

*Spezialisierung/Professionalisierung mit das Thema „Multi Schrittmotor Steuerung“*

# Yifei

*Su Gao*

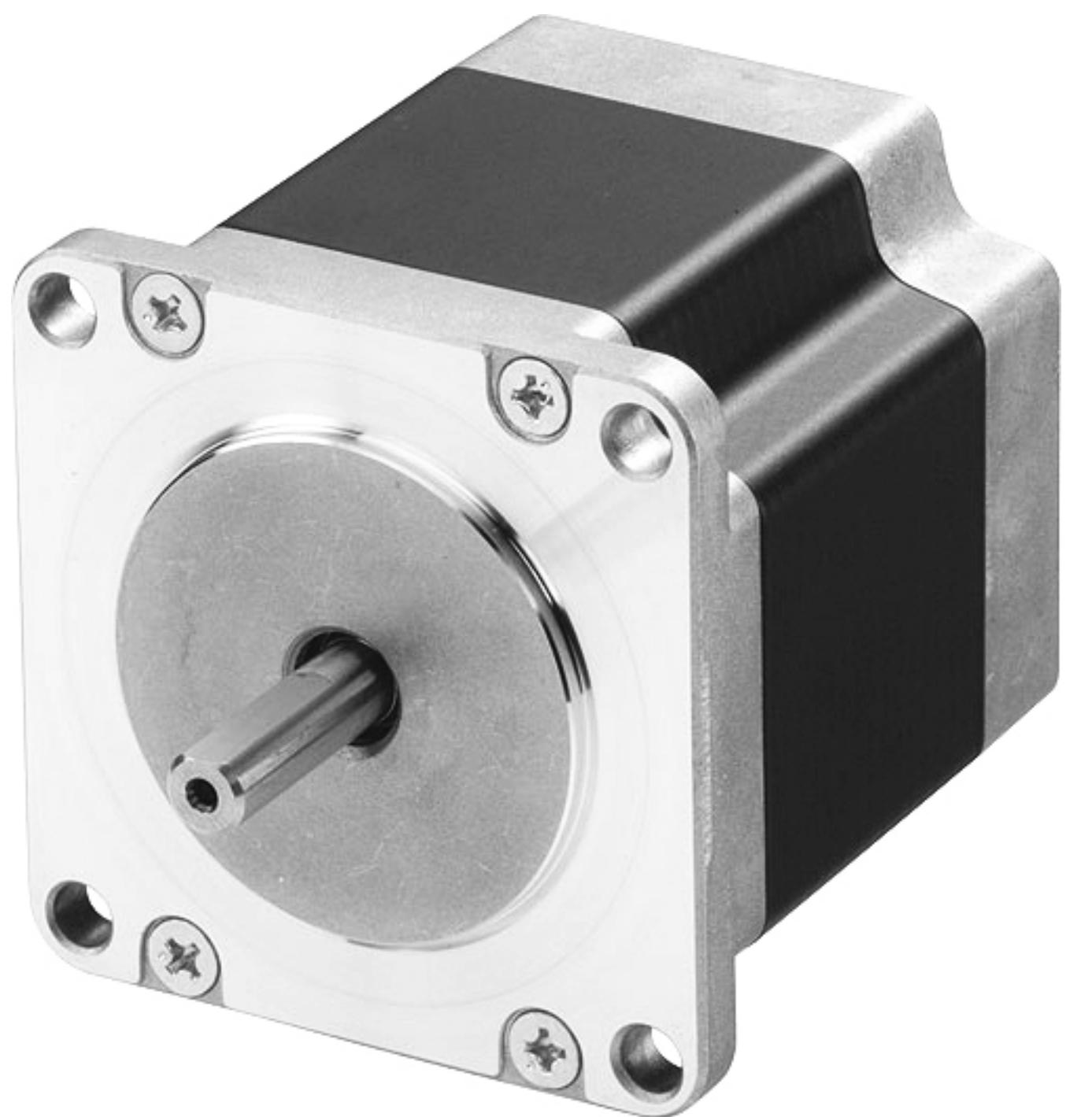
*MM|VR*

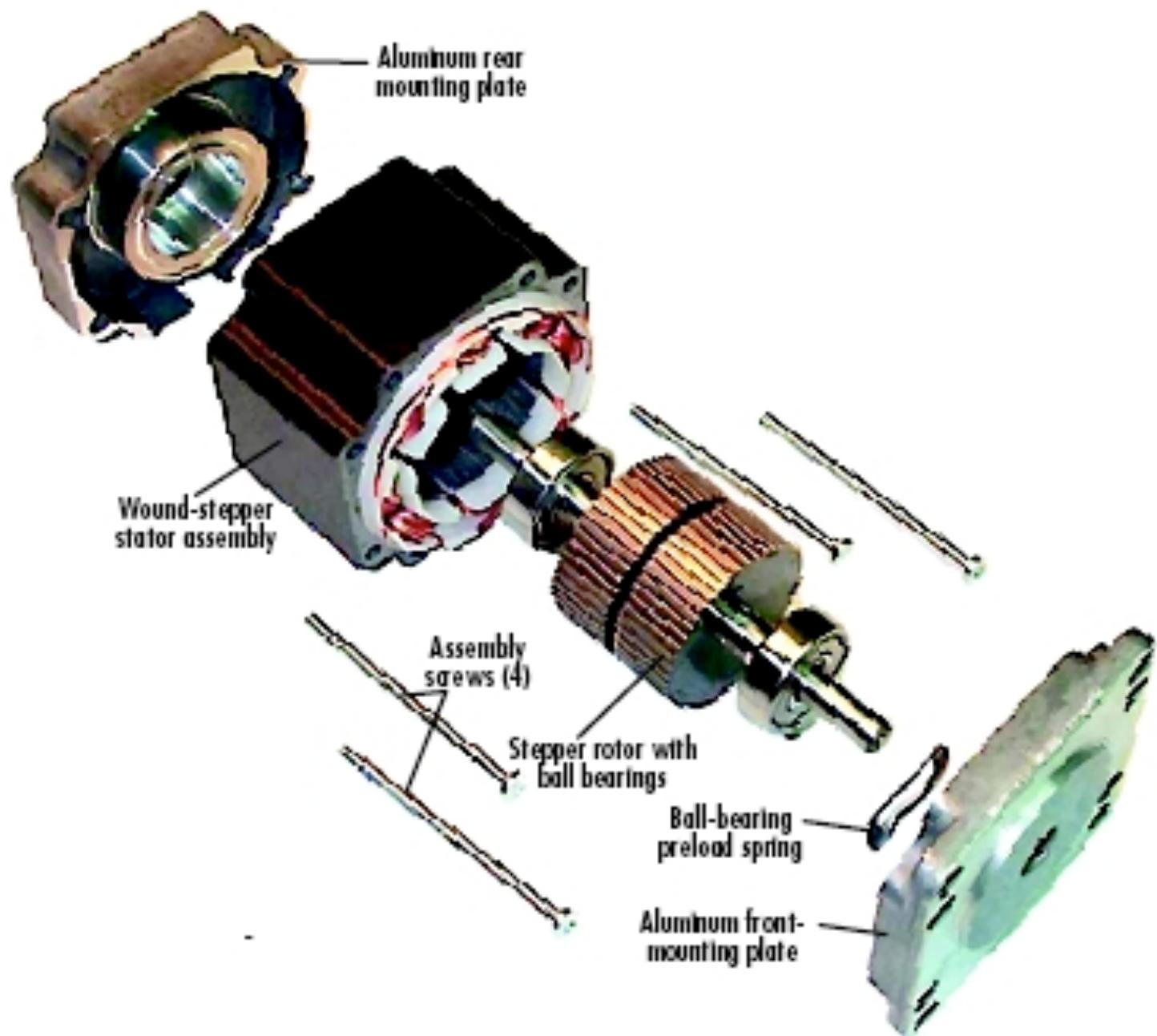
*Master*

*7. Semester*

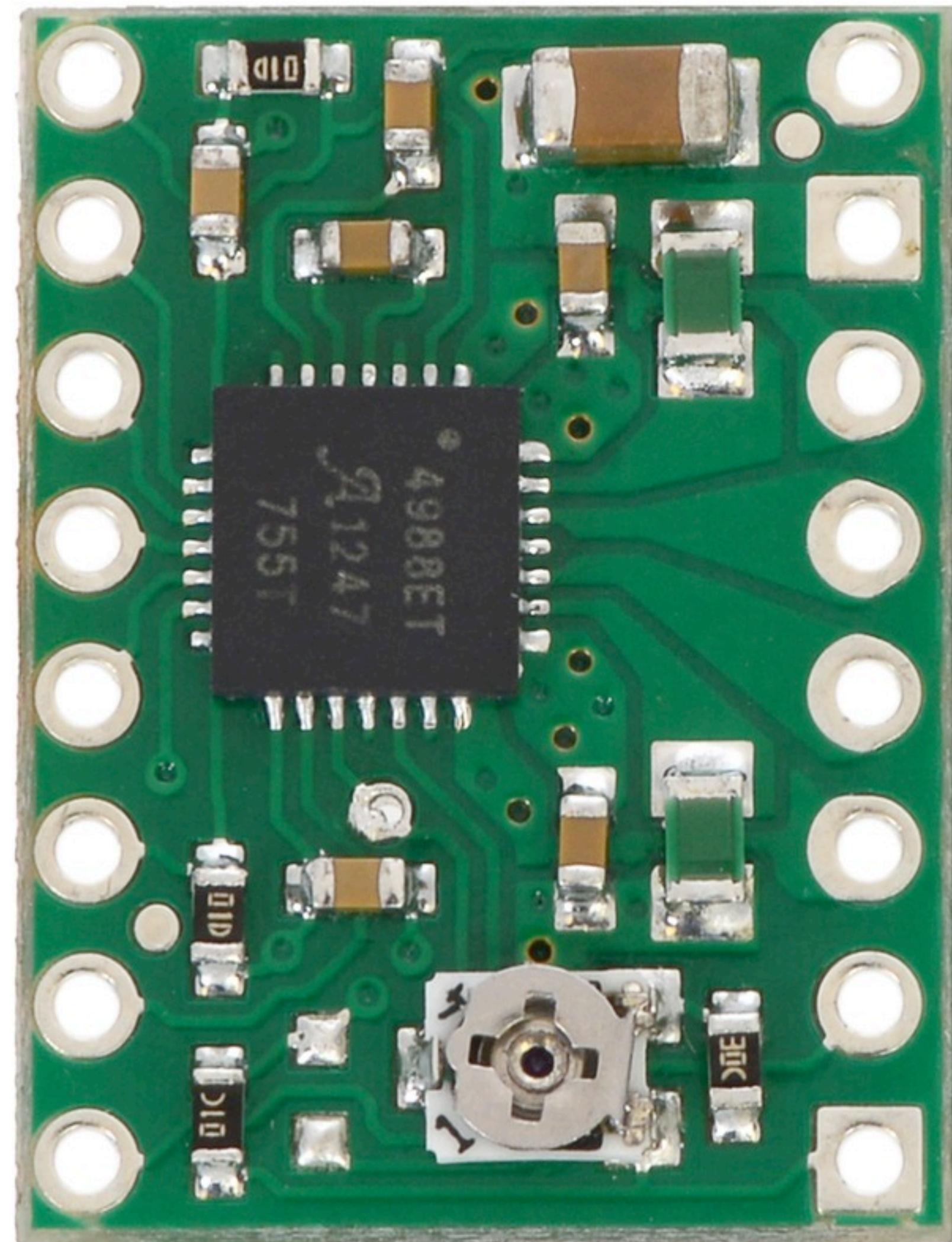
*Beteuer: Prof. Manfred Kraft*

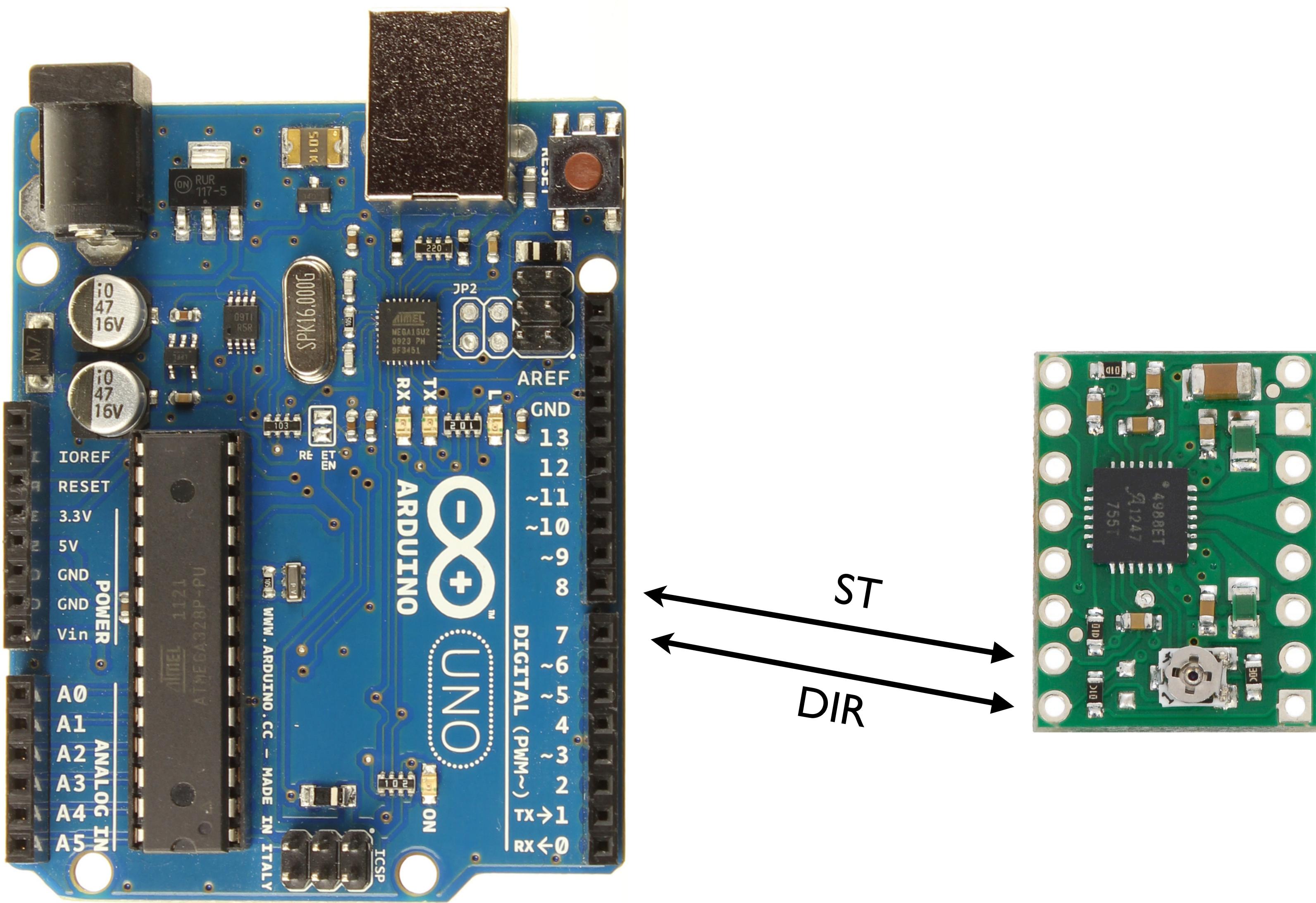
# Warum Schrittmotor?

