Generative Design with Dynamo

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Generative design with Dynamo

- Generative design is a **design method** in which the output is generated by a **set of rules** or an **algorithm**. It is based on **parametric modeling** and it is a fast method of **exploring design possibilities**.

- Dynamo is a generative design application and it's equipped with a very unusual interface based on **Visual Programming**. It's a language which provides users ability to **script without any deep programming knowledge** and experience.

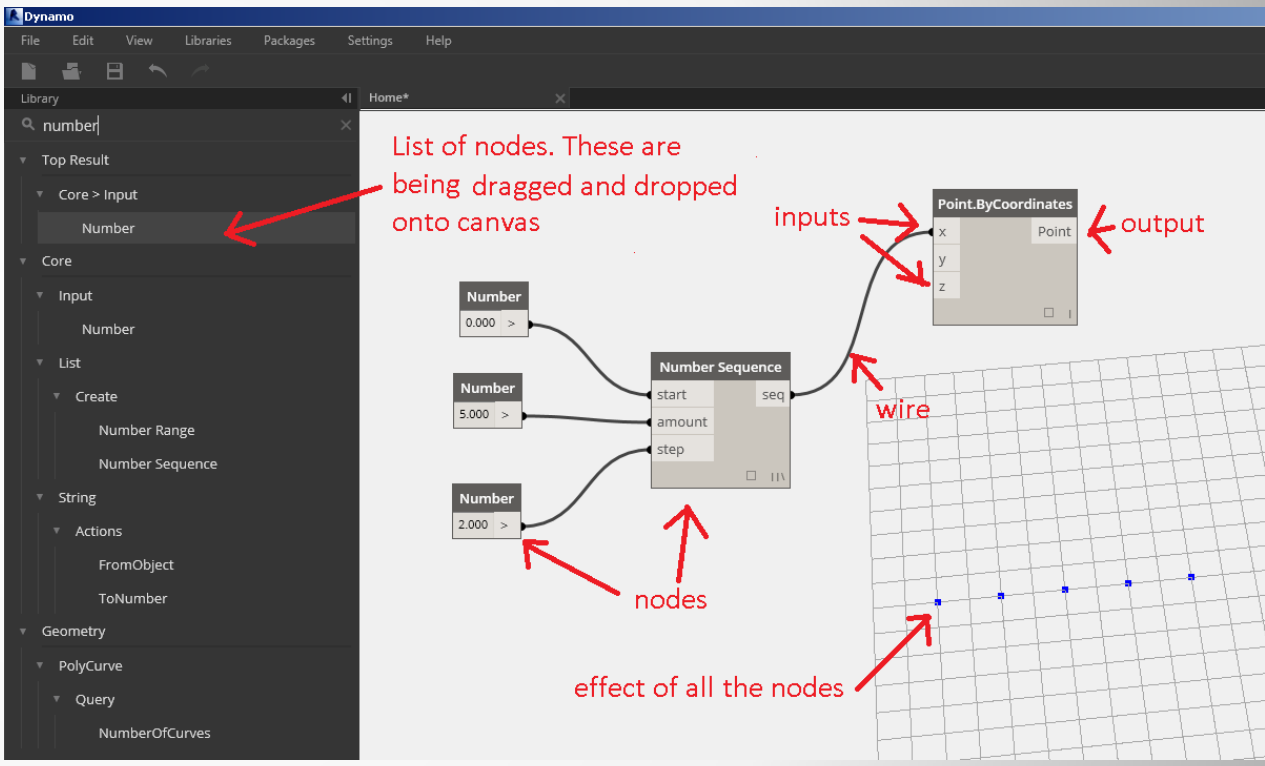
Generative design with Dynamo

- It allows designers and engineers to create **geometry relationships** based on rules and logic rather than **traditional sculpting**/push-pull manipulations.

