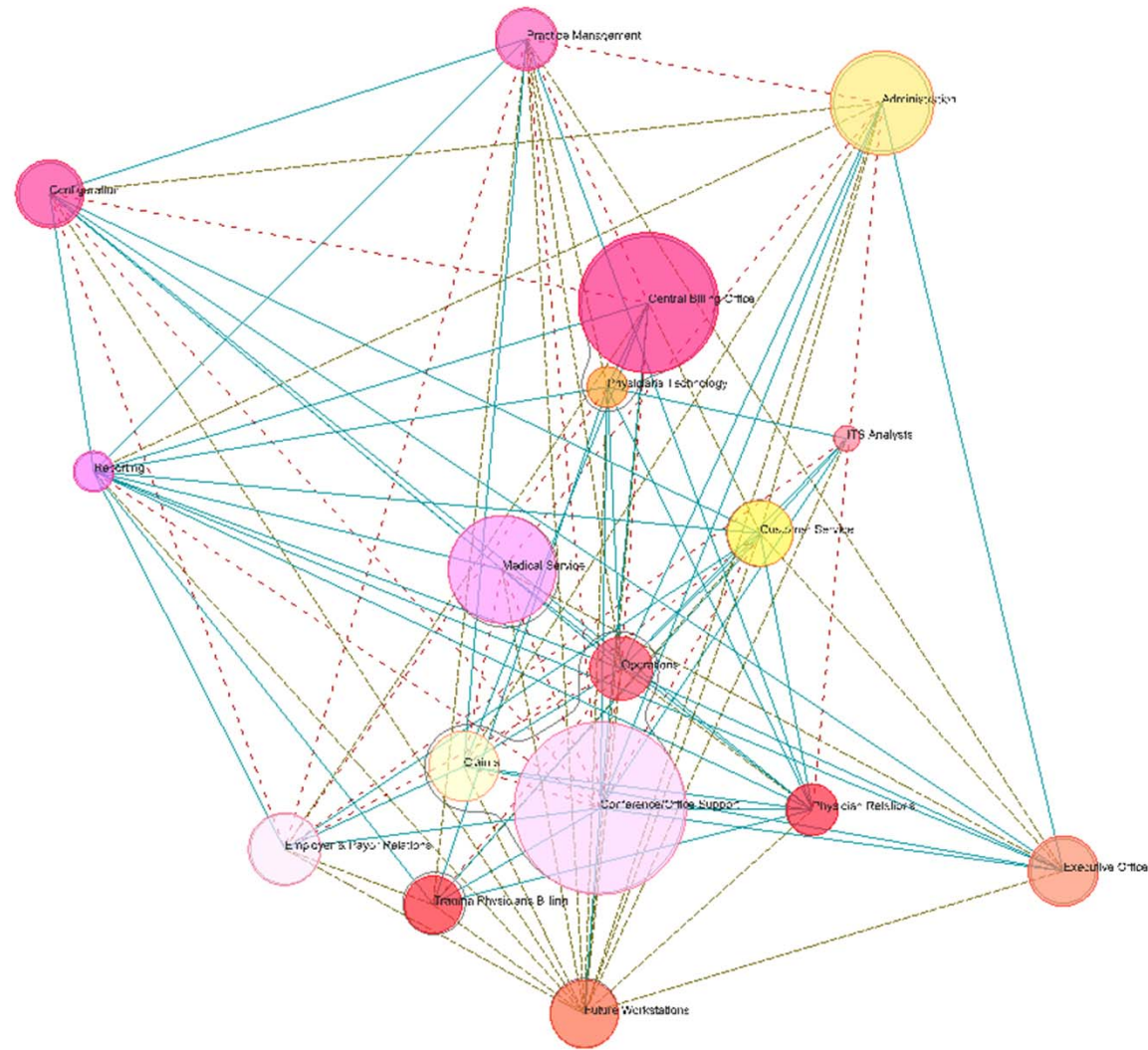
Computational Design

Master Plan Prototype



