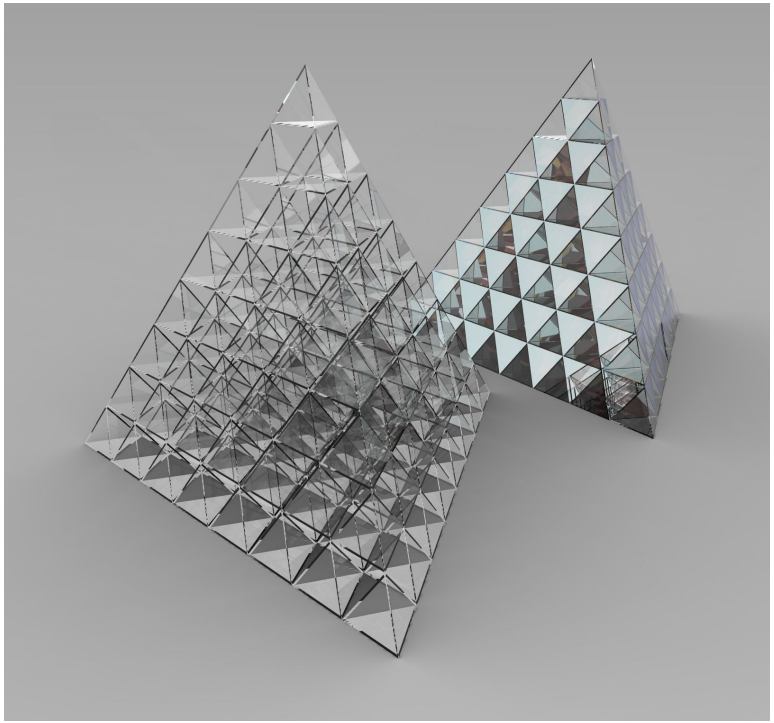
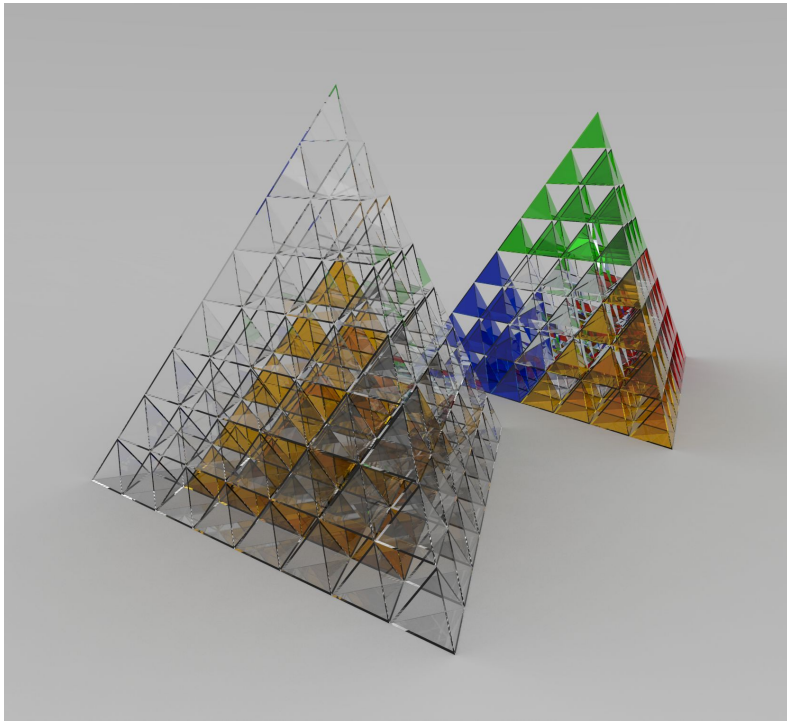
TASK 04 presentation

