

About the Speaker:

Computer / Electronic Engineer.

Parametric designer and Solid experience in construction industry

I believe use of technology can transform construction industry in the evolutionary scale.

Data analytic can lead to informed decisions in the design process.

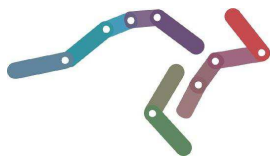
Optimal solutions to specific design requirement.

Humatech is a computational Design Consultancy ,
Provide BIM consultancy to BG&E .

Working with Structural, Infrastructure, Architecture firms to develop and manage Digital
System, Process optimisation , Automation and Project specific Geometries.

consulting engineering practice working internationally from offices located in
Australia, the Middle East and the United Kingdom.

BG&E is an engineering services incorporates designs for infrastructure, building
structures, civil engineering, facades and construction support.



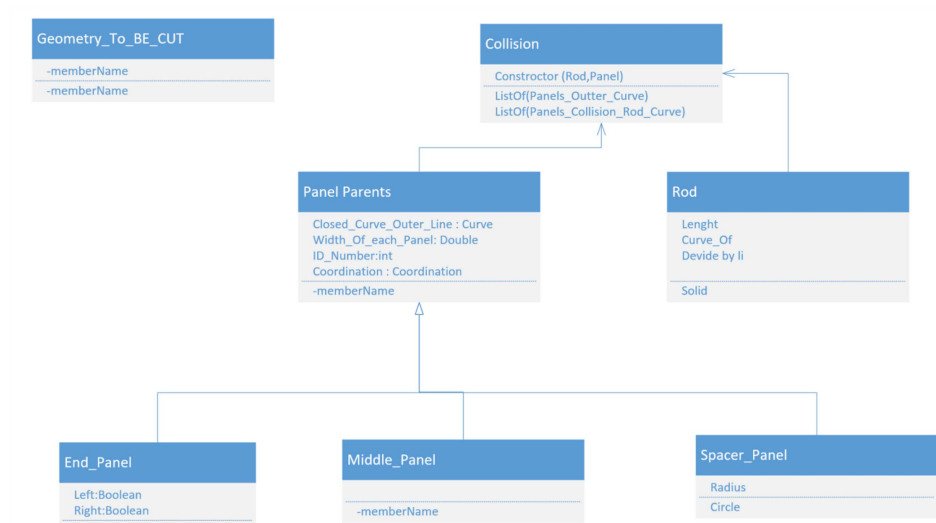
Design TO Fabrication,

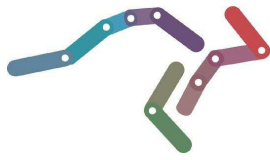
Case Study : Parametric Shelf

Alexander Tohidi, BG&E

Lab Description

Design and capturing the mathematical rules of a parametric wooden shelf.
Helper Diagrams are used to approach the design systematically.





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Creating a parametric geometry using Dynamo.

Talk more about wave formula : $v = f \cdot \lambda$

Sine Wave formula :

$$y(t) = A \sin(2 \pi f t + \Phi)$$

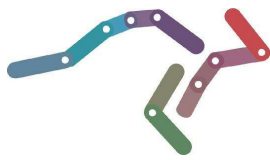
function of time (t) where:

- A= the amplitude
- f = frequency
- Φ = The phase

Using combination of Sin and Cos Waves :