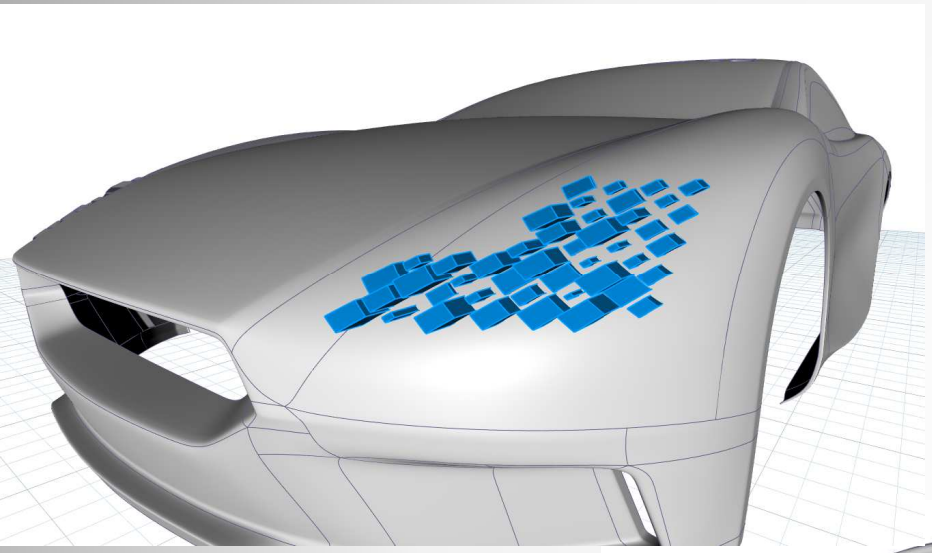
- It allows to generate geometry which normally would be very **time consuming** or would be even **impossible to create**