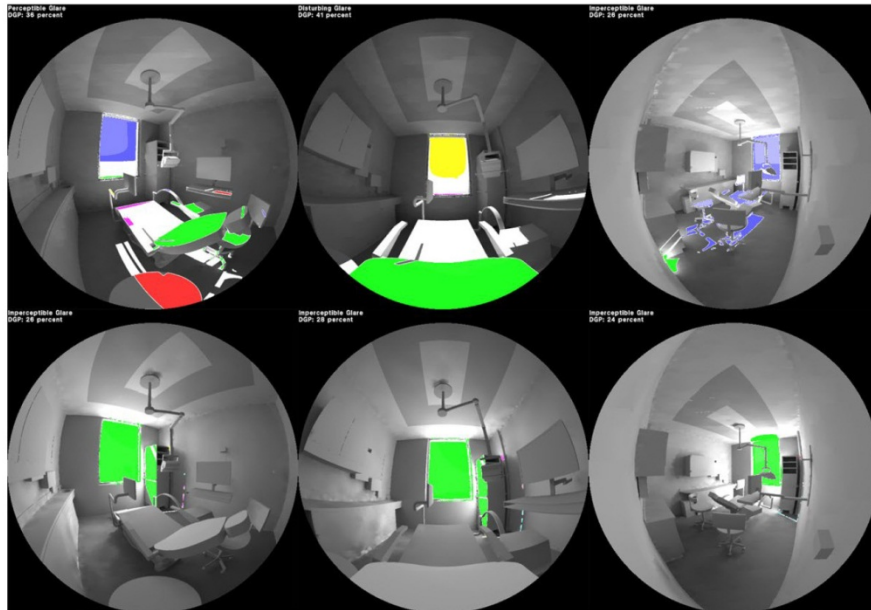
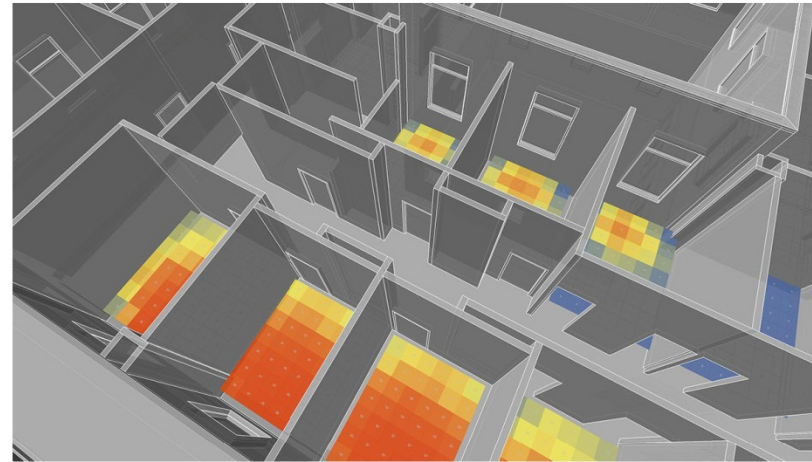
Computational Design