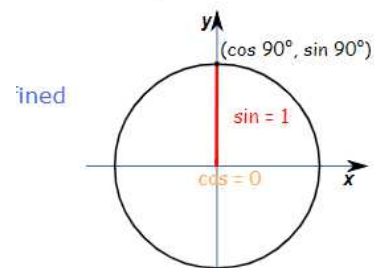
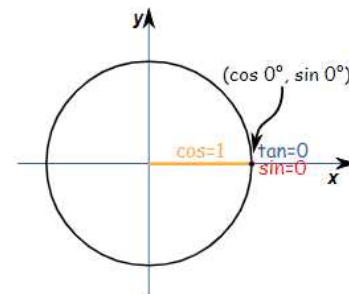
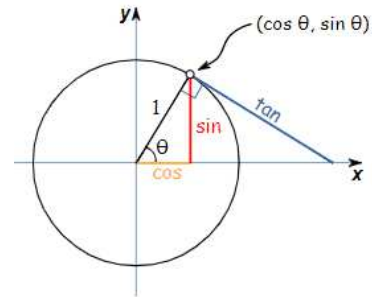
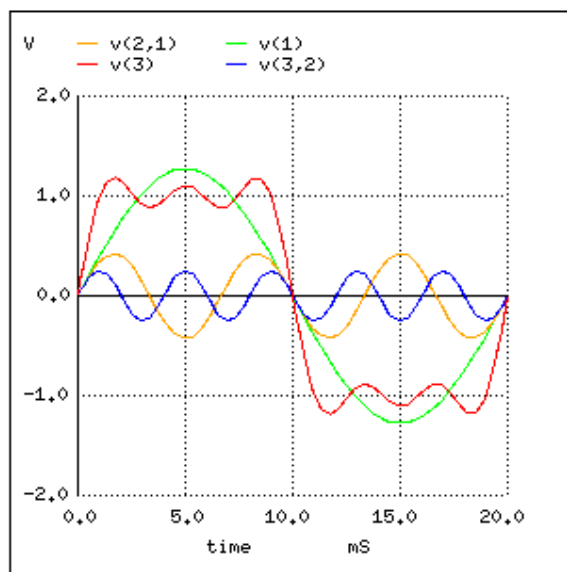
$$\text{Harmonic waves } f(x) = A \sin(2 \pi f t + \Phi) + B \cos(2 \pi f' t + \Phi') .$$

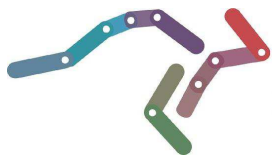




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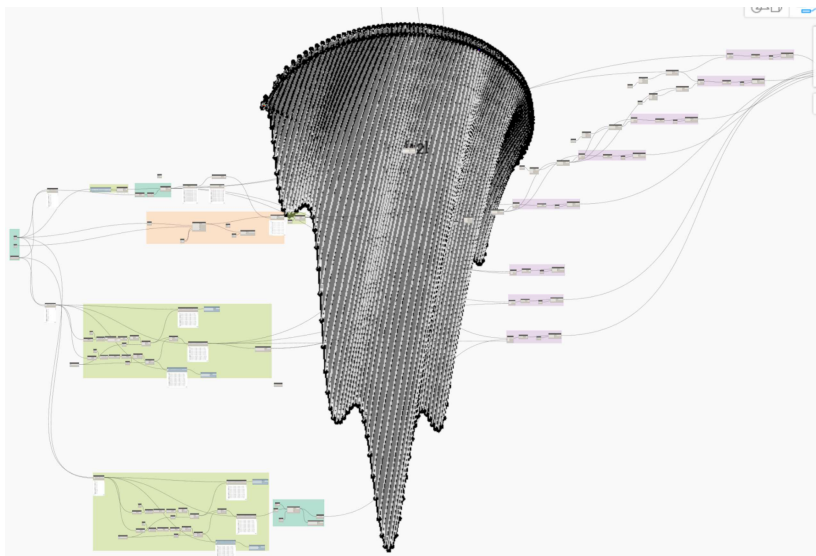
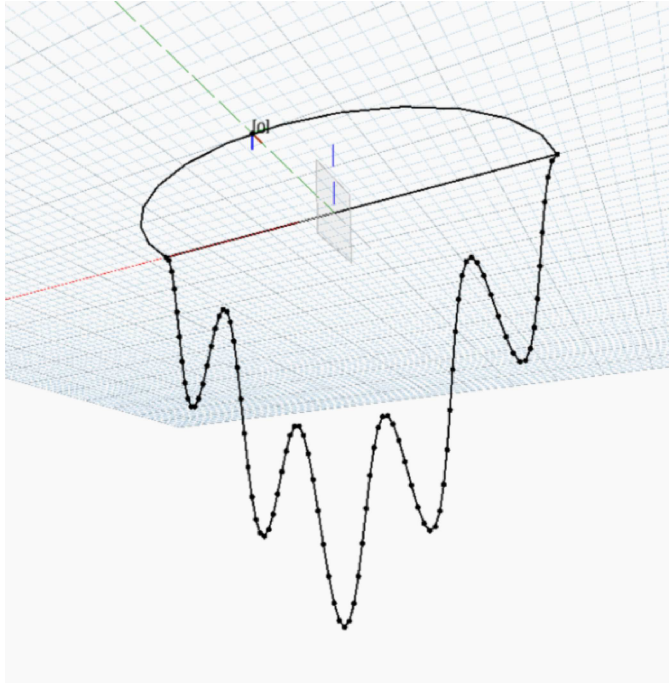


