Rethinking BIM / Columbia GSAPP / Fall 2021 / Prof. Mark Green

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The Bird Panel

The responsive element in the Bird panel is the planter, which follows two parameters. First, the planter increases or decreases its height depending on a vertical vector which represents the building overall height. And second, it rotates depending on the position of the sun. We would use this last parameter to determine an optimal position to maximize radiation in the peak Bird migration season.



Concept

We wanted to push further the non-human character of the – windowless – AT&T Long Lines building in NYC, and convert it's facade into a bees and birds nest.

Software integration

To develop this project we used Revit and Grasshopper, trough Rhino inside. The panels are built in Revit as a generic model family and inserted as a Curtain Wall panel.

Data set

The script in grasshopper creates a set of vectors to simulate wind, and solar radiation for the different configurations of the panels.

Workflow

The workflow we created for this project would be implemented in the design stage of a project. Particularly, to visualize design iterations before the real data set is collected / implemented into the model.

The Bee Panel

Is composed by two responsive elements: the beehives and the planters. The beehives rotate in response to a vector that represents sun light, and the planter depth increases in the lower part of the building, to also maximize sun radiation. So both elements utilize the same vector, and respond in different ways to it.

Interspecies integration Daniela Beraun + Ruben Gomez