LOVE TRIANGLES

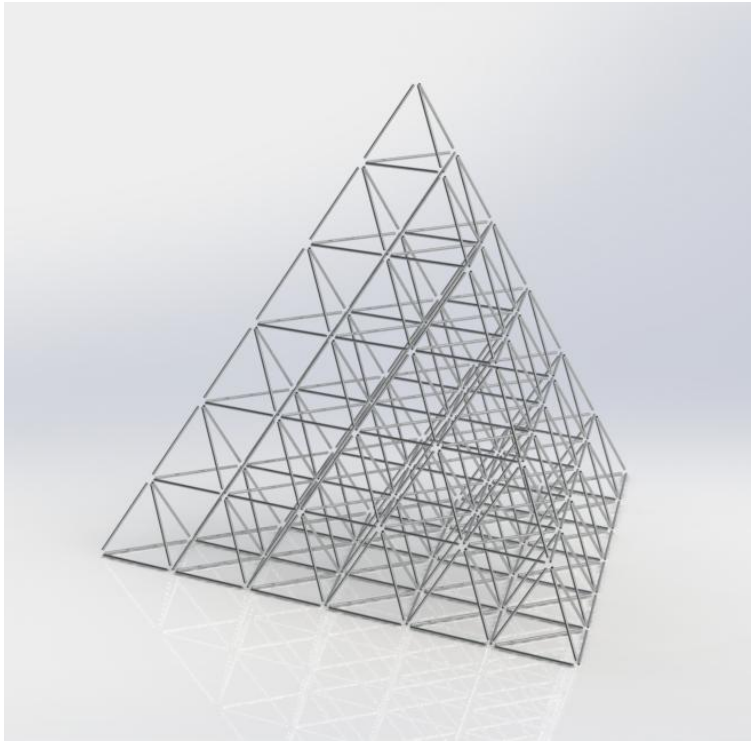
(Ilkka, Emilia, Helena)

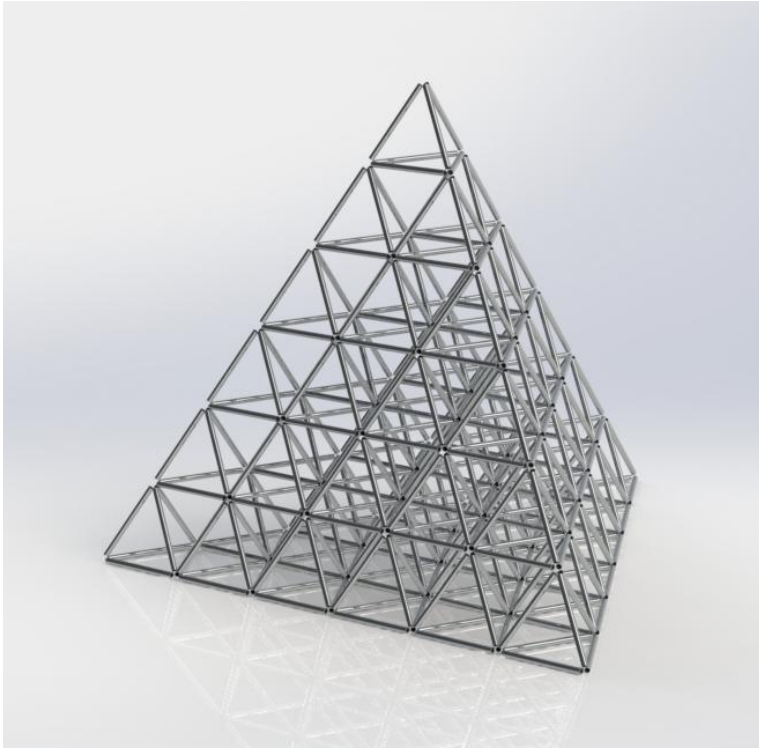
Where we left - different implementation ideas