Space Planning Prototype



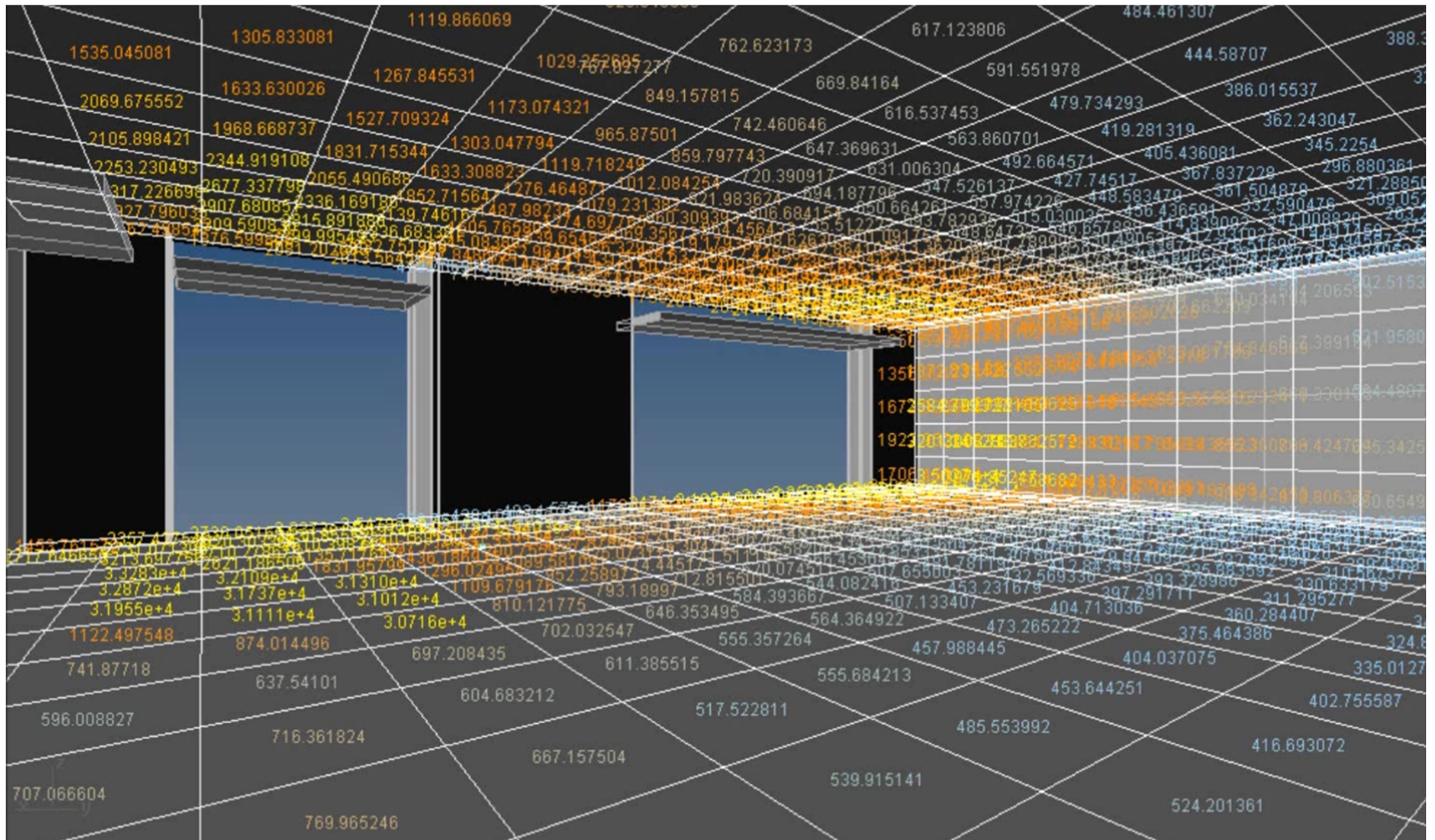
Computational Design

Space Planning Prototype