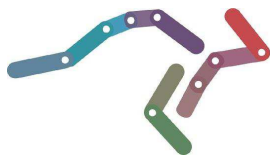


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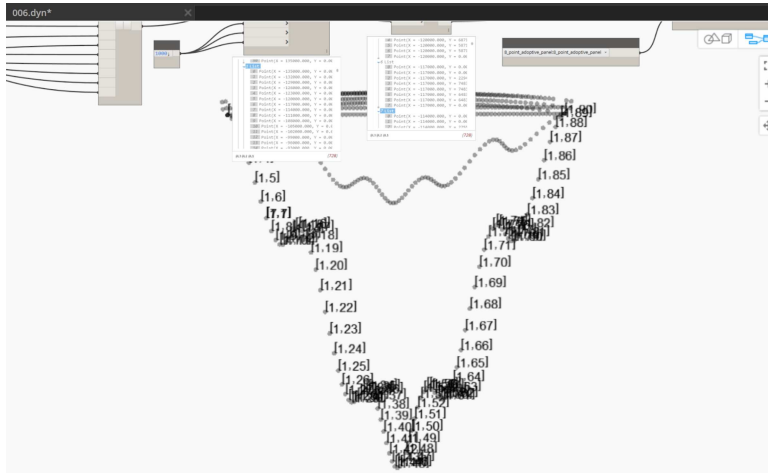


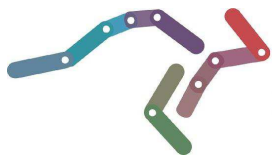


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Slicing the geometry and calculate the location of the points in the space using Dynamo.

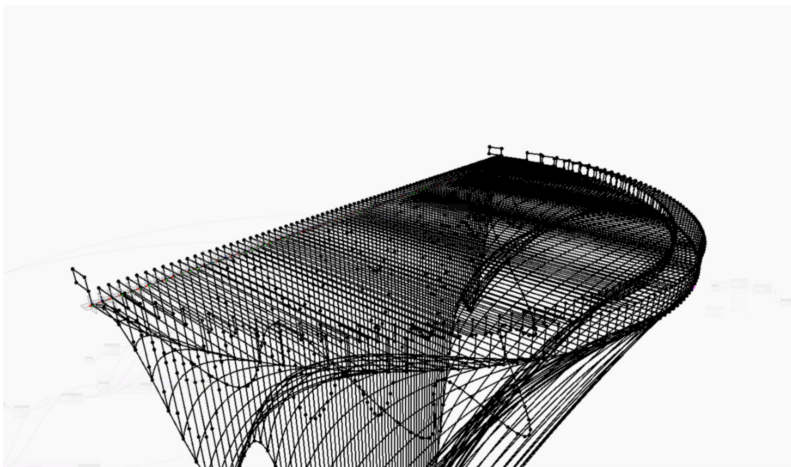
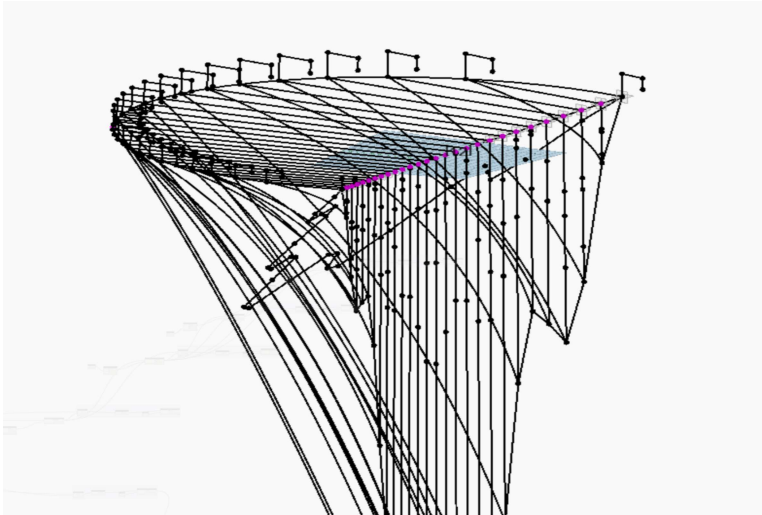




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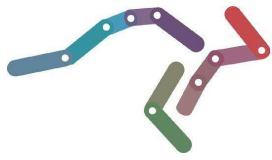
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Assigning adoptive components with-in Revit environment.