Tube diameter 5 mm vs 10 mm



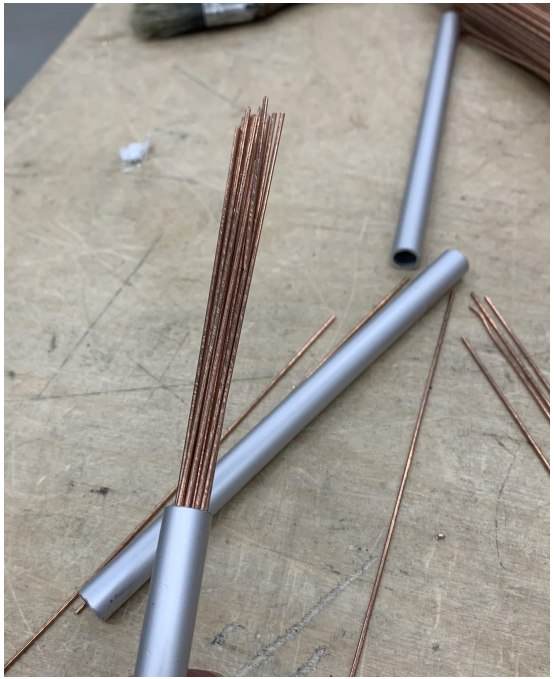


Tube diameter

- We tested 6, 8, 10 and 12 mm diameter tubes
- 6 and 8 mm were clearly too small
- 10 and 12 mm proved ok
- 12 mm fits almost double the wire amount of 10 mm