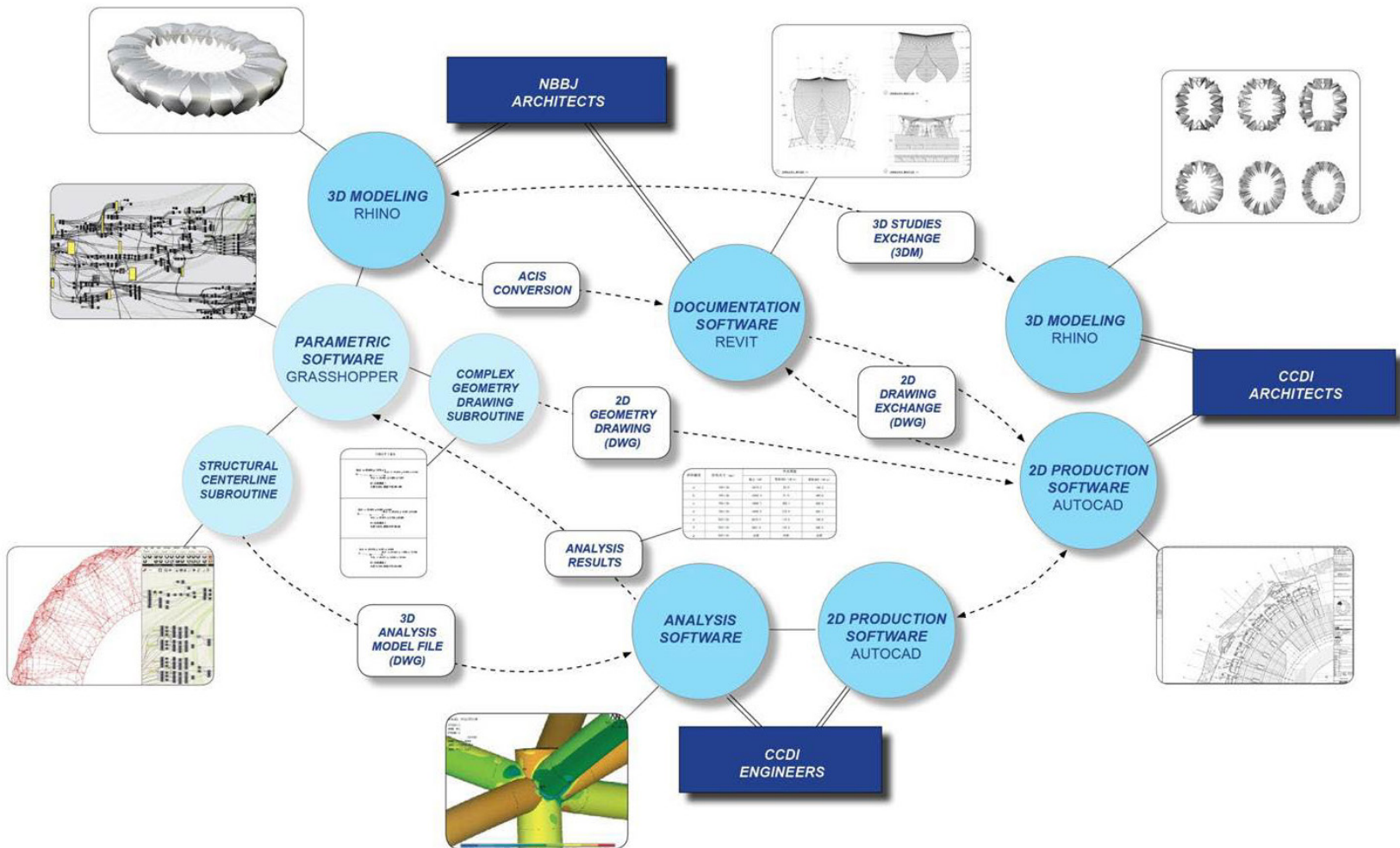
Simulation

Daylight Analysis Workshop - Leo A Daly



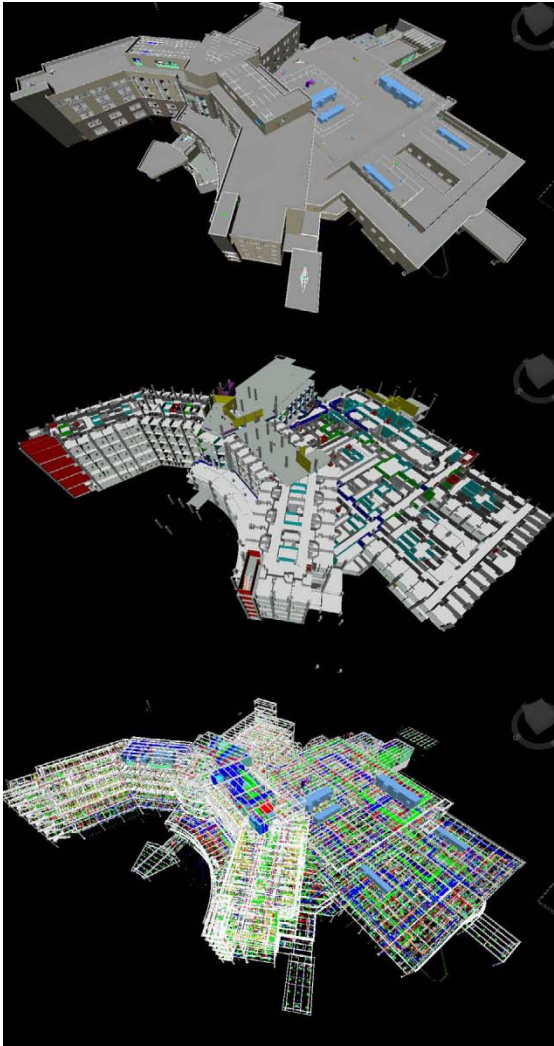
Simulation