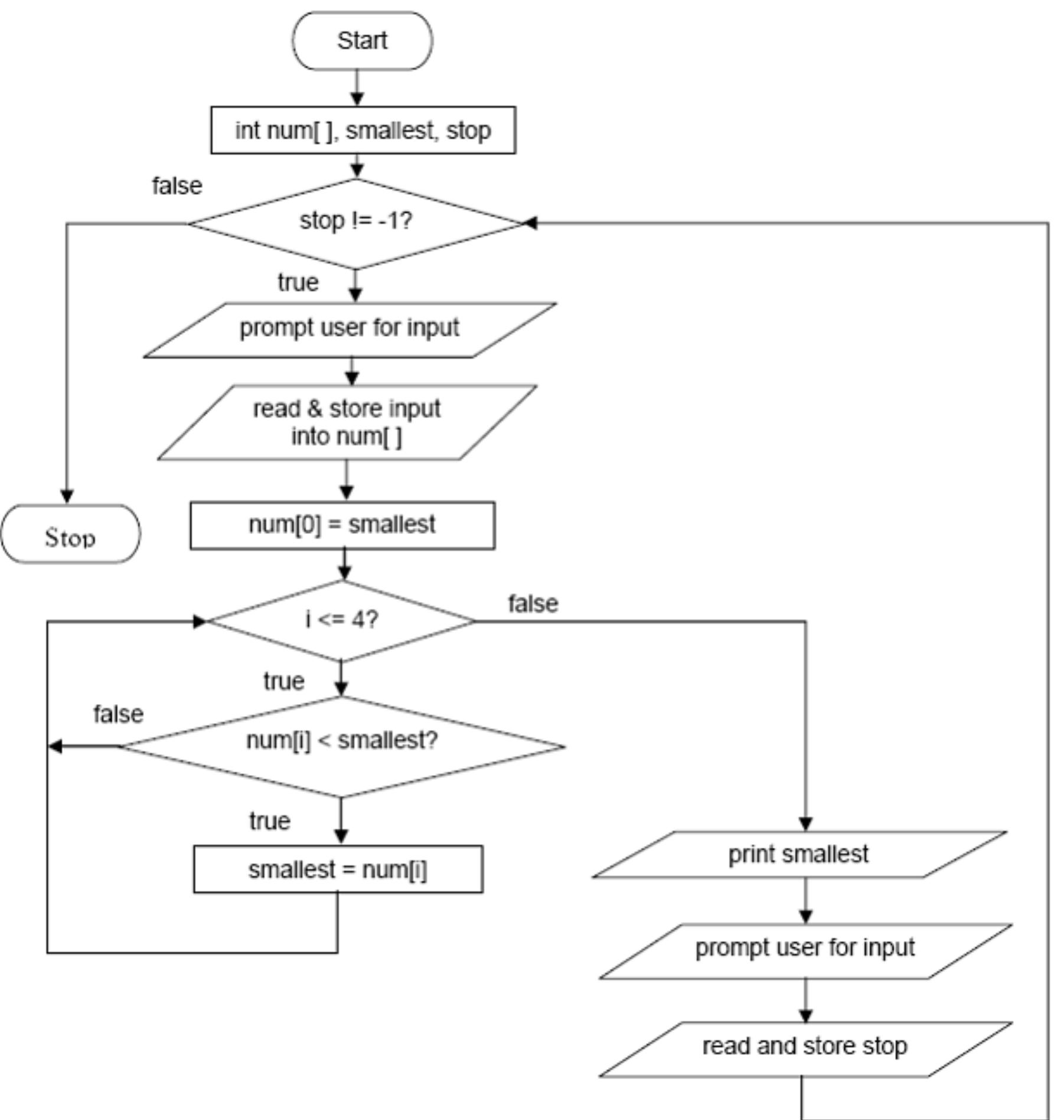




- ST
- DIR





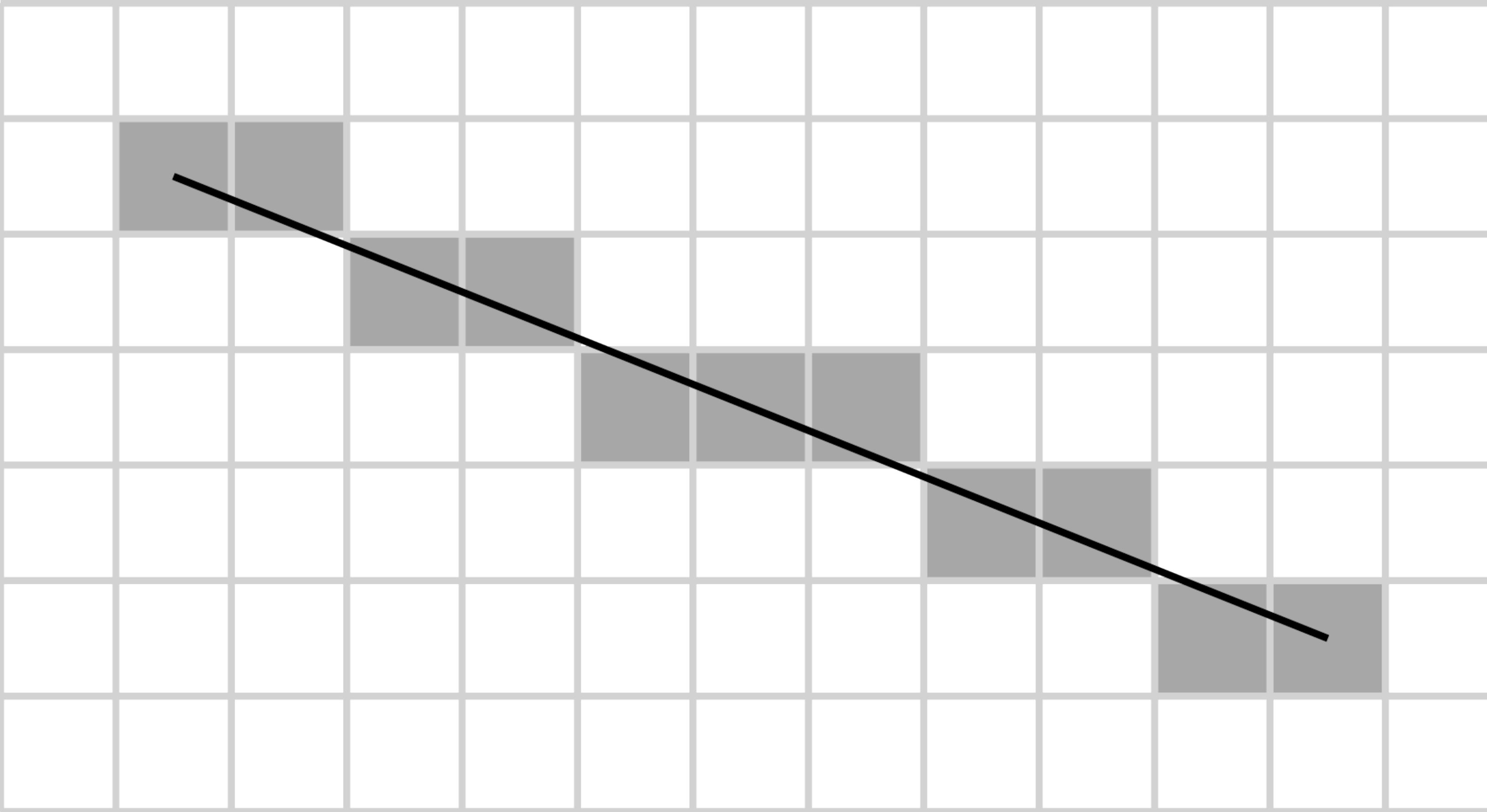


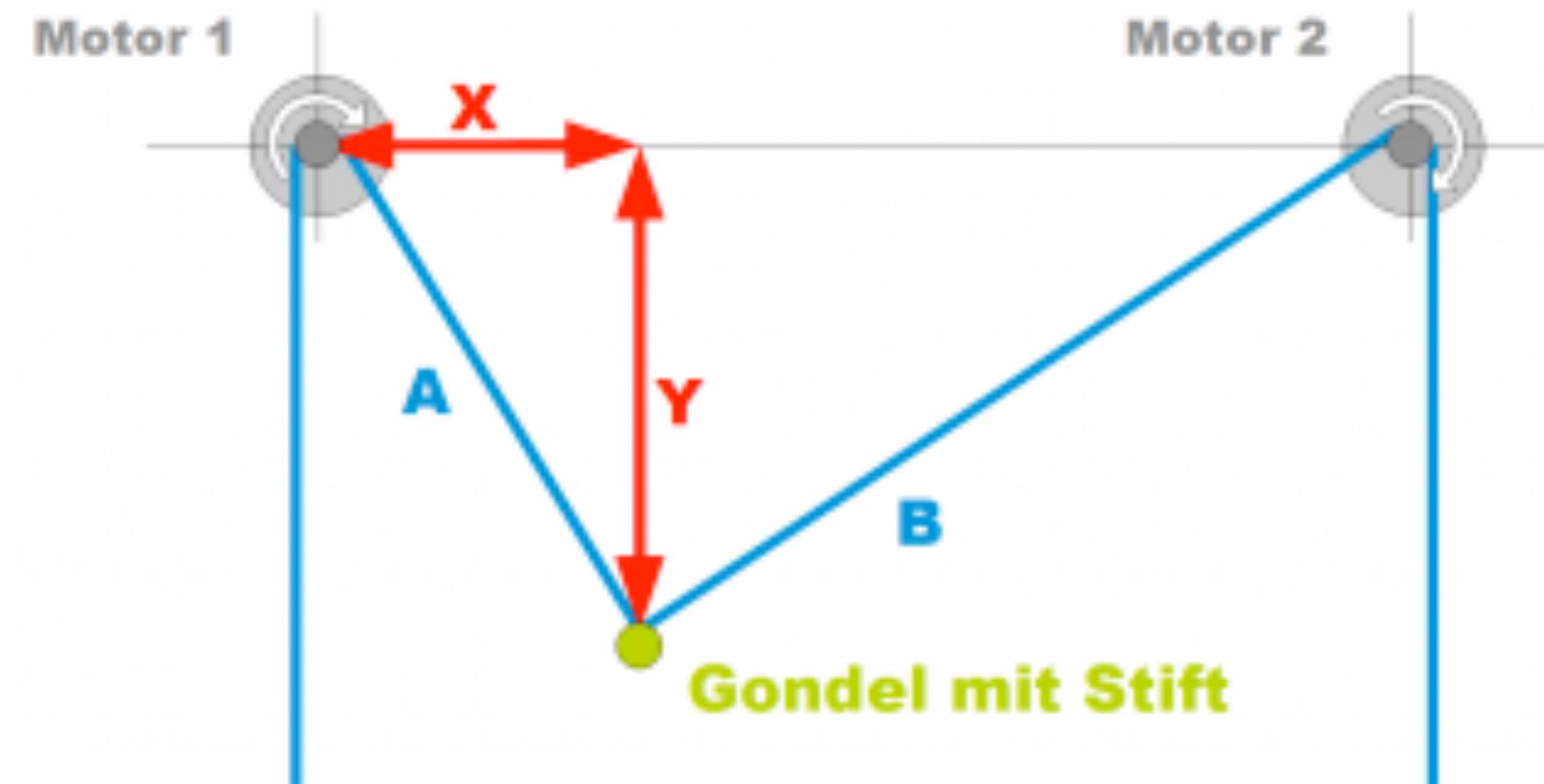
# Drawbot!