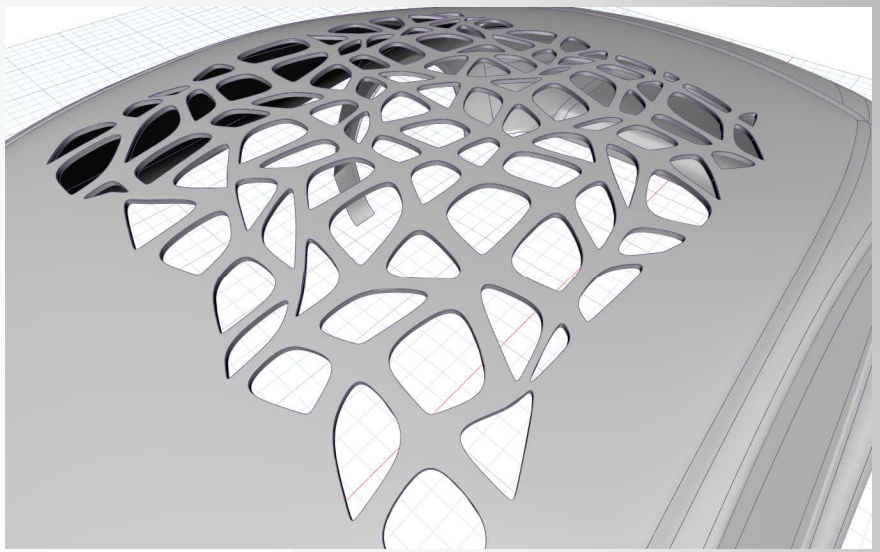
Visual Programming

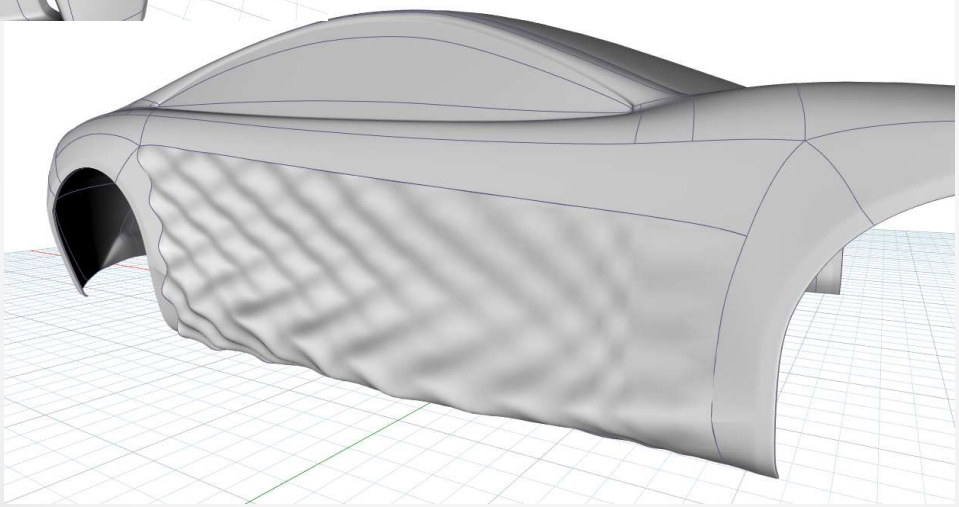
- What is Visual Programming about?
- Individual tasks are embedded in icons (here called „nodes”).
- User selects desired nodes and drag and drops them onto canvas. Each node has its inputs and outputs.
- User connects inputs and outputs of nodes logically with „wires”.
- The effect of the connected nodes is graphically displayed in the background.