Design and Analysis Evaluation



Workflows

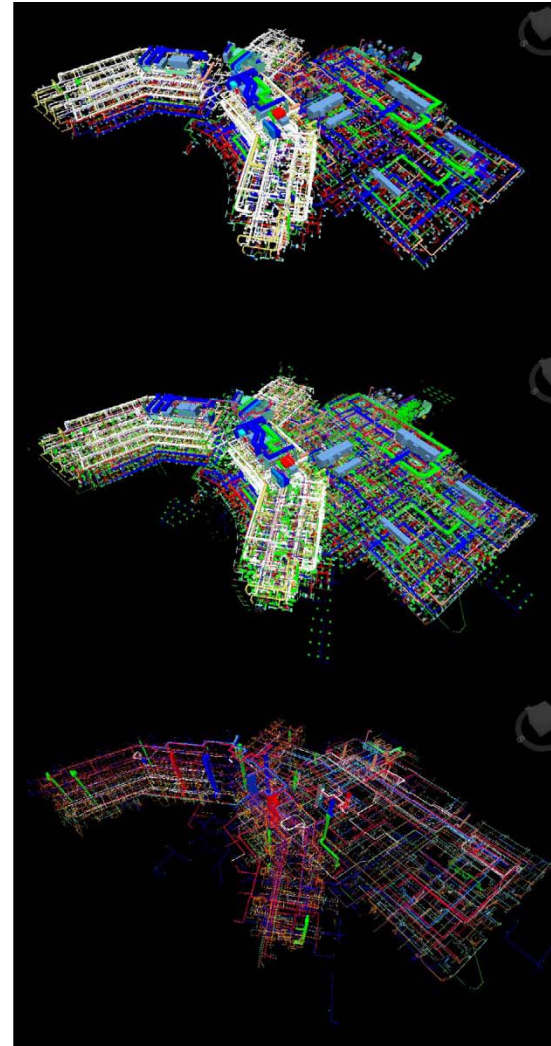
Hangzhou Sports Park - NBBJ



Architecture

Spaces