# Bresenham's Algorithms



# Bresenham's Algorithms



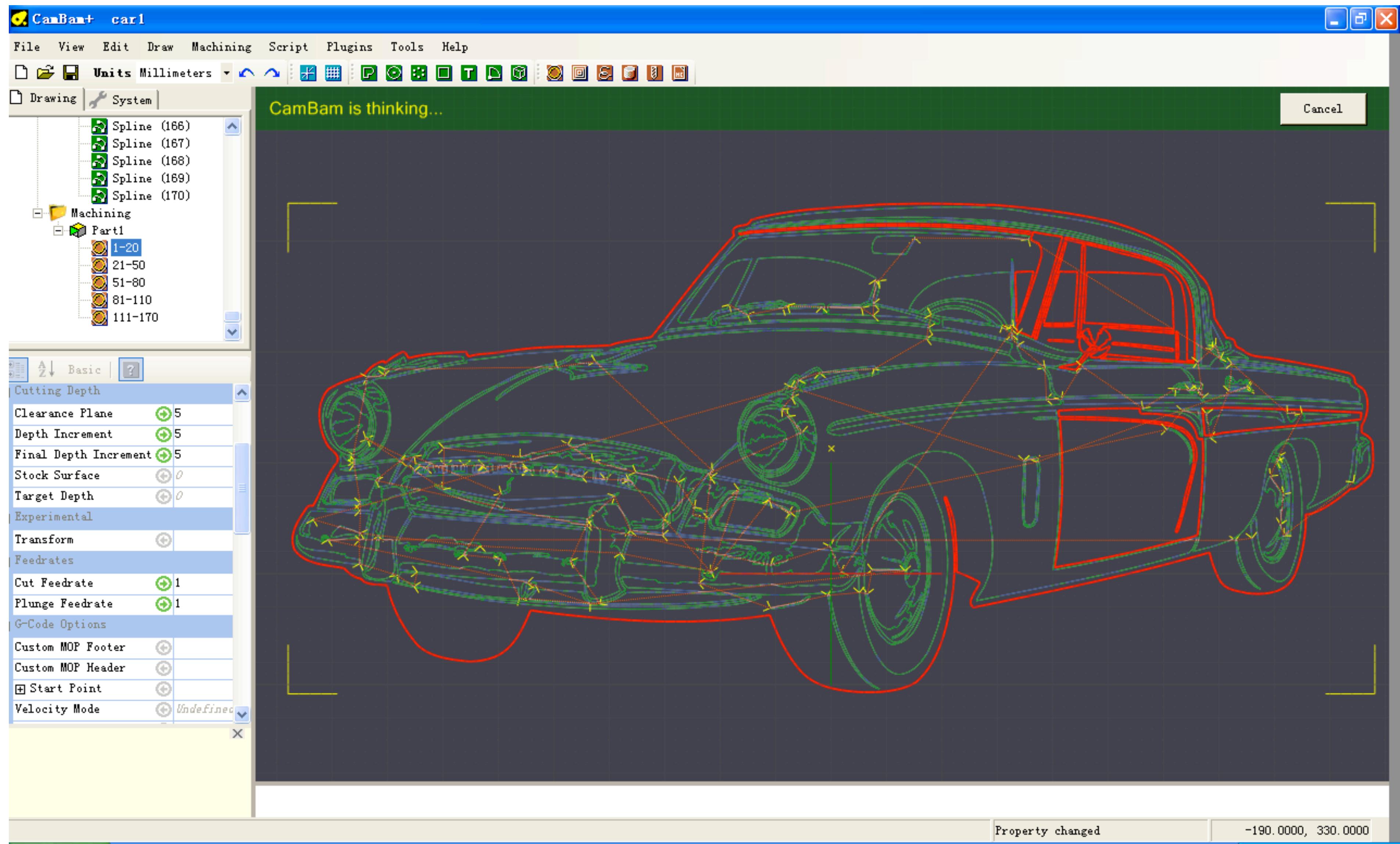


# G-Code

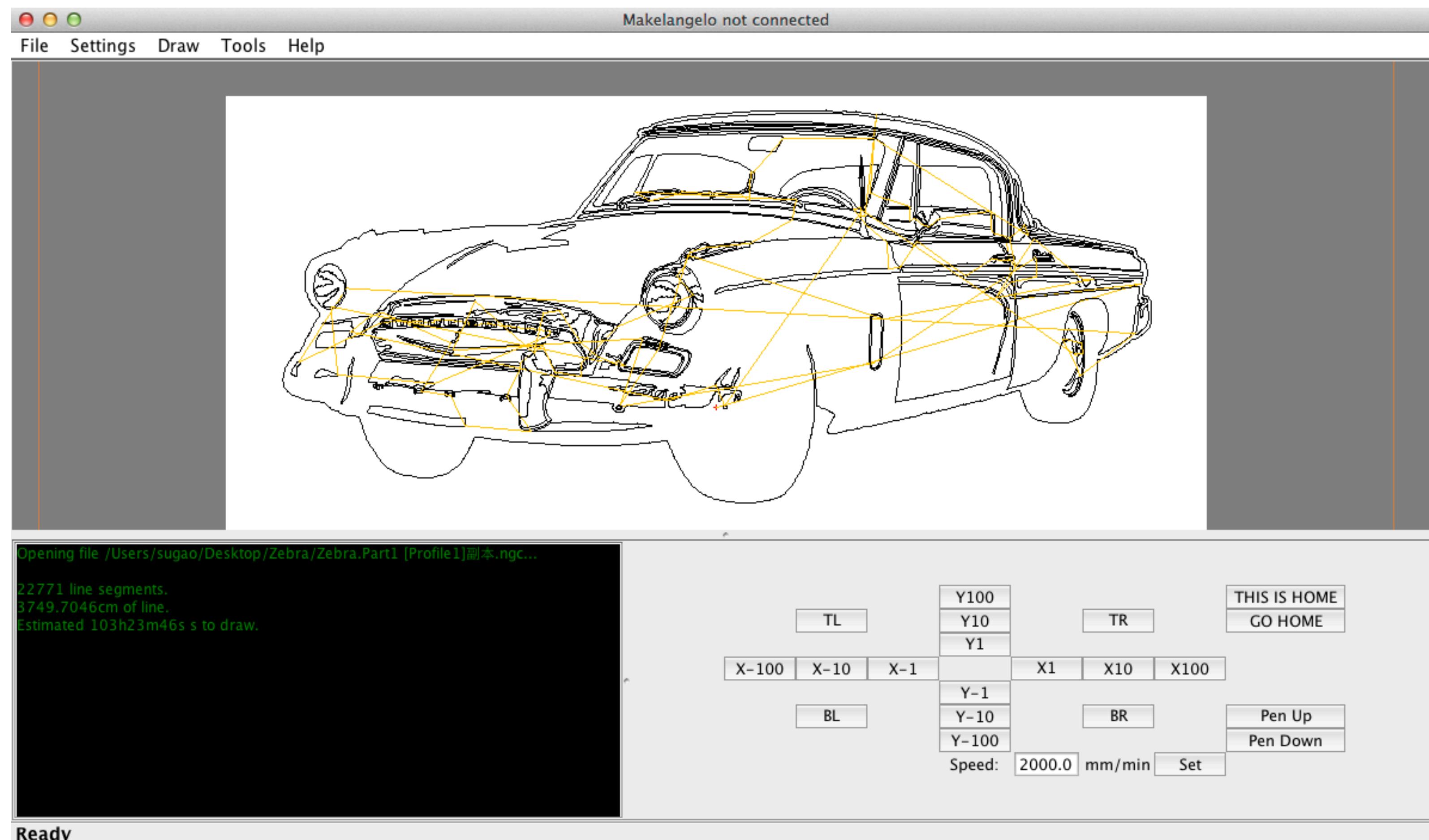
(zB.): G0 X10Y10 Z5