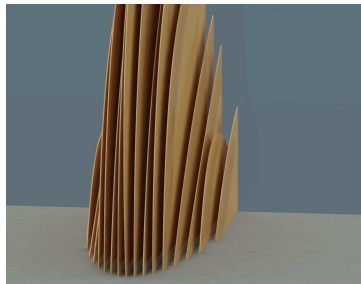
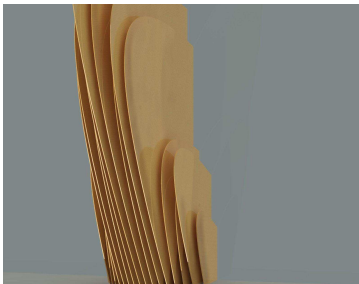
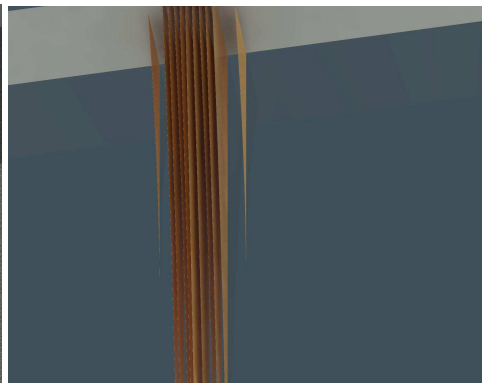
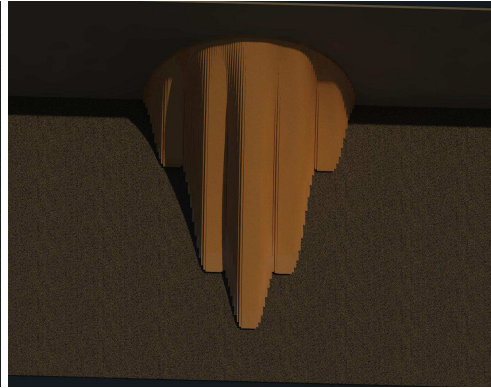
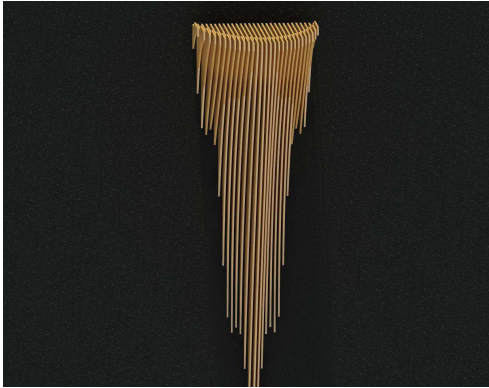


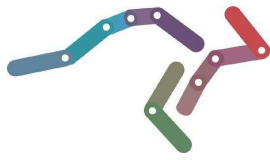
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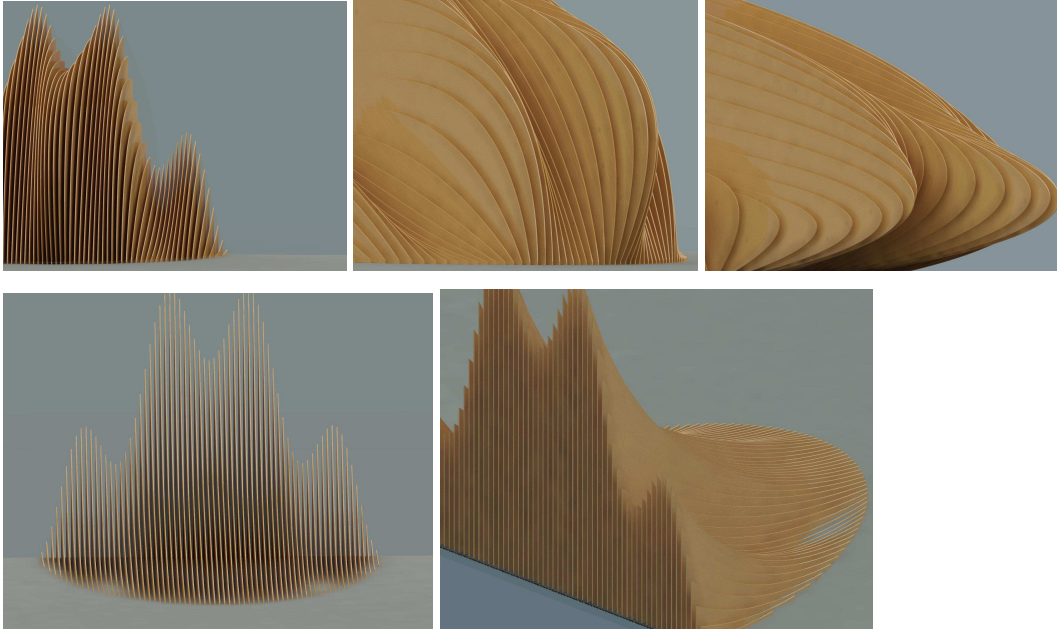