Structural

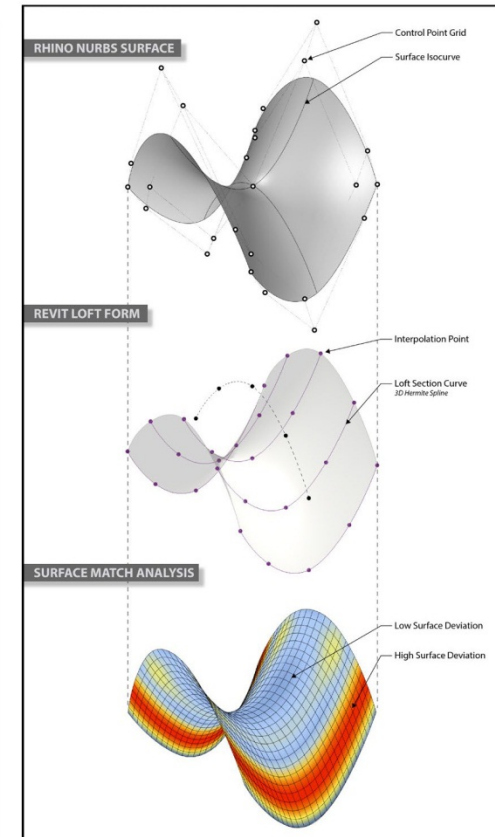
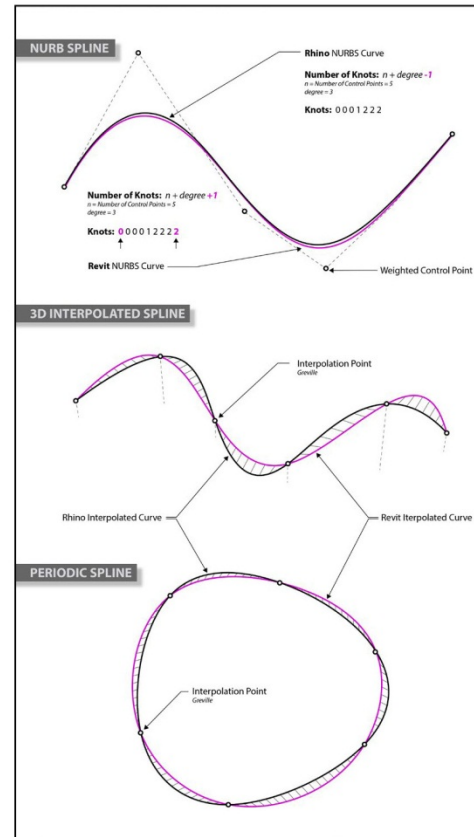
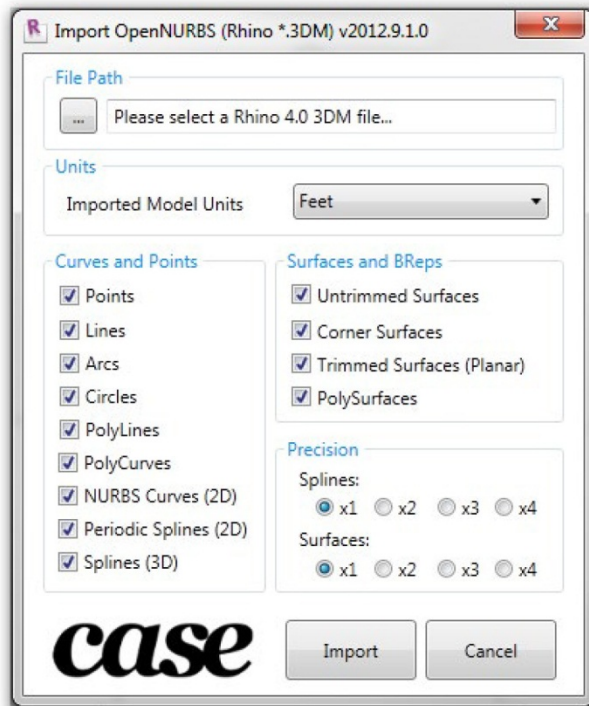