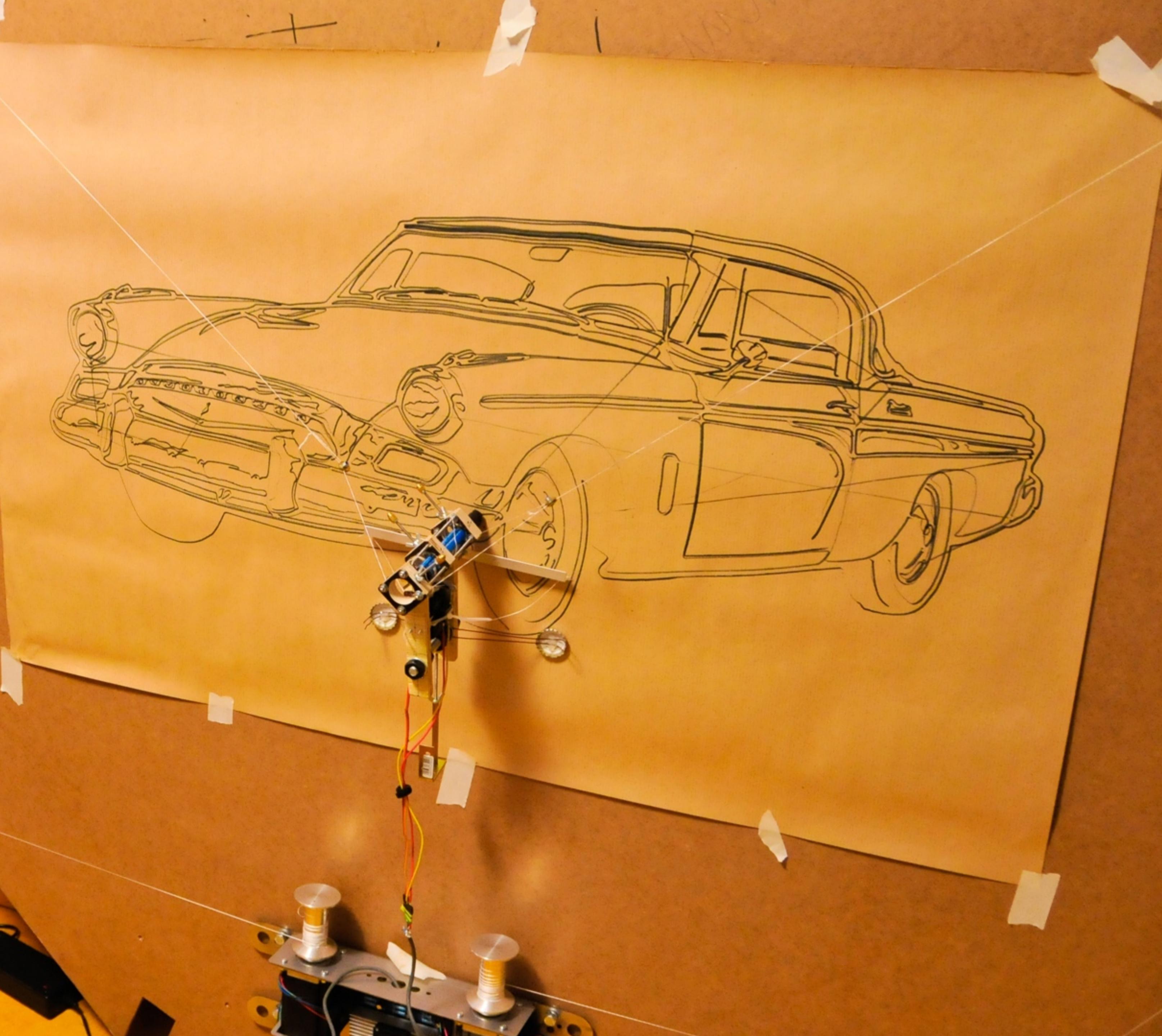
**Live Probieren mit G-Code**

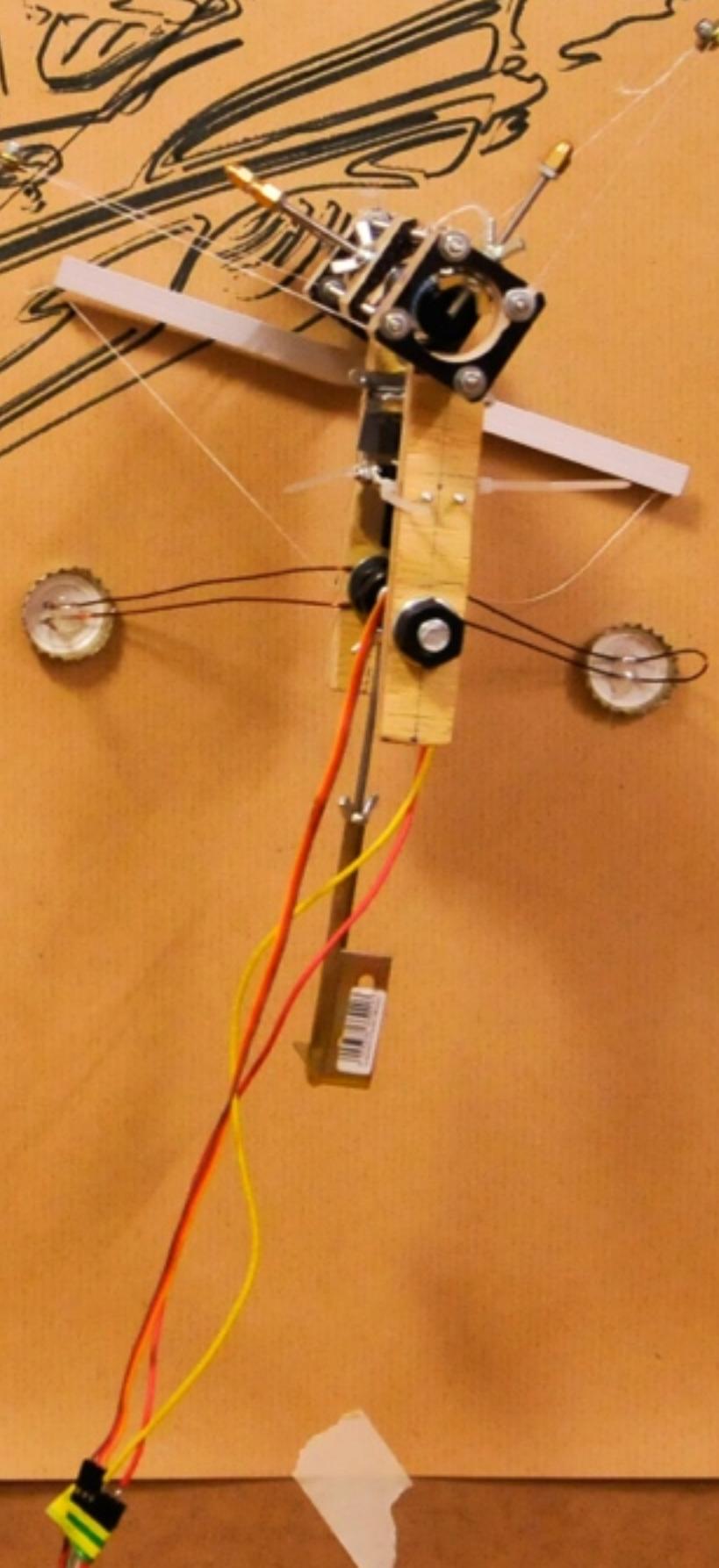
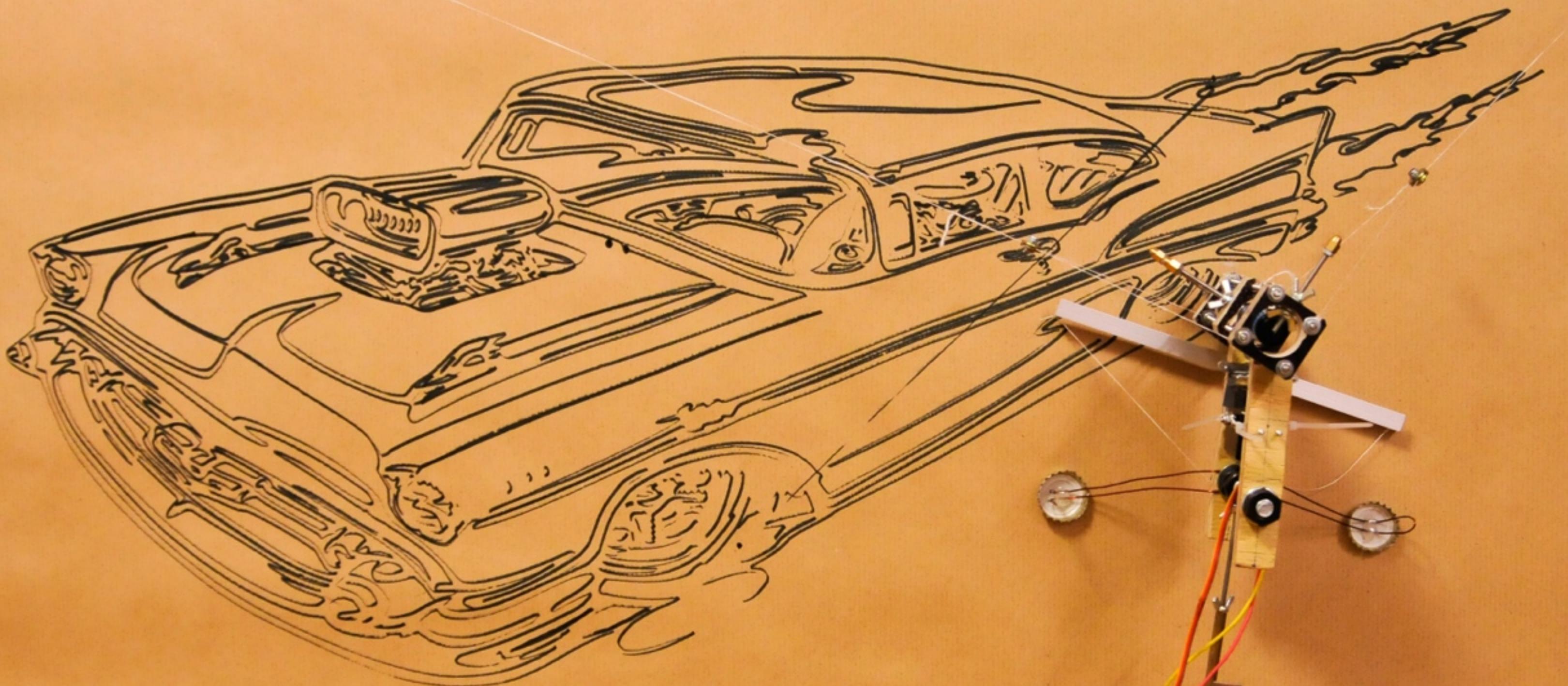




