

In Collaboration with بالتعاون مع



متحف قطر الوطني
NATIONAL MUSEUM OF QATAR

وزارة الاتصالات وتكنولوجيا المعلومات
Ministry of Communications and Information Technology
دولة قطر • State of Qatar



ستوديو 5
STUDIO 5

المعسكر الشتوي Winter Camp

التفاعل الإبداعي للذكاء الاصطناعي والعمل المناخي
AI Creative Interaction Climate Action

بيانات المناخ باستخدام الذكاء الاصطناعي
Climate Data with AI

www.studio5.qa

Who are we? من نحن؟

ستوديو 5 مبادرة من وزارة الاتصالات وتكنولوجيا المعلومات. نحن نلبي احتياجات الشباب الذين تتراوح أعمارهم بين 7 و24 عامًا في قطر لتسهيل الثورة الرقمية داخل المجتمع والمجتمع القطري في تزويد الشباب بالمعرفة والمهارات في مجال التصنيع الرقمي والتكنولوجيا الناشئة. تهدف المساحة المخصصة إلى إحداث تحول عقلي لدى الشباب في قطر من مستهلكين إلى مبدعين ومبتكرين.

Studio 5 is an initiative by the Ministry of Communications and Information Technology. We cater to youth aged 7-24 in Qatar to facilitate the Digital Revolution within the Qatari society and community in providing the youth with knowledge and skills in digital fabrication and emerging technology. The dedicated space aims to trigger a mindset shift in the youth in Qatar from consumers to creators and innovators.



Our Team



TASNEEM HUSSAIN
Project Manager



ILARIA LA MANNA
Senior Education Specialist



ZAID ABUSINI
Senior EduTech Engineer



MOHAMMED MOHAMMED
EduTech Engineer



JAWAD FADLALLAH
EduTech Engineer



LEYLA TAWFIK
Senior BioEduTech
Interaction Designer



SOUMIA DEDECHE
Assistant BioEduTech



FAHEEM KHAN
EduTech Designer



AYAH ELNOUR
Assistant EduTech



MAHMOUD AL RAWABDEH
Technician Engineer



What is a ما هو

Fabrication Laboratory مختبر التصنيع

is a place to play, to to create, to learn, to mentor, to invent:
a place for learning and innovation.

