Digital Design Fabrication Technology
The implementation of Generative Design and Automation Framework

Morphogenesis Platform
From coding to visualization, the integration Of IES light automated framework

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Engineers, Architects and Designers are persistently constrained to provide a greater performance and better solutions when it comes to applying light effectively. Our process will enhance the BIM collaboration level and address how Generative Design can help manufacturers to produce more with less resources, energy and time to support sustainability.

This platform research will go beyond the fundamentals of interior design lighting and dive into settings to promptly prototyped an automated system that can understand the requirements for the photometric light, select proper schemes, and calculate the level of lighting.

Using Morphogenesis Platform, you will discover how to create native Revit content as well as how to build a project setup directly from a web portal. We will demonstrate how we used the Design Automation for Revit API to implement the following outcome:

- Identify the automated system that can understand the requirements of IES light to simulate design criteria real time.
- Calculate the quantity of light needed for a particular space where certain activities are performed.
- Explain the link between design and application in order to generate electrical design sheets and QTO schedules using BIM.
- Learn how to classify and objectify fundamental abilities of Generative Design to customize a sustainability framework.

Autodesk Technologies gave us the ability to benefit from the power of Generative Design where users are free to select from a CAD generated variety of design options and create many solutions simultaneously. Generative design is a definitive shift in how to conceptualize, design, and build this strategy will augments human capabilities by using algorithms to automate your design logic.

The concept is to use Autodesk Forge platform and specifically the design automation API to provide a user friendly platform that can automate most of the processes of preparing a lighting project, starting from simulating your own visual lighting design, through generating RCP and BOQ ending with a product ready for manufacturing.
The platform allows collaboration between different professionals of different trades. Architects, interior designers, expert consultants and electrical engineers.

Videos:
https://www.youtube.com/watch?v=a8UzF60FWWA&feature=youtu.be

https://www.autodesk.com/autodesk-university/class/coding-visualization-integration-IES-light-automated-framework-2019#downloads

https://www.youtube.com/watch?v=VIcfPWqAQT8&feature=youtu.be