( Made using CamBam - <http://www.cambam.co.uk> )  
( car1 1/21/2014 9:47:57 PM )  
( T0 : 0.0 )  
G21 G90 G64 G40  
G0 Z5.0  
( T0 : 0.0 )  
T0 M6  
( 1-20 )  
G17  
M3 S1000  
G0 X477.8634 Y139.1583  
G1 F1.0 Z0.0  
G1 X475.9128 Y138.9448  
G1 X473.9924 Y138.737  
G1 X472.1017 Y138.5345  
G1 X468.3789 Y138.1416  
G1 X464.7718 Y137.768  
G2 X464.5534 Y137.7456 I-0.9266 J7.956  
G2 X464.3354 Y137.7233 I-0.9258 J7.9583  
G1 X460.8539 Y137.3696  
G1 X457.4807 Y137.0322  
G2 X457.2764 Y137.0119 I-0.9007 J8.0378  
G2 X457.0725 Y136.9917 I-0.9001 J8.0403  
G2 X456.869 Y136.9716 I-0.8994 J8.0427  
G2 X450.3703 Y136.3365 I-243.2019 J2455.327  
G2 X450.1798 Y136.3182 I-0.8804 J8.1314  
G2 X449.9897 Y136.2998 I-0.8799 J8.1341  
G2 X449.8 Y136.2816 I-0.8795 J8.1368  
G2 X449.6107 Y136.2634 I-0.879 J8.1395  
G2 X449.4218 Y136.2452 I-0.8785 J8.1423  
G2 X449.2332 Y136.227 I-0.8781 J8.1451  
G2 X449.0449 Y136.209 I-0.8776 J8.1478  
G2 X448.8571 Y136.1909 I-0.8772 J8.1506  
G2 X448.6696 Y136.1729 I-0.8768 J8.1534  
G2 X448.4824 Y136.155 I-0.8763 J8.1563  
G2 X448.2957 Y136.1371 I-0.8759 J8.1591  
G2 X448.1093 Y136.1193 I-0.8755 J8.1619  
G2 X447.9232 Y136.1015 I-0.8751 J8.1647  
G2 X447.7376 Y136.0837 I-0.8746 J8.1675  
G2 X447.5522 Y136.066 I-0.8742 J8.1703  
G2 X447.3673 Y136.0483 I-0.8738 J8.1732  
G2 X447.1827 Y136.0307 I-0.8734 J8.176  
G2 X446.9985 Y136.0132 I-0.873 J8.1789  
G2 X446.8146 Y135.9956 I-0.8726 J8.1818  
G2 X446.6311 Y135.9782 I-0.8722 J8.1846  
G2 X446.4479 Y135.9607 I-0.8719 J8.1875  
G1 X443.5234 Y135.6837  
G1 X440.6899 Y135.4176  
G1 X435.1996 Y134.9077  
G1 X430.052 Y134.4351  
G1 X425.2257 Y133.9956  
G1 X416.1761 Y133.1762  
G1 X408.2576 Y132.4593  
G1 X404.7934 Y132.1442  
G1 X401.5458 Y131.8474  
G1 X395.4571 Y131.286  
G1 X392.7935 Y131.0379  
G3 X392.4814 Y131.0087 I2.0813 J-23.9381  
G3 X392.1717 Y130.9797 I2.103 J-24.1357  
G3 X391.8644 Y130.9509 I2.1254 J-24.3404  
G3 X391.5595 Y130.9223 I2.1485 J-24.552  
G1 X386.7201 Y130.4649  
G1 X382.4863 Y130.0585  
G3 X382.0232 Y130.0137 I6.2677 J-67.1442  
G3 X381.1116 Y129.9252 I10.382 J-111.6731  
G1 X377.5795 Y129.5792  
G1 X374.4893 Y129.2721  
G1 X371.7858 Y128.9998  
G1 X369.4205 Y128.7587  
G1 X367.3511 Y128.5454  
G1 X363.7302 Y128.1665  
G1 X361.015 Y127.8775  
G1 X359.997 Y127.768  
G1 X358.2155 Y127.5748  
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G1 X353.8741 Y127.0954  
G1 Y352.8725 Y126.082