All Systems

HVAC

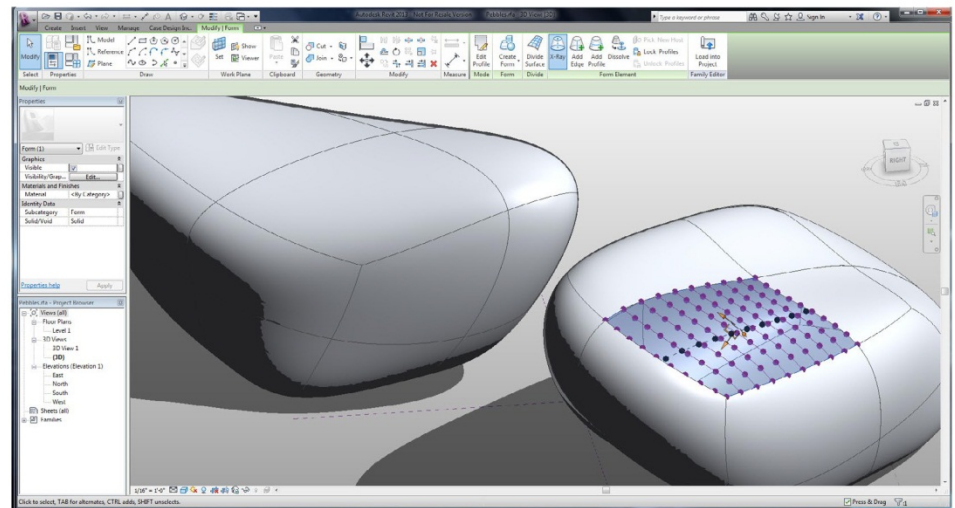
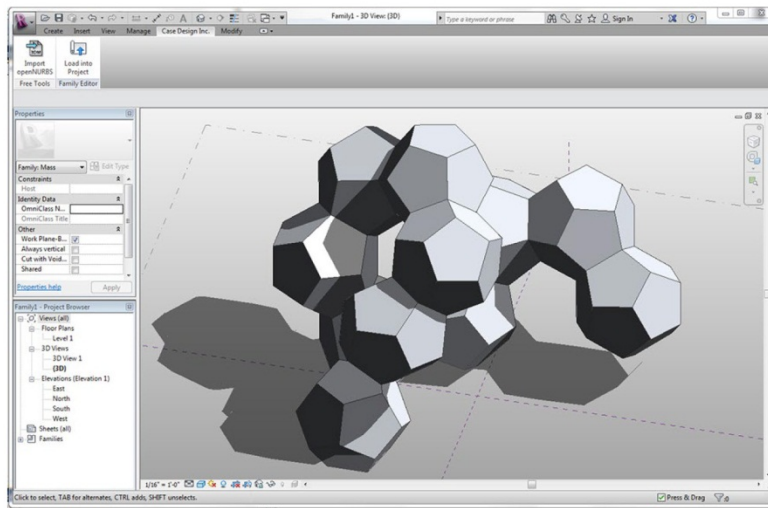
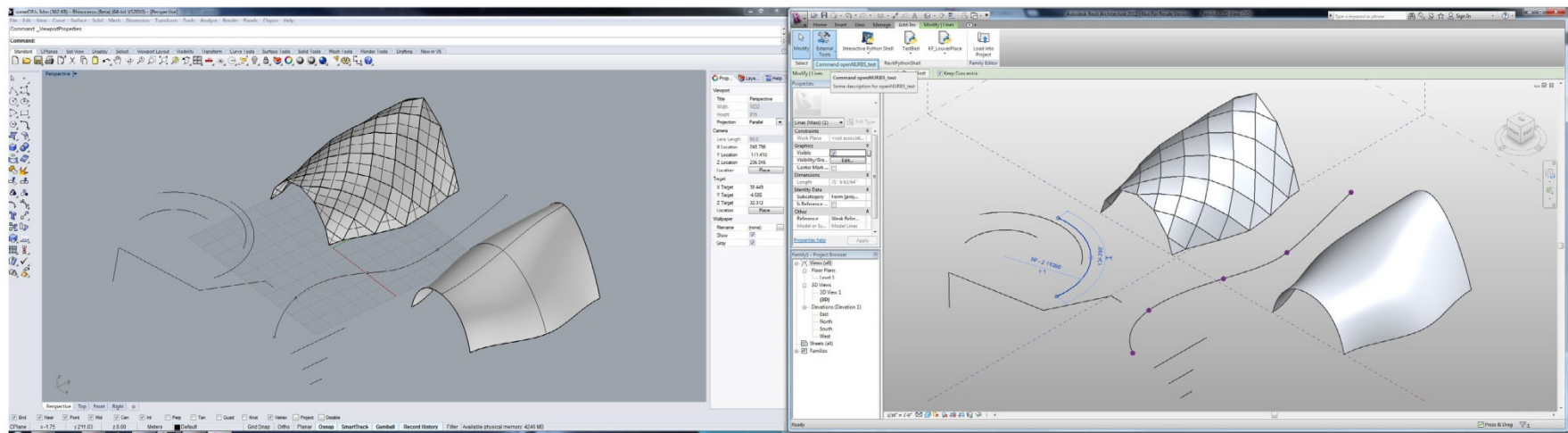
Piping