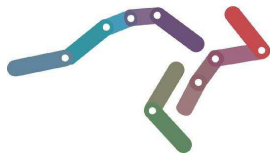
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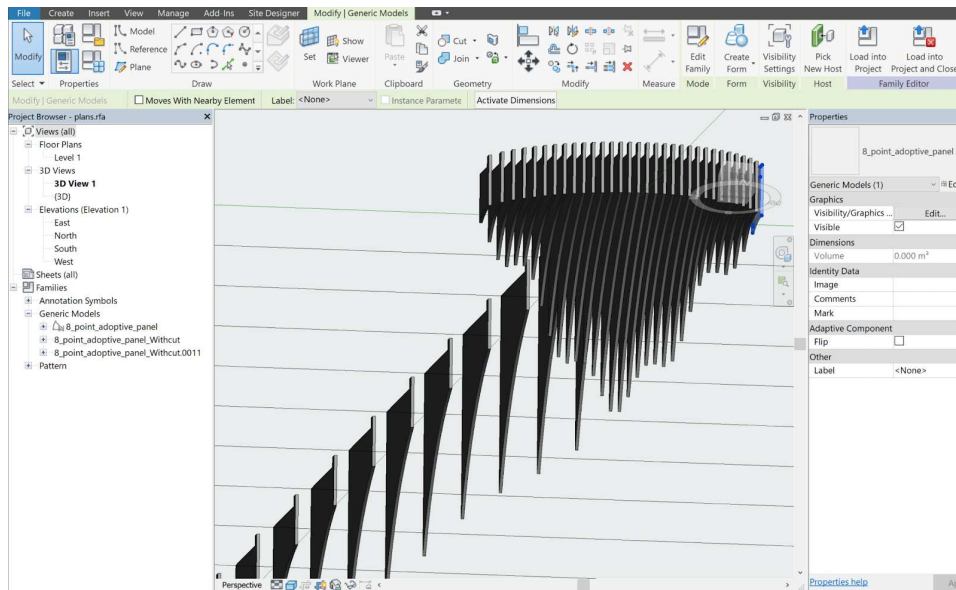
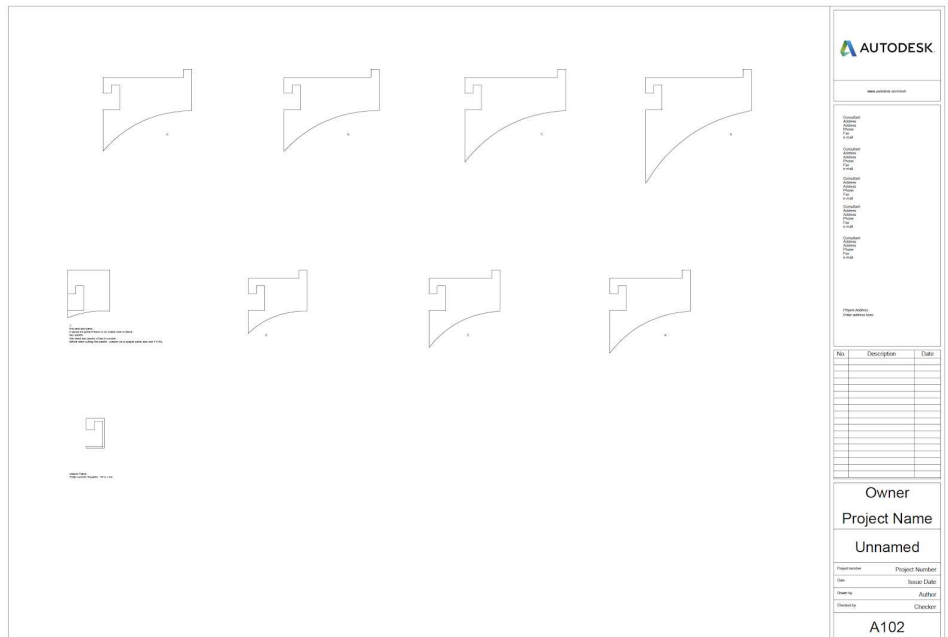