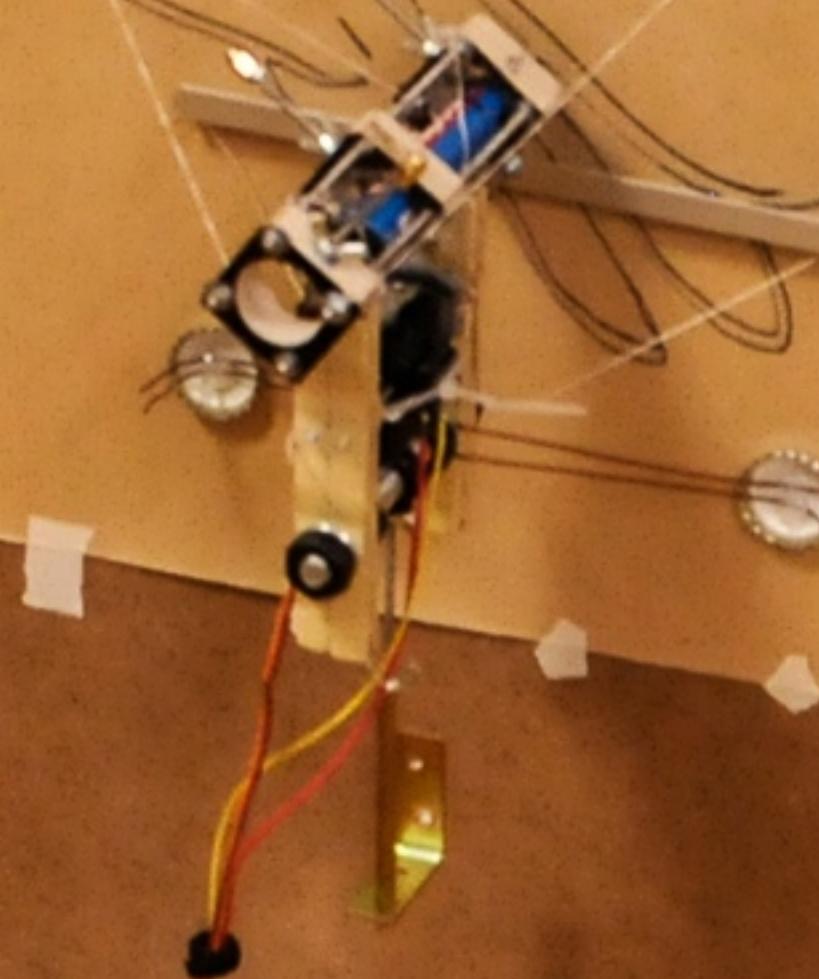


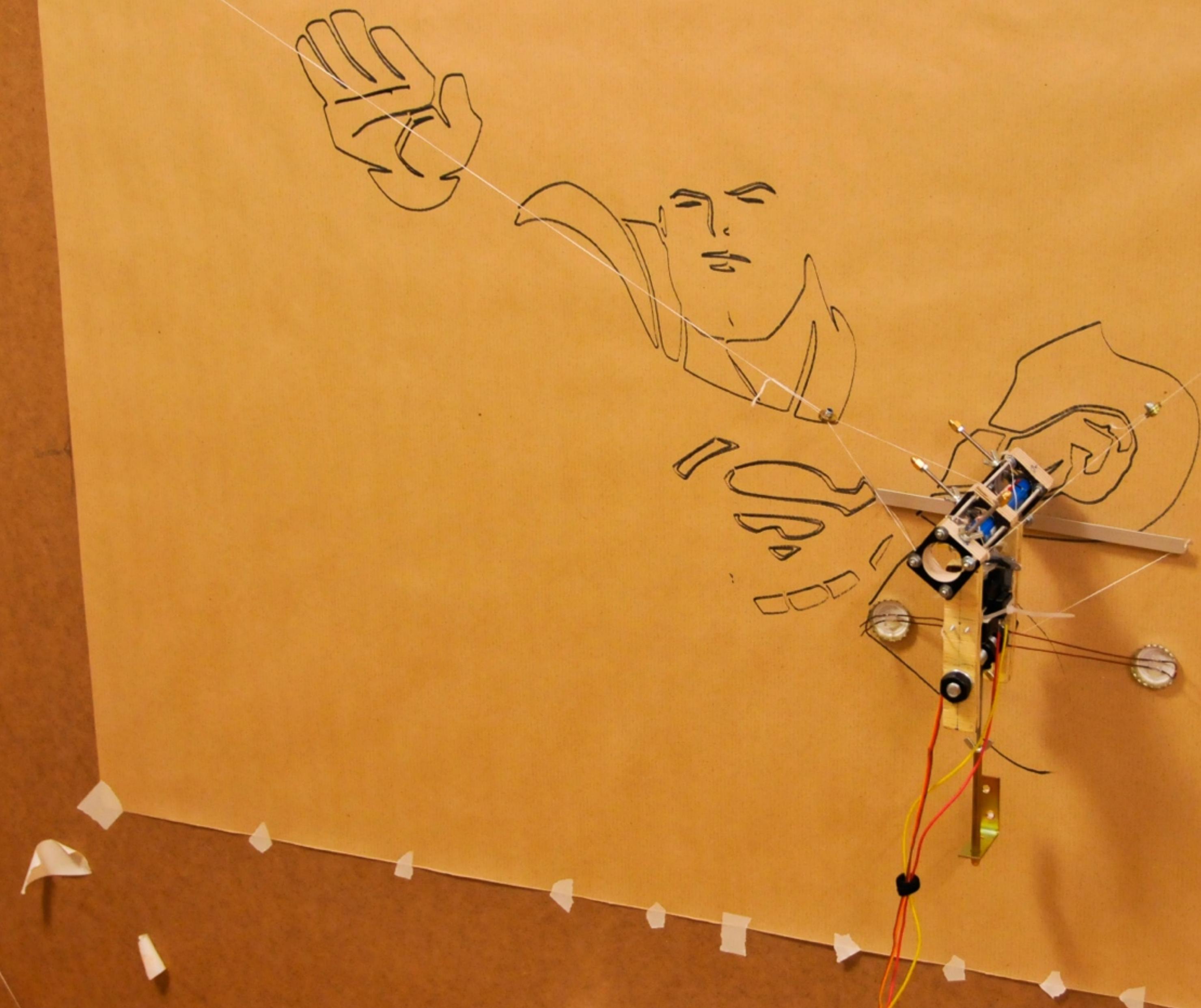




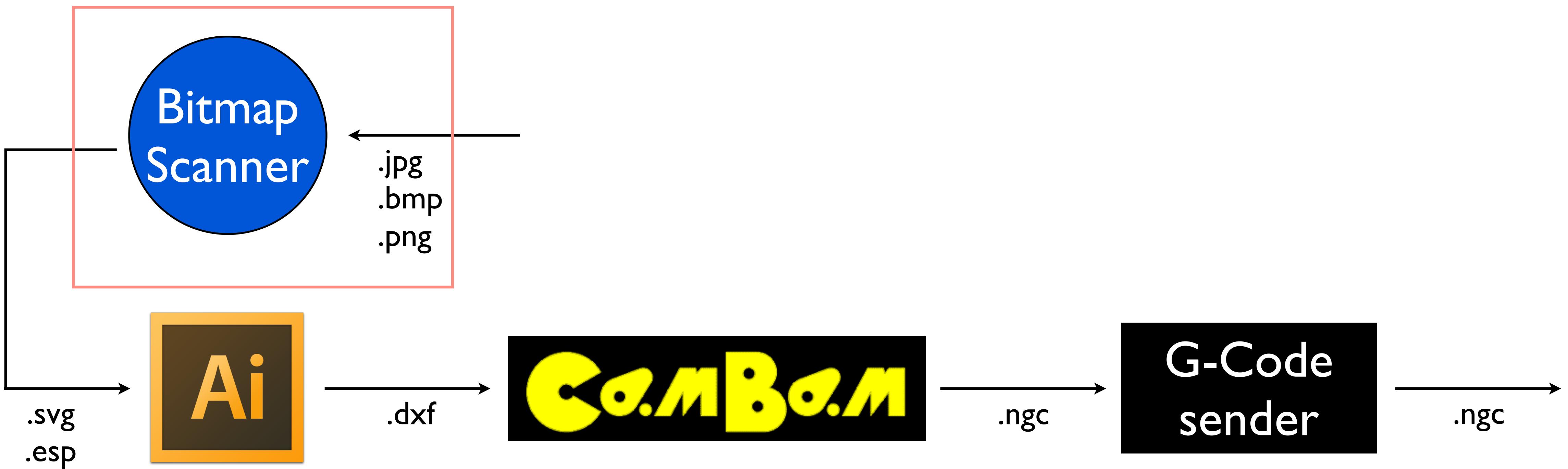


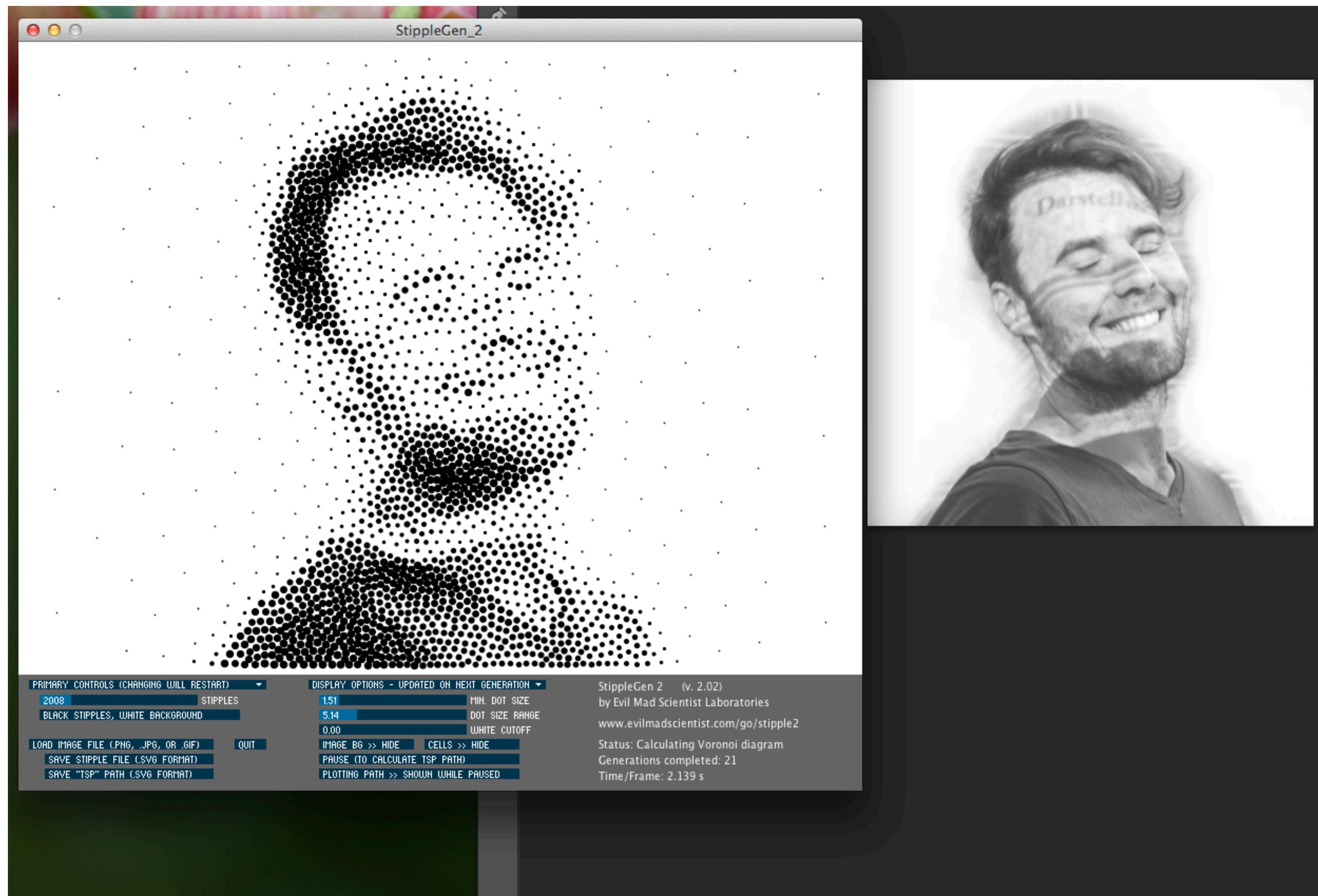
Superman  
Luke 9/26  
2014/2/29