هو مكان للعب ، لخلق ، للتعلم ، التوجيه ، للاختراع:
مكان للتعلم والابتكار



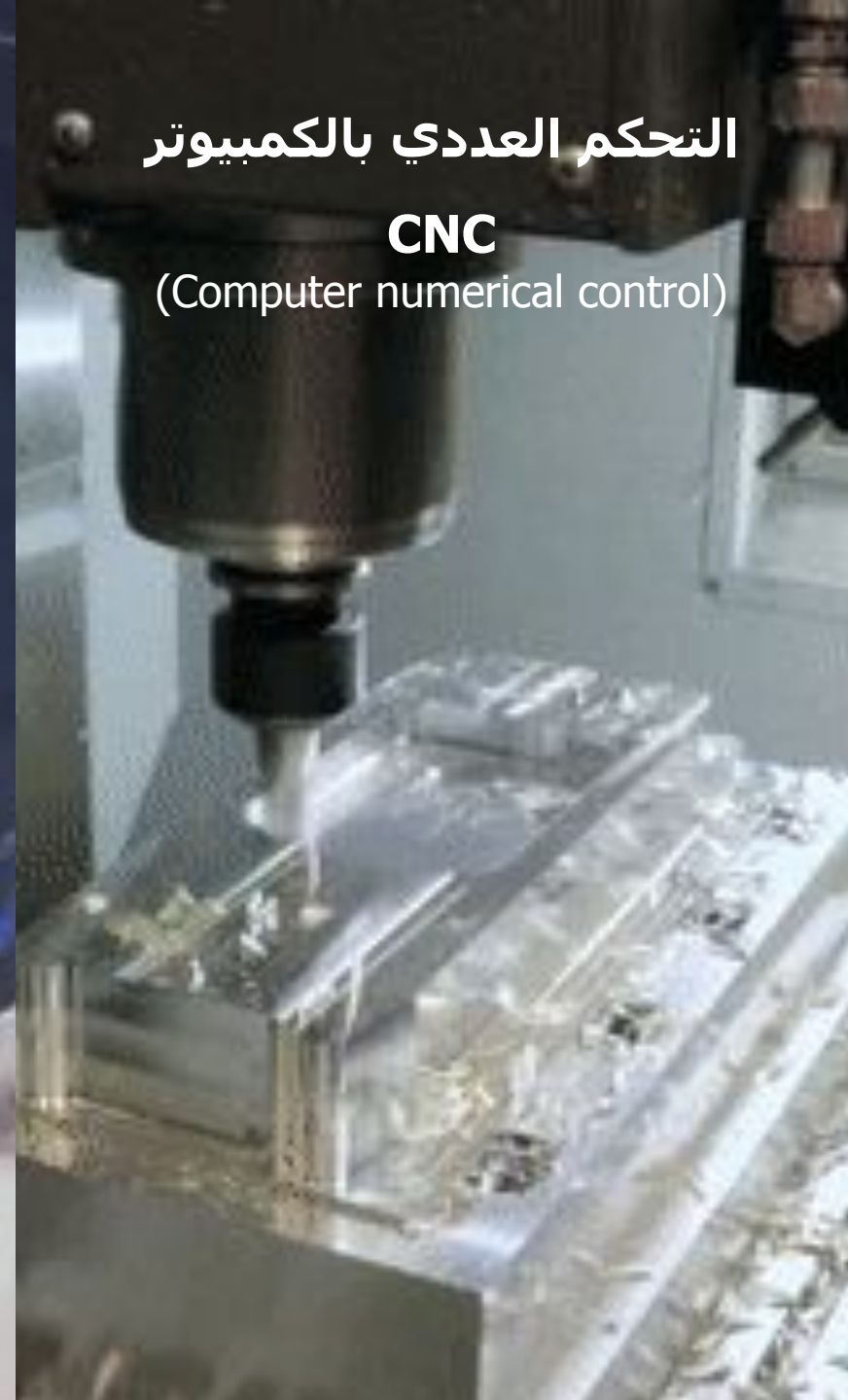
طباعة ثلاثية الابعاد

3D PRINTING



القص بالليزر

LASER CUTTING



التحكم العددي بالكمبيوتر

CNC

(Computer numerical control)

وأكثر من ذلك بكثير...

AND MUCH MORE...