Workflows



Interoperability

Geometry Importers



Interoperability Geometry Importers

case apps

Applications for the building industry by CASE

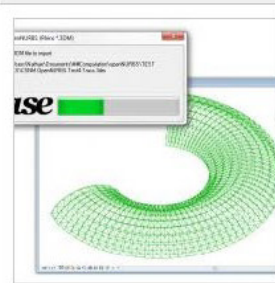
User login

Username or e-mail: *

Password: *

Log in

- Create new account
- Request new password



Import openNURBS (3dm
File Data)

Platform: Revit 2012

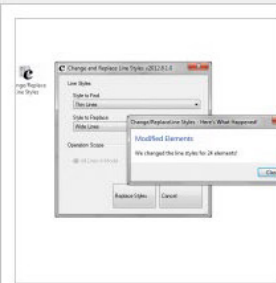
This is Nate Miller's first CASE Free Add-In! It reads the OpenNURBS file format (Rhino 4.0 *.3DM) and imports curve objects...



Add-In Manager

Platform: Revit, Navisworks, Rhino, etc...

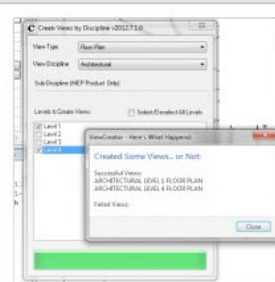
This tool is used to install and remove CASE Add-Ins from any version of Revit. We will no longer build ClickOnce installers...



Change and Replace Line Styles

Platform: Revit 2012 and 2013

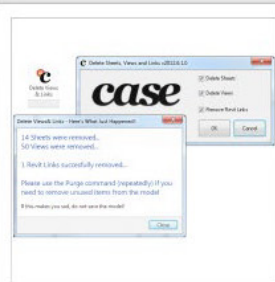
Updated 2012-07-24; Have you ever imported a DWG file into your model and got a bunch of unwanted line styles? Have you ever...



Create Plan Views by Discipline

Platform: Revit 2012

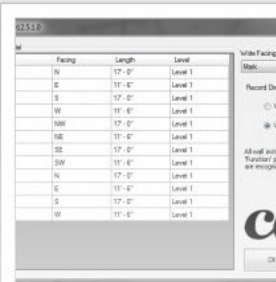
This is Alan Jackson's first Add-In and it creates plan views by level as Floor Plans or Reflected Ceiling Plans. You will get...



Delete Sheets, Views, and Revit Links

Platform: Revit 2012

It is a common task to remove as much from a model as possible prior to sharing it with your consultants for the purpose of of...



External Wall Directions

Platform: Revit 2012

This tool comes in as a request from the Passive House design community and solves the problem of reporting the external wall...

CASE Apps

Free Stuff!