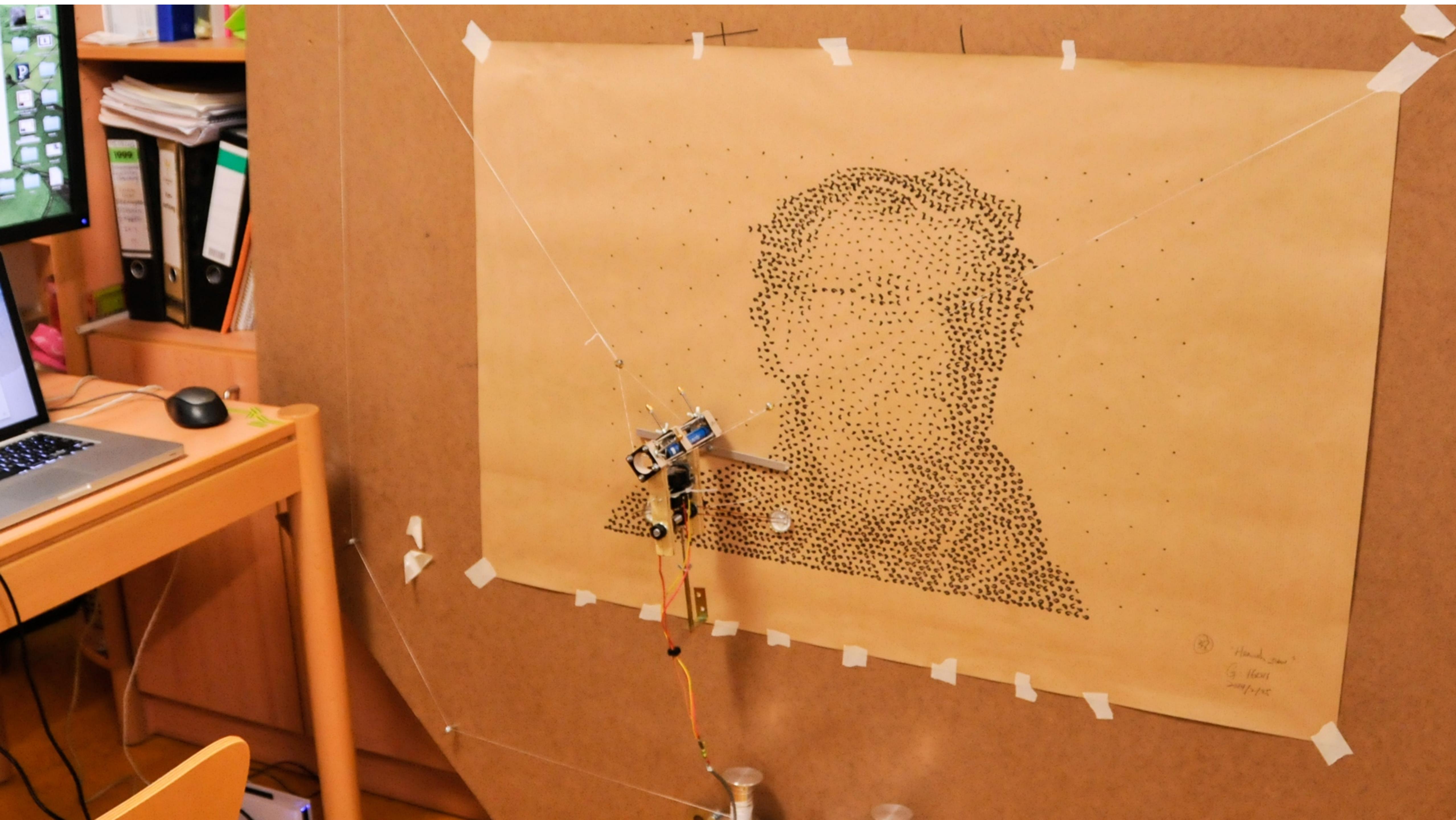




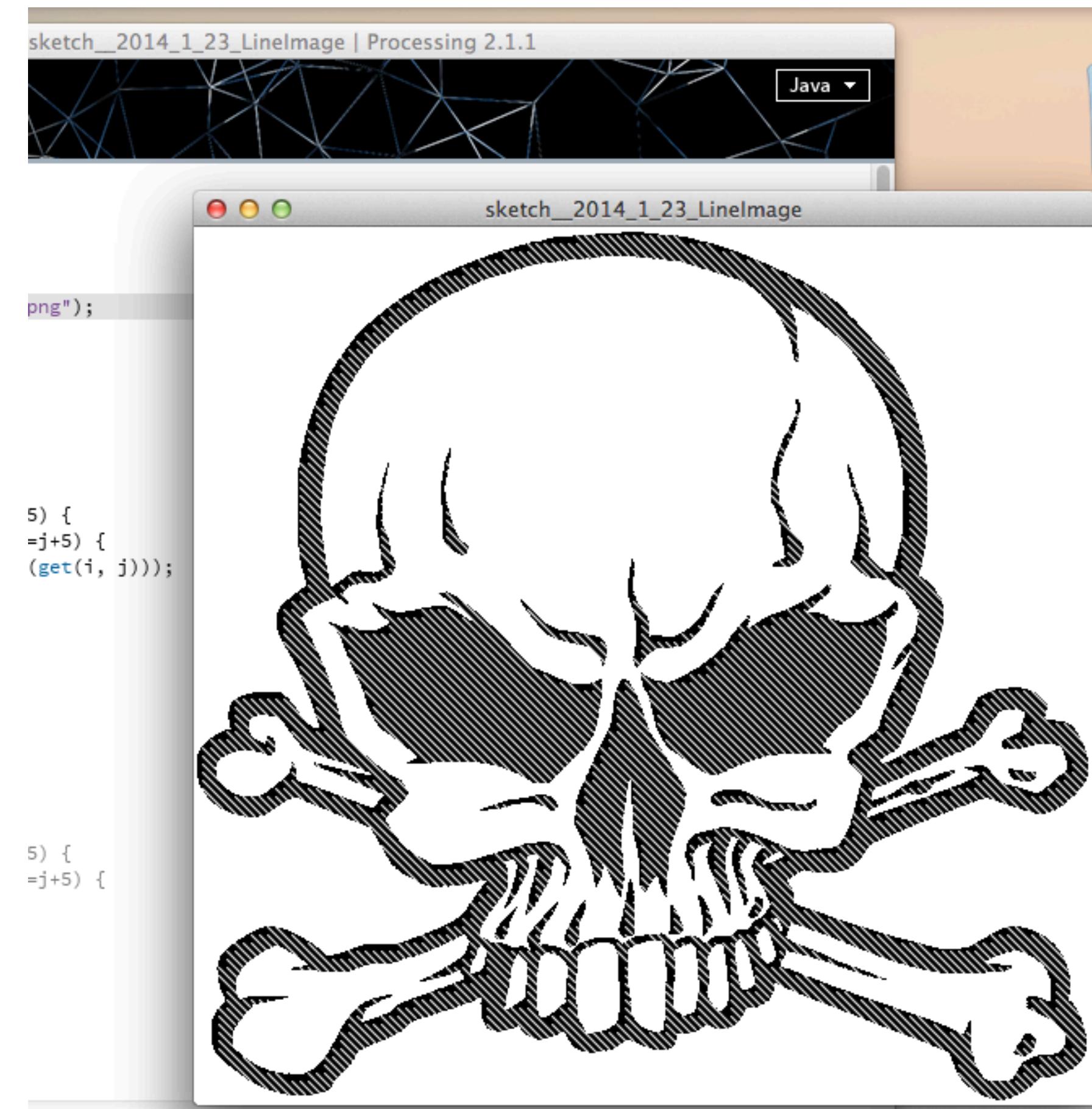
Superman  
G-Code 9436  
2014/2/24

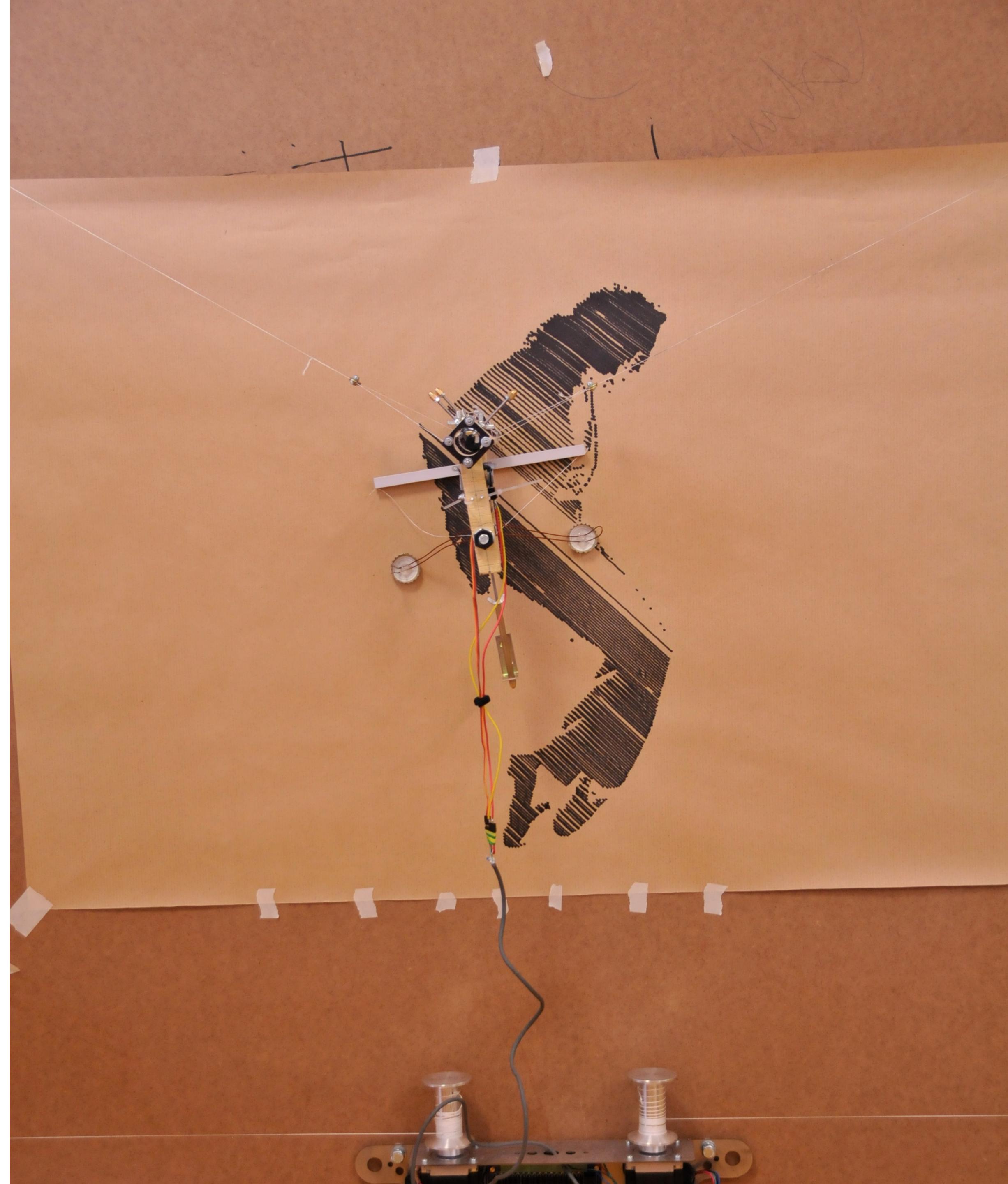


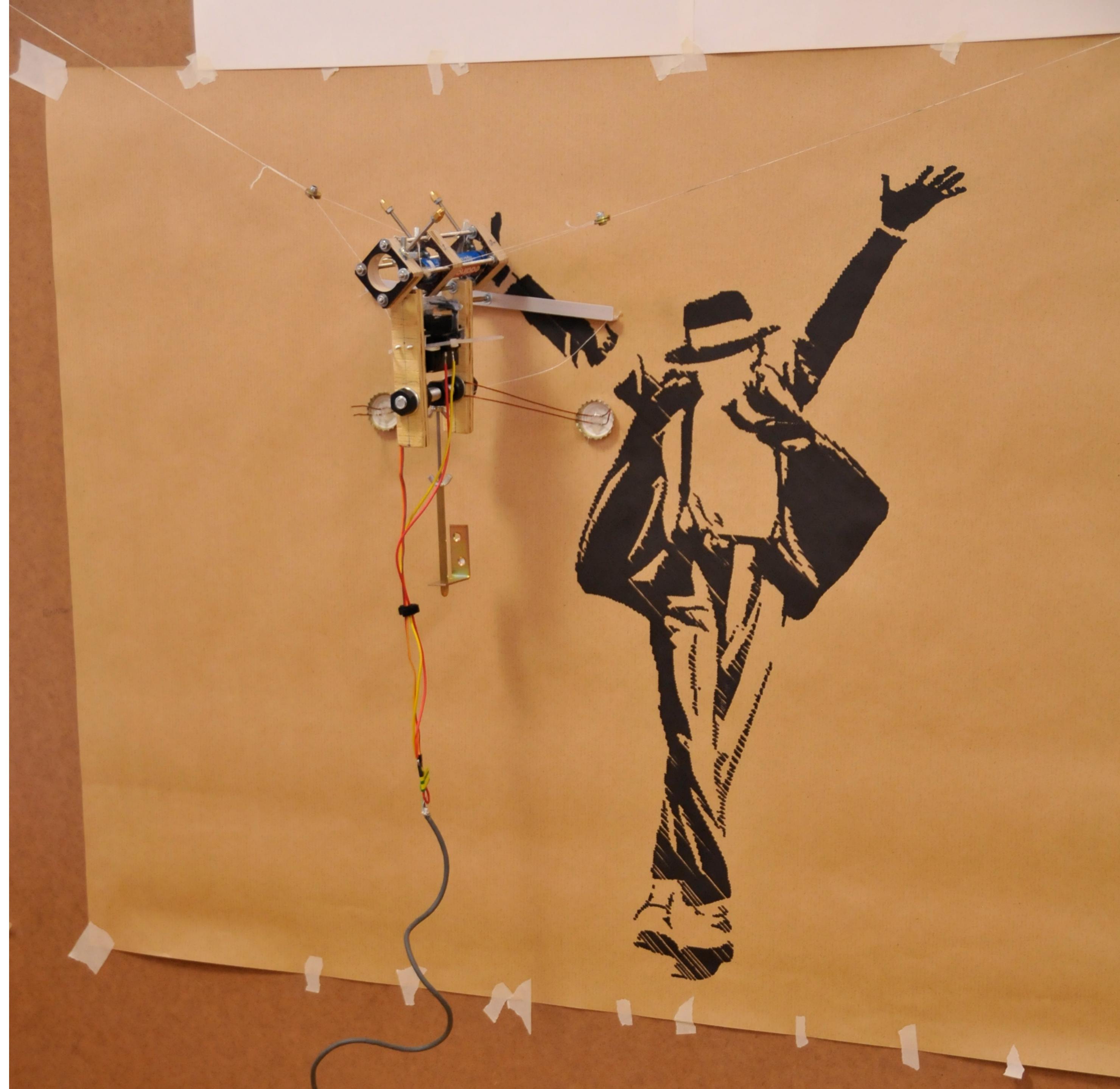




37)  
Head, man  
G. Henry  