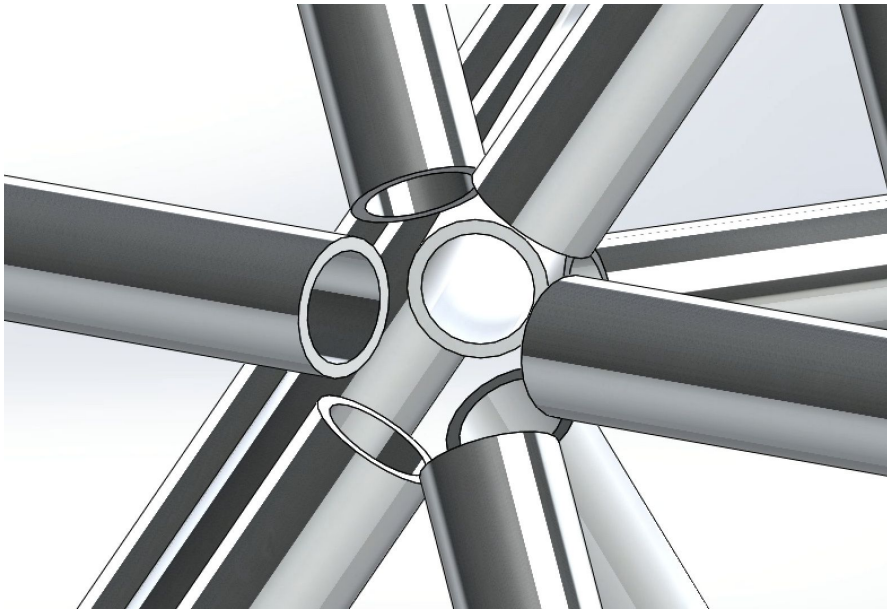
Prototyping

Prototyping



Prototyping

- Challenge: up to 12 pipes in one joint

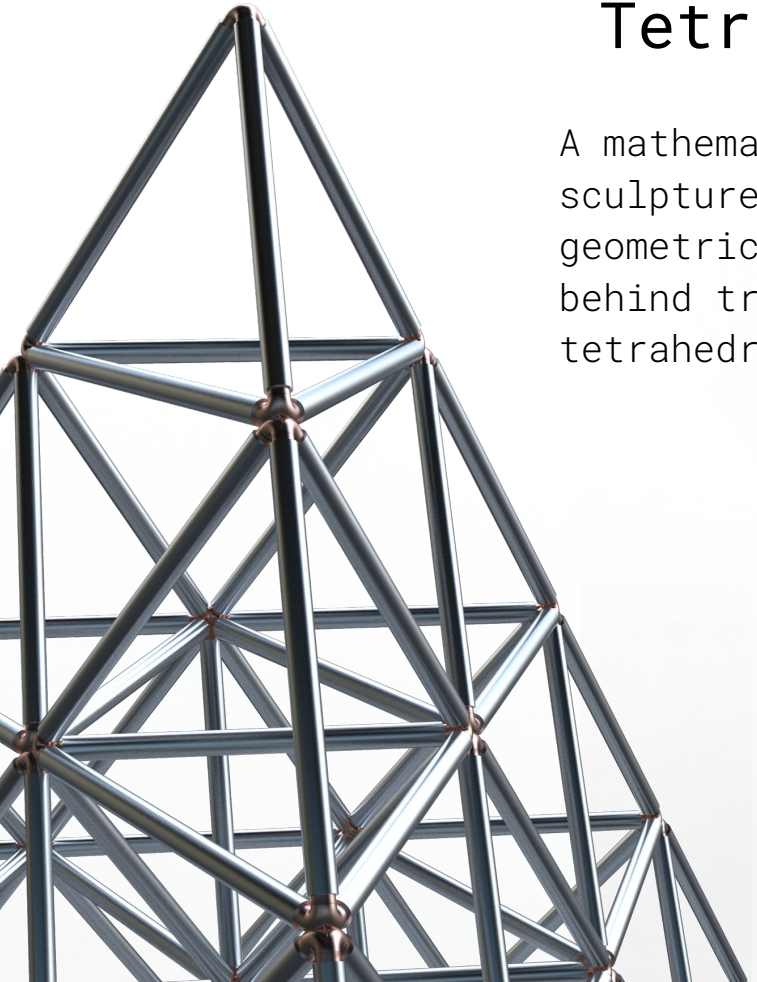


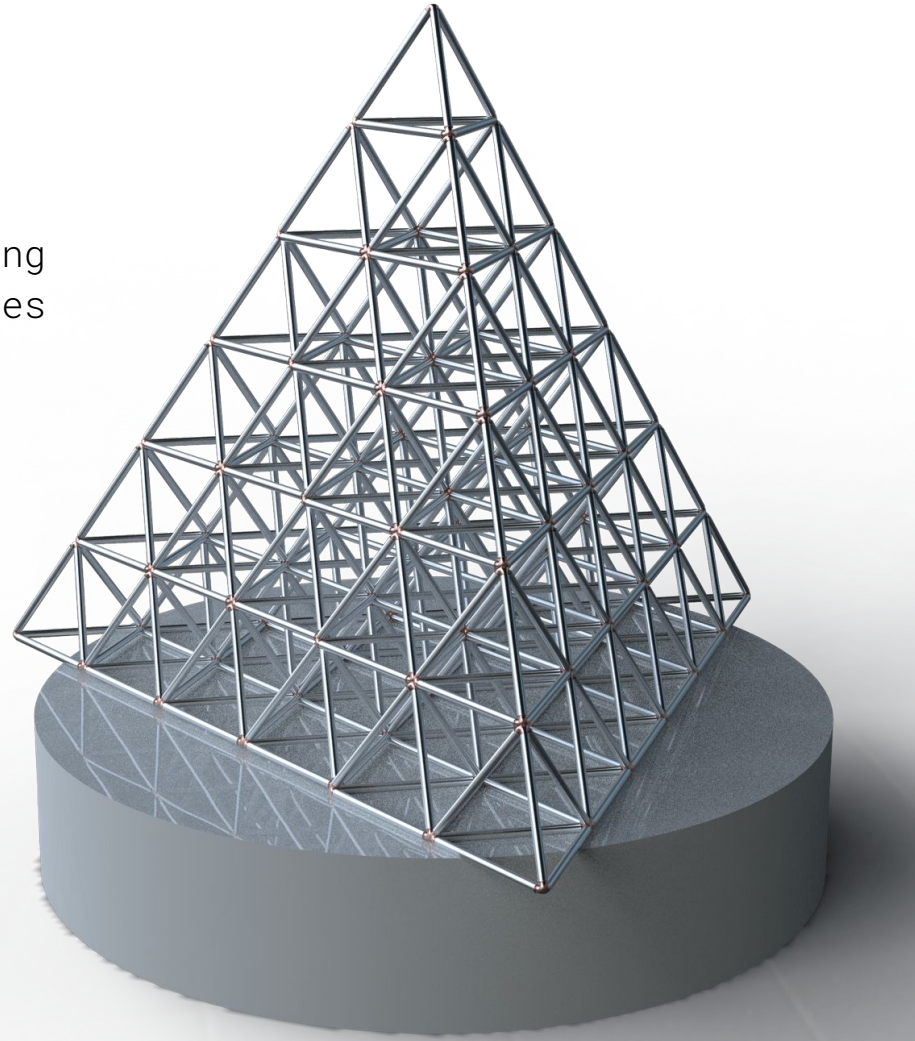
Acrylic sheets

- Placing acrylic sheets in between the piece
- Uncertain where
- Drilling holes into the sheets and attaching them to the piece with loops

Tetractys

A mathematical sculpture highlighting geometrical properties behind triangles and tetrahedrons