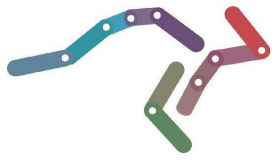
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Creating DWG/ DXF files for each panel.

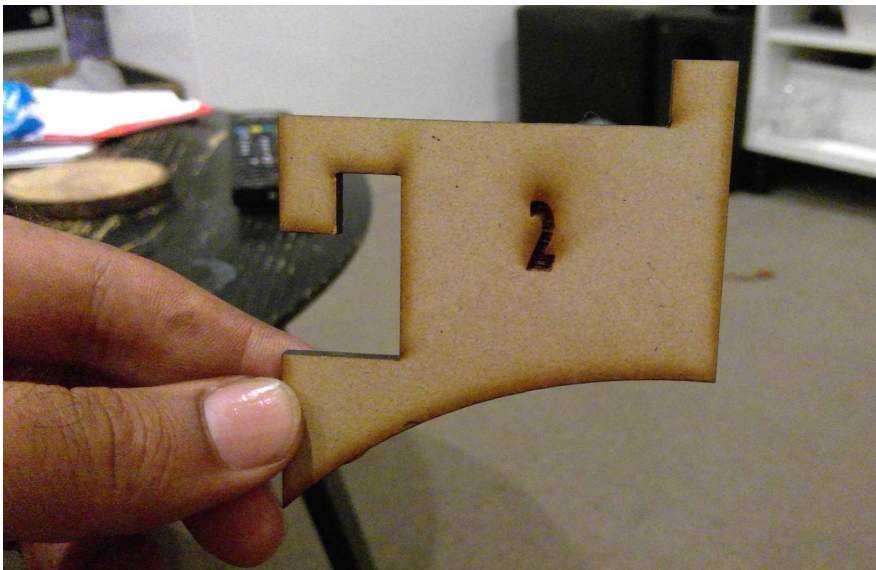
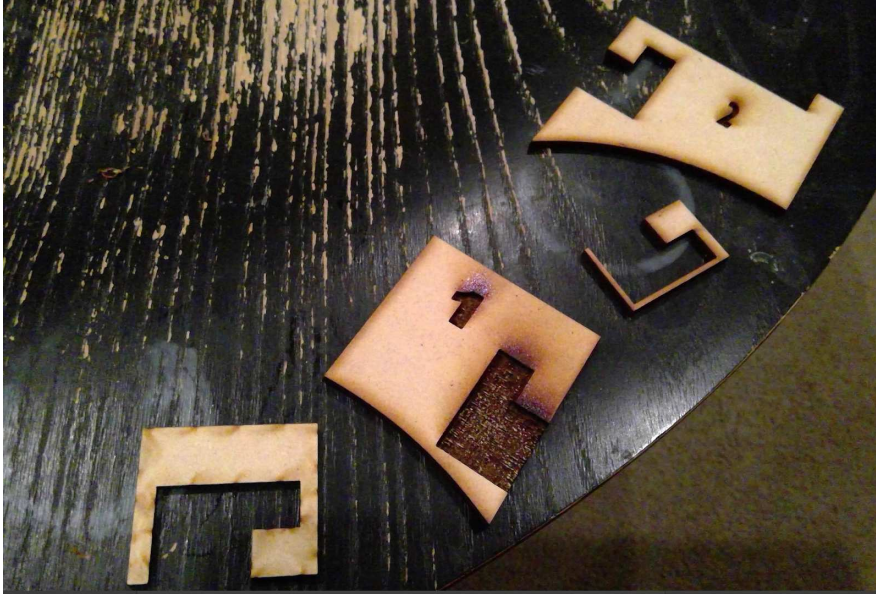


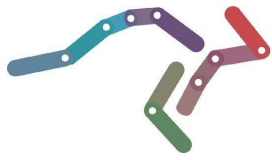


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Cut the wooden panels using laser cut machine.





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Assemble the panels to shape the geometry.