2009/2/25

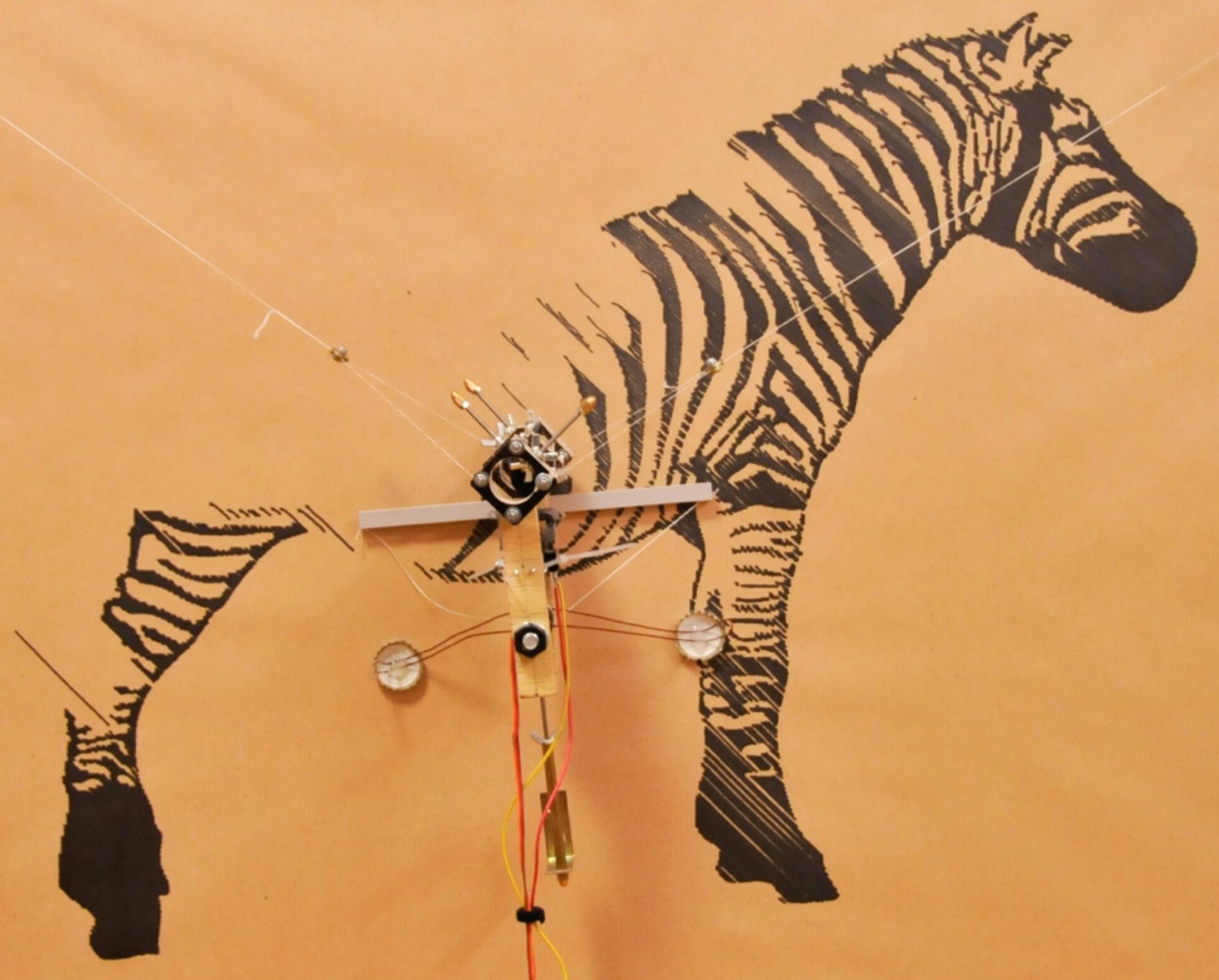




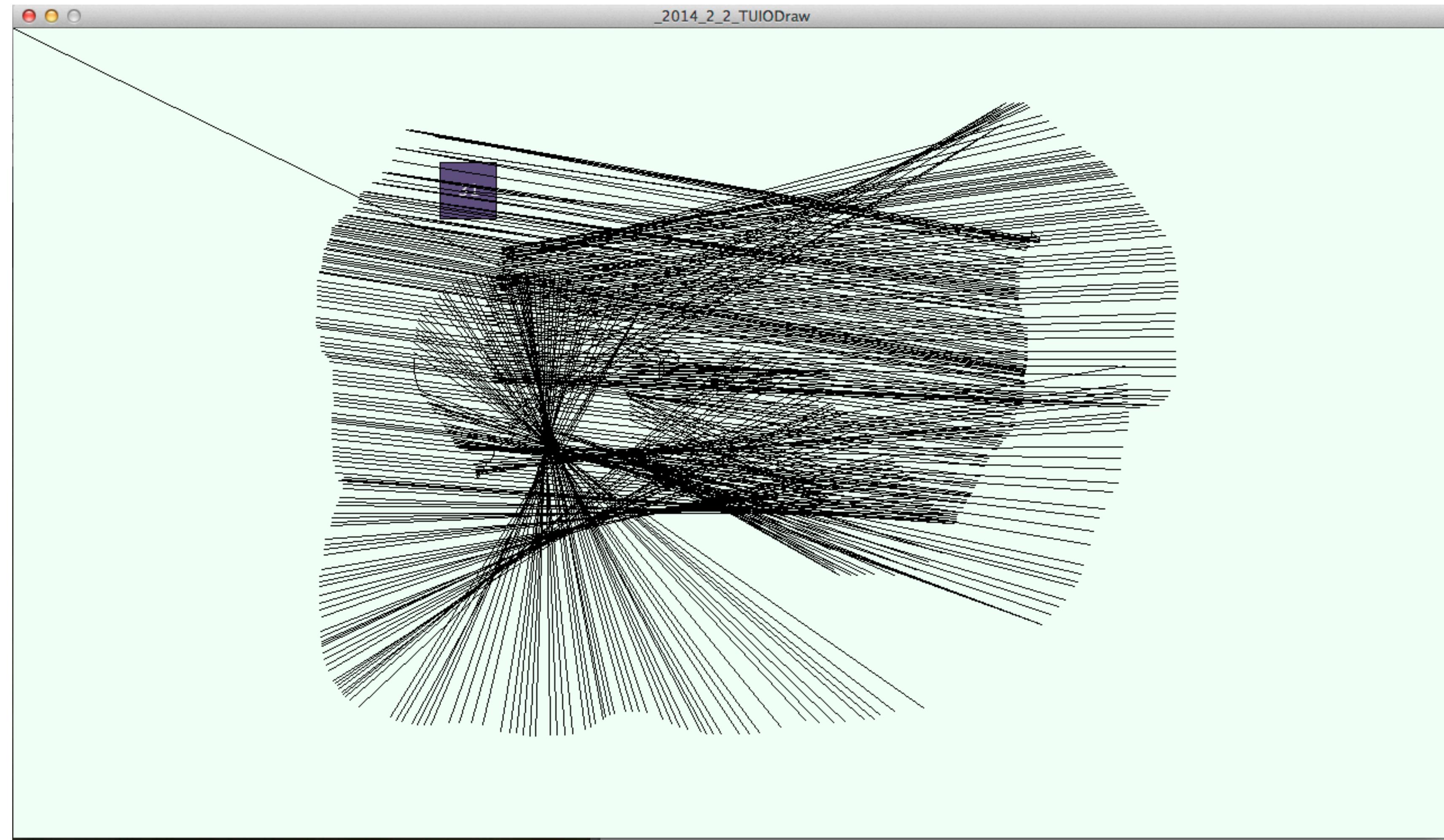




(4) Zebra  
2014/1/16  
G  
motor 250  
Duty cycle 1200ms  
Min. 700ms  
Current 0.15A



# Ausblick



**Danke !**