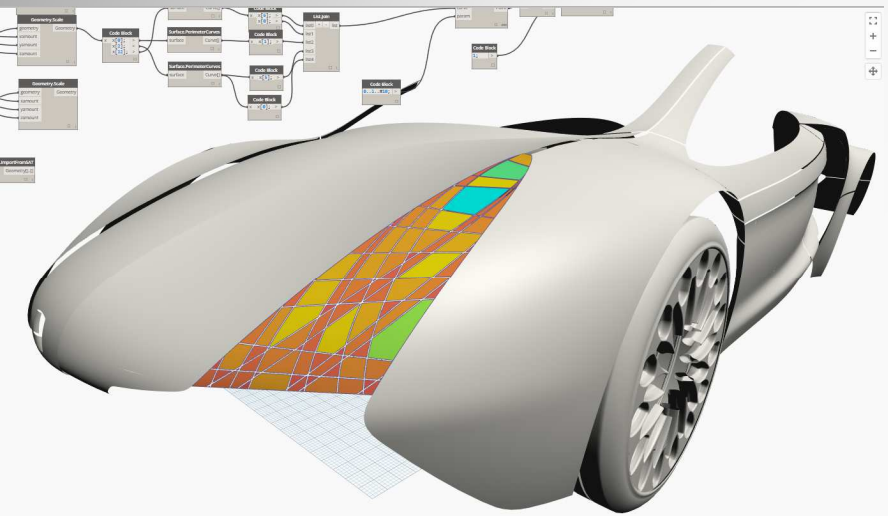
Complex, irregular patterns

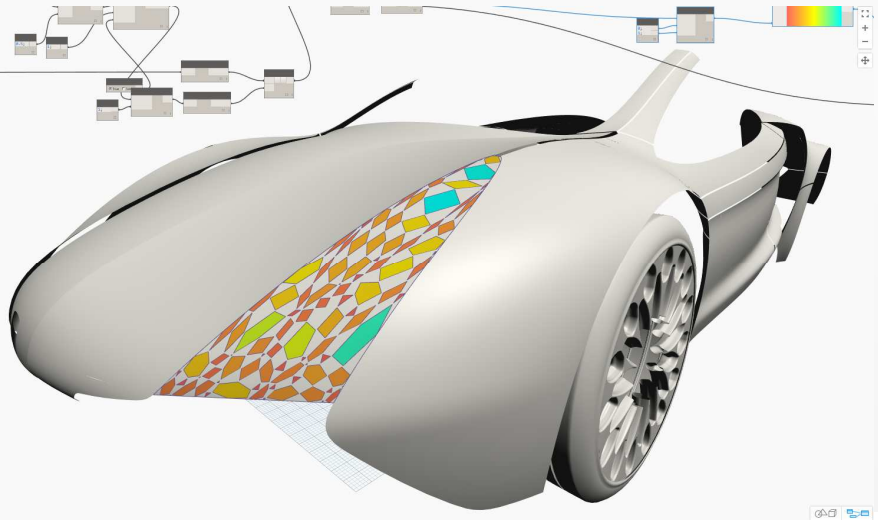


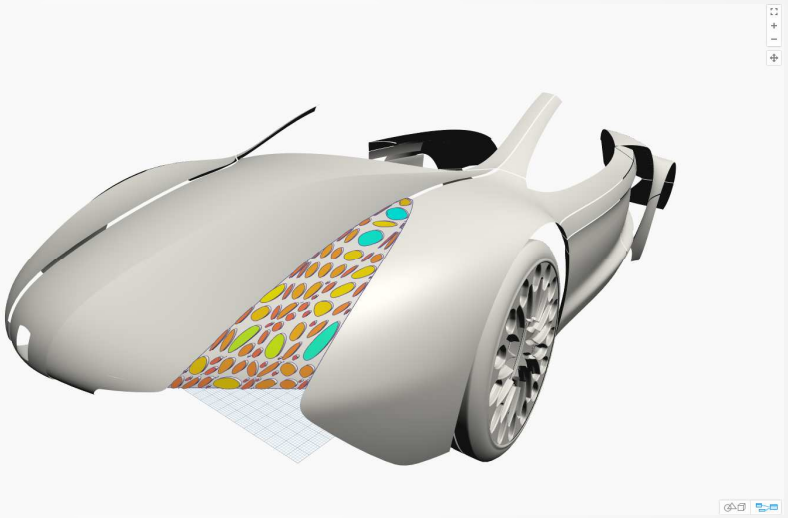