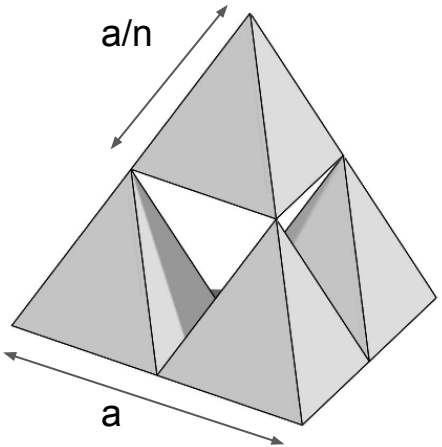


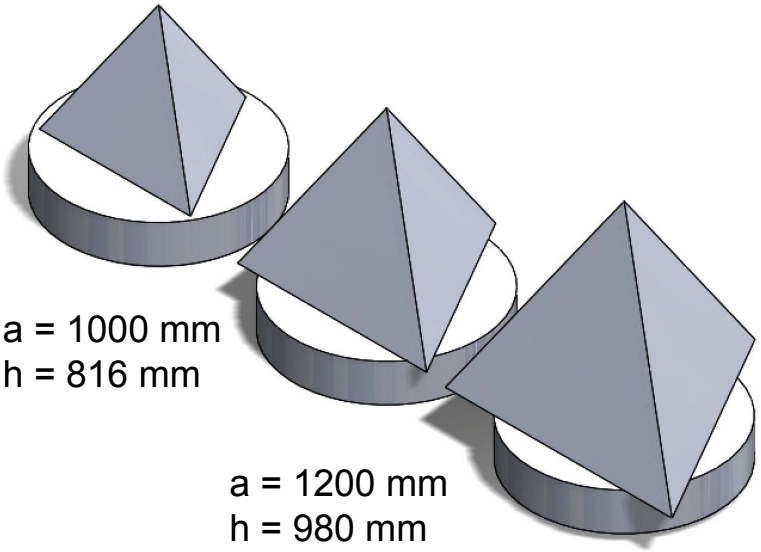
Materials

- Aluminium tubes (Ø10-12 mm)
- Steel wire
- Acrylic sheets

Material calculations

- Unit size depends on large tetrahedron size (a) and the number of levels (n)

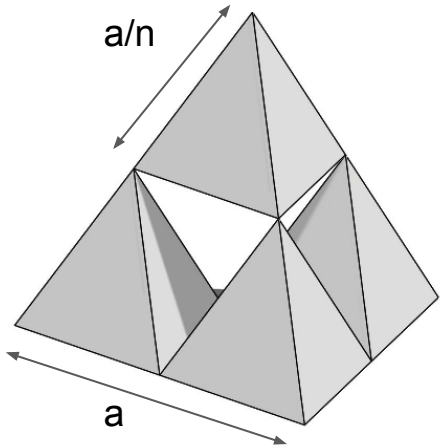




Material calculations

- Aluminium tube usage (roughly, joints not taken into account):

	a =	1	[m]	
Number of levels (n)	Tetrahedrons	Tube number	Tube length a/n [m]	Total tube amount [m]
1	1	6	1,000	**6,00**
2	4	24	0,500	**12,00**
3	10	60	0,333	**20,00**
4	20	120	0,250	**30,00**
5	35	210	0,200	**42,00**
6	56	336	0,167	**56,00**
7	84	504	0,143	**72,00**
8	120	720	0,125	**90,00**



Material calculations

- 10 mm aluminium tube 2,60 €/m
- 12 mm aluminium tube 3,975 €/m
- Aluminium tube usage likely in the range of 40-60 m

  -> 104-238 €

Alumiiniputki Eloksoitu 1 x 12 x 2000 mm

7 95

Alumiiniputki Eloksoitu 1 x 10 x 2000 mm

5 20

Budget

- Aluminium tube
  - Total amount = 40-60 m (estimated)
  - Price = 104-238 €
- Steel wire
  - Total amount = 20-30 kg (estimated)
  - Price = 100-150 €
- Acrylic sheets
  - Total amount = maximum of 1 m^2
  - Price = ~ 90€

Total = ~500 €

Conclusions

- Some final decisions are still needed (colours, layers etc)
- More prototyping to determine the most efficient way to assemble the piece