منطقة الابداع
Creativity Zone



منطقة البرمجيات
Software Zone



منطقة التكنولوجيا
Technology Zone



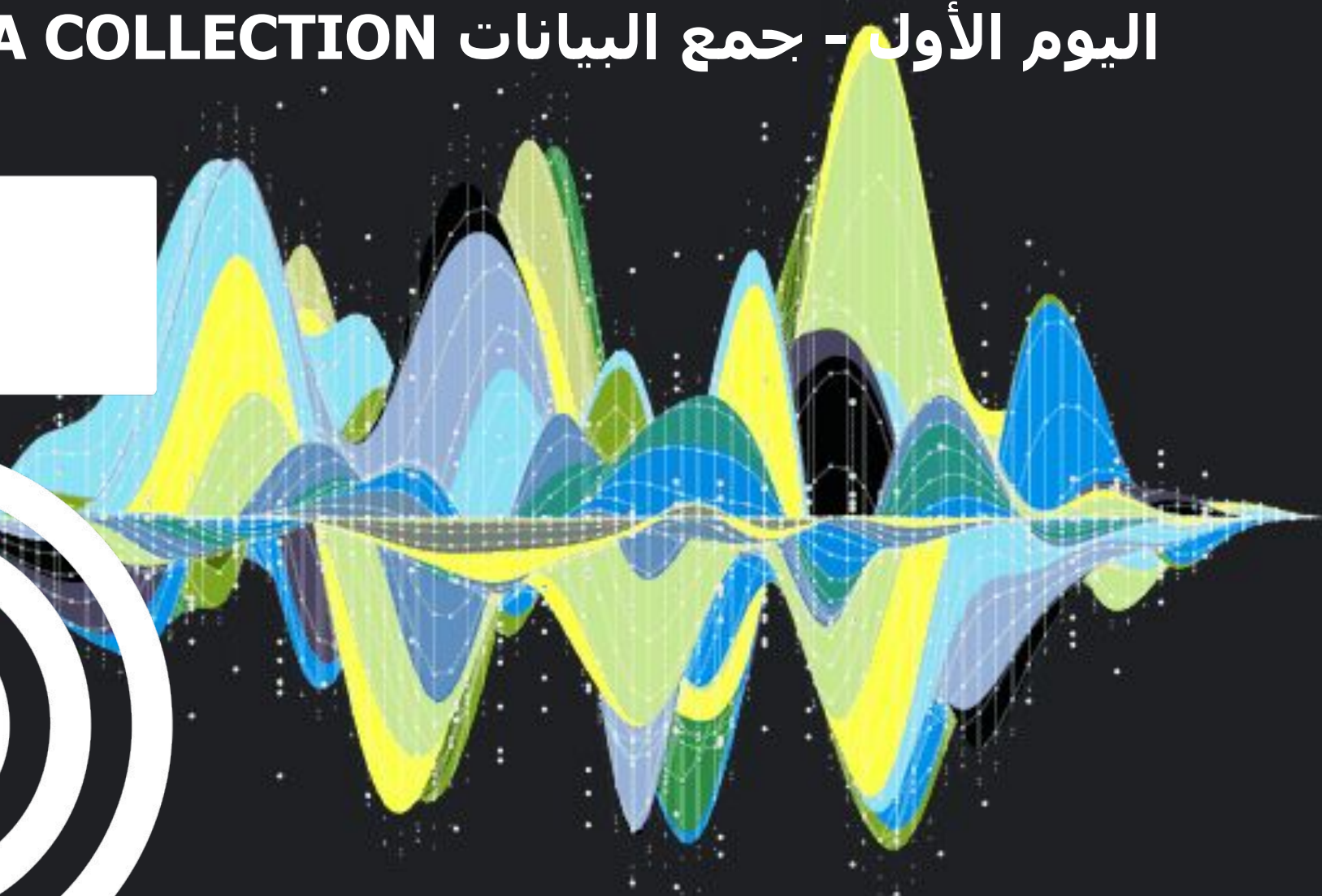
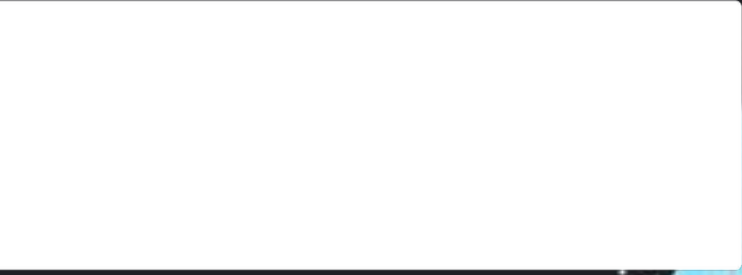
منطقة التحقيق
Investigation Zone



الجدول الزمني Agenda

26th, 27th, 29th January 4pm-6pm	26، 27، 29 يناير 4 مساءً - 6 مساءً
Day 1 - DATA COLLECTION Collection of data at home and at school for the next day.	اليوم الأول - جمع البيانات جمع البيانات في المنزل والمدرسة لليوم التالي.
Day 2 - DATA ANALYSIS AND VISUALIZATION WITH AI Tour of the National Museum of Qatar	اليوم الثاني - تحليل وتصوير البيانات بالذكاء الاصطناعي جولة في متحف قطر الوطني
(break one day)	(استراحة ليوم واحد)
Day 3 - DESIGN DATA CREATION	اليوم الثالث - تصميم تصنيع البيانات

اليوم الأول - جمع البيانات DAY 1 - DATA COLLECTION





Who worked before with...

من استخدم سابقًا