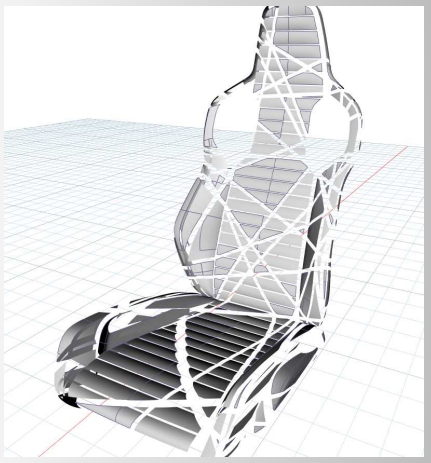


Random geometries

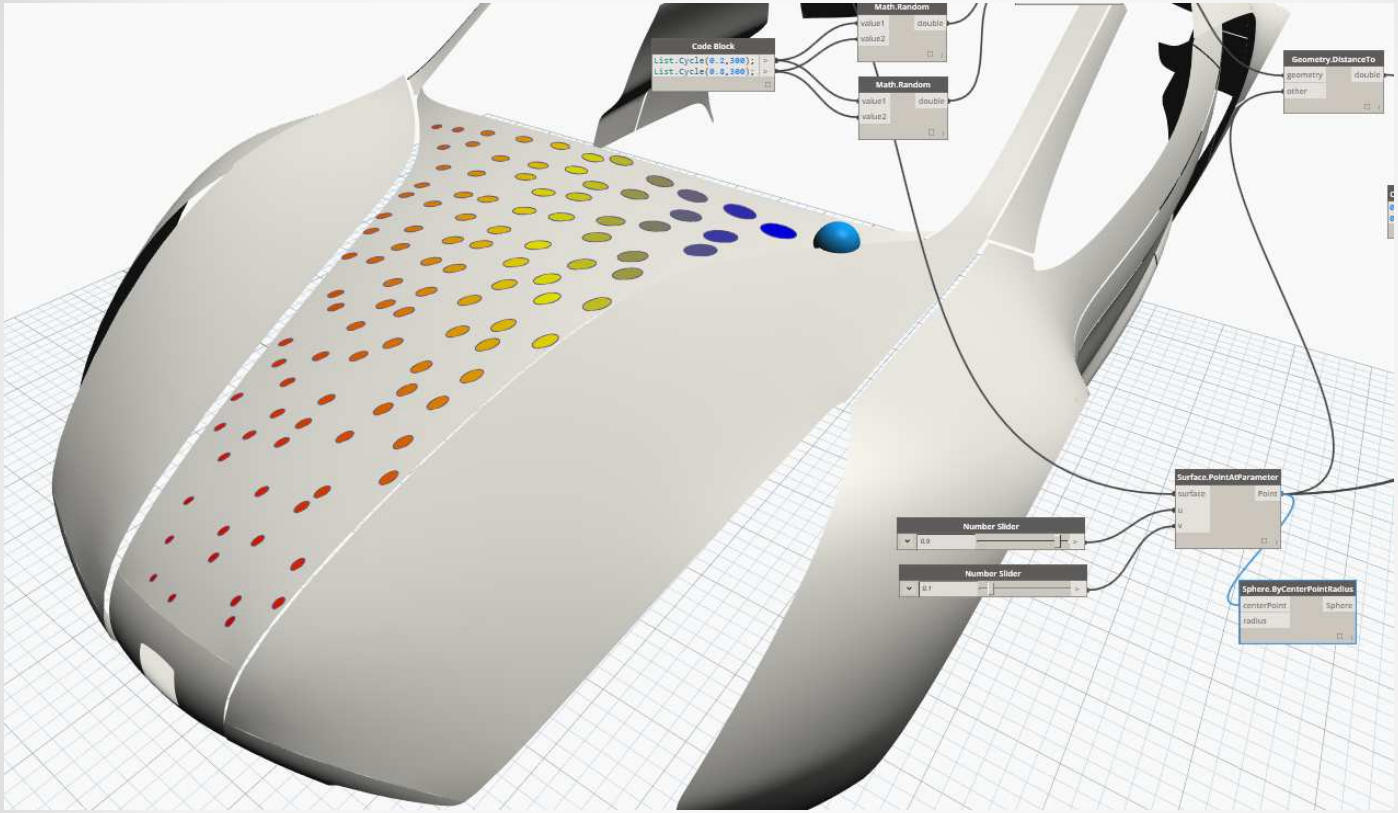




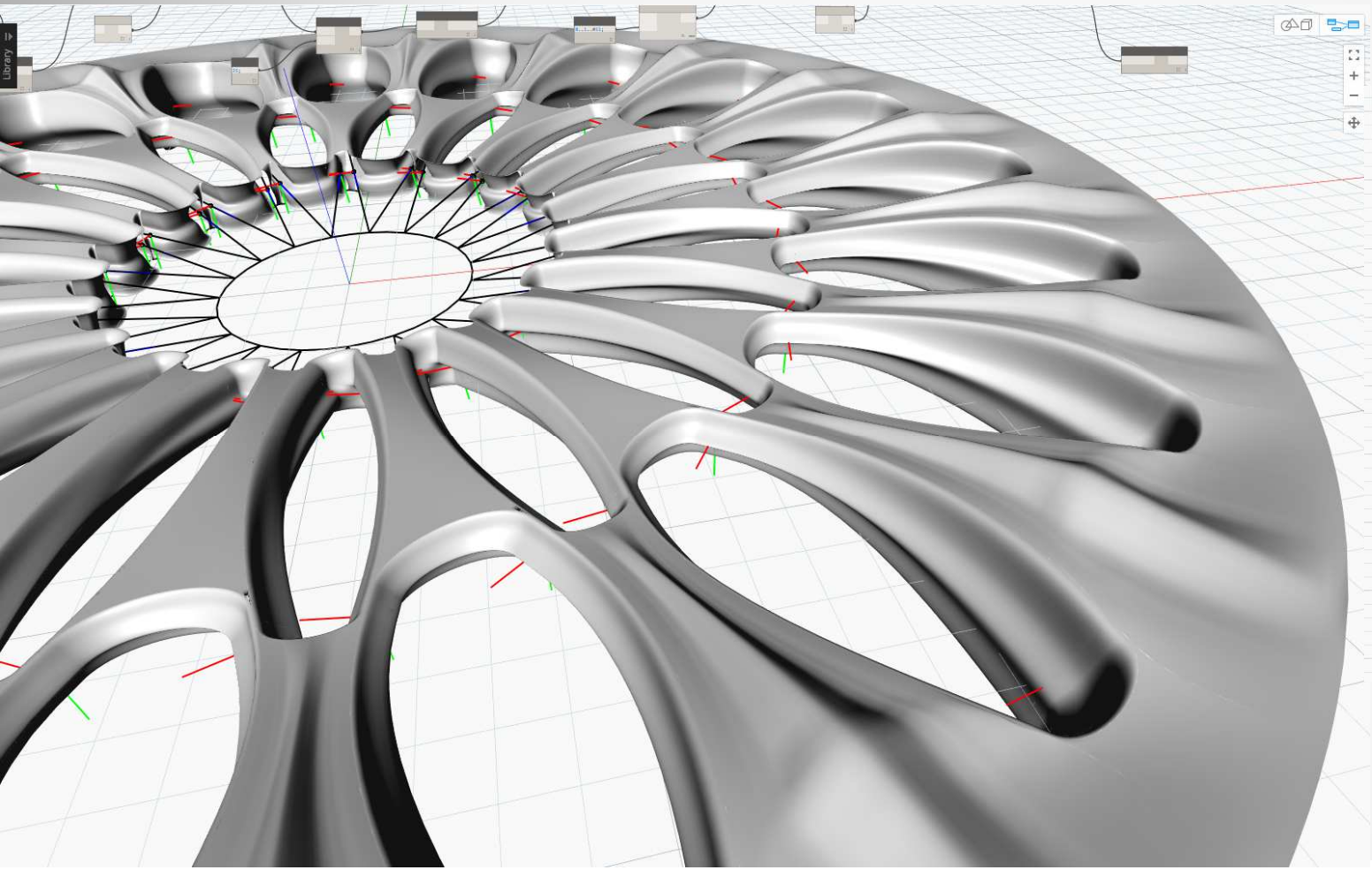


