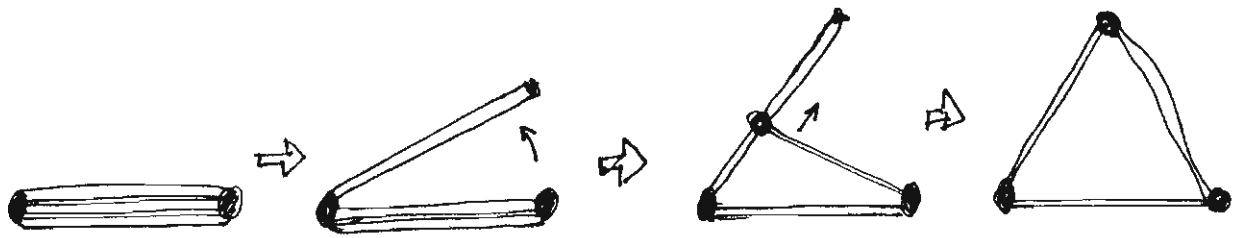


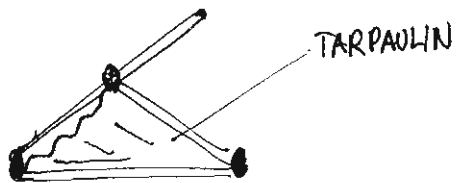
MACHINE 01 - UNFOLDING POLYGONS

what process(es) will it use?

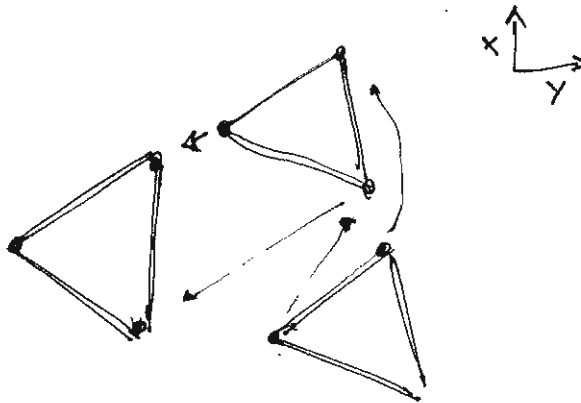
unfolding:



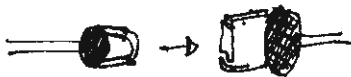
unrolling:



assembling:



connecting:



movement 2D:



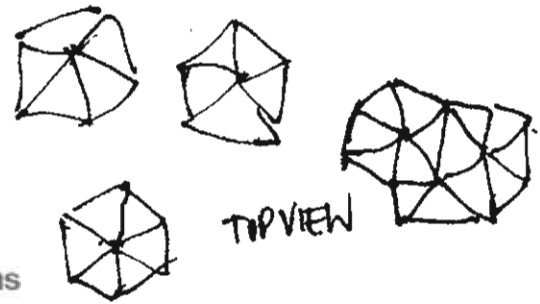
movement 3D

:



(2) what process(es) will it use?

- 3D - Structures
 - > geodetic spheres
 - > tents
 - > tetra hediran structures



- limited possibilities if shapes but unlimited combinations

(3) what are the benefits (and disadvantages) over current practice?

- self assembly
- adaptive
 - > local via tarpaulin -> for ventilation
 - > global via reorganisation -> spatial adaption

(4) what are the system components?

- sticks
- corner elements
 - electronics
 - microcontroler
 - wheels
 - bluetooth
 - batteries
- tarpaulin

(7) how much will it cost?

- 5-20
- 15
 - electronics
 - 3
 - 75
 - 10
 - 20
- 1

appr. 130 per piece

(5) which parts will require development?

- design and functionality of corner elements
- programming

(6) what will the workflow be from design to output?

-> spatial information - communication between parts - local desicions - static rearranging shapes

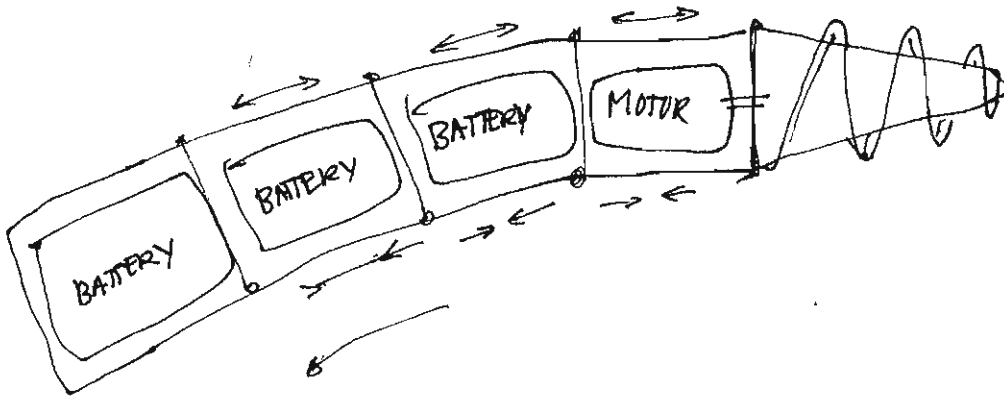
(7) how fast will it be?

ca. 10-15 min

(8) what consumables will it need?

none

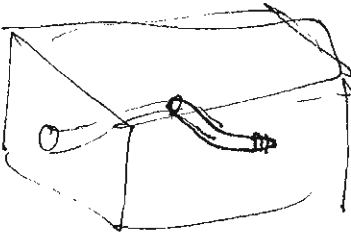
MACHINE 02 - MILLING WORM



(1) what process(es) will it use?

- infinite, internal milling
- decentralised milling with several machines

(2) what will (and won't) it be able to do?



(3) what are the benefits (and disadvantages) over current practice?

- localised milling
- internal milling
- decentralised milling

(4) what are the system components?

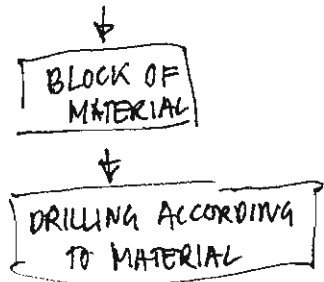
- DRILLING - HEAD
- MOTORS
- BATTERIES
- SKIN
- GPS
- MICROCONTROLLERS
- WLAN / BLUETOOTH

(5) which parts will require development?

- HEAD ?
- SKIN
- MOVEMENT
- PROGRAMMING

(6) what will the workflow be from design to output?

→ TRANSFERRING DATA



(7) how much will it cost?

→ DRILLING HEAD	→ 300
→ MOTOR	100
→ BATTERIES	100
→ SKIN	30
→ GPS	150
→ ELECTRONICS	20
→ WLAN	50
	700

→ MATE

(9) speed.

- DEPENDS ON SIZE OF PIECE
- COMPLEXITY OF GEOMETRY

(8) what consumables will it need?

- STYROFOAM
- POLYESTERFOAM
- WOOD
- SOIL
- ICE / SNOW