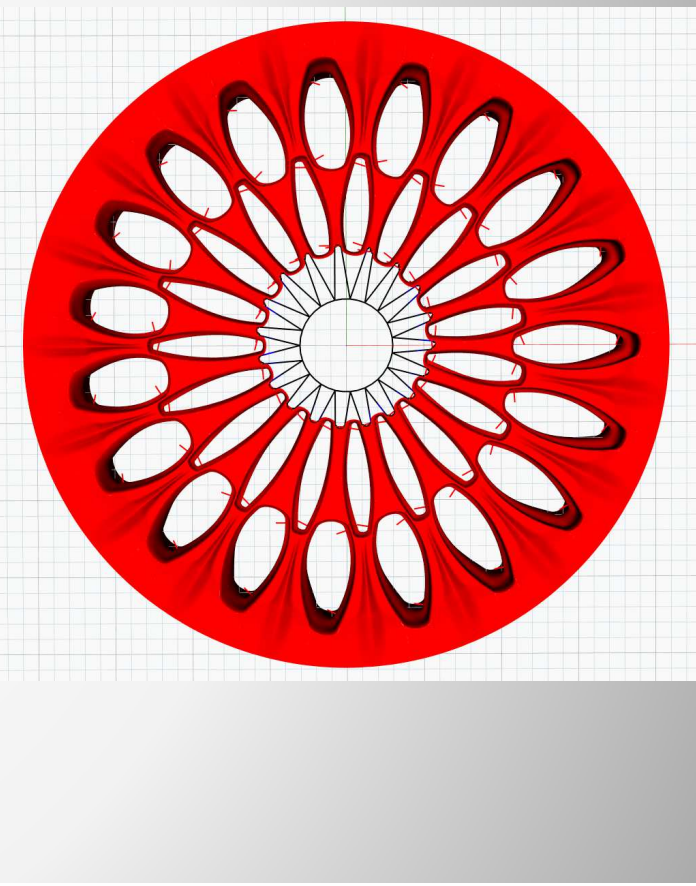


„Magnetic fields”



Complex, parametric geometries. Car Hubcup:





Geometry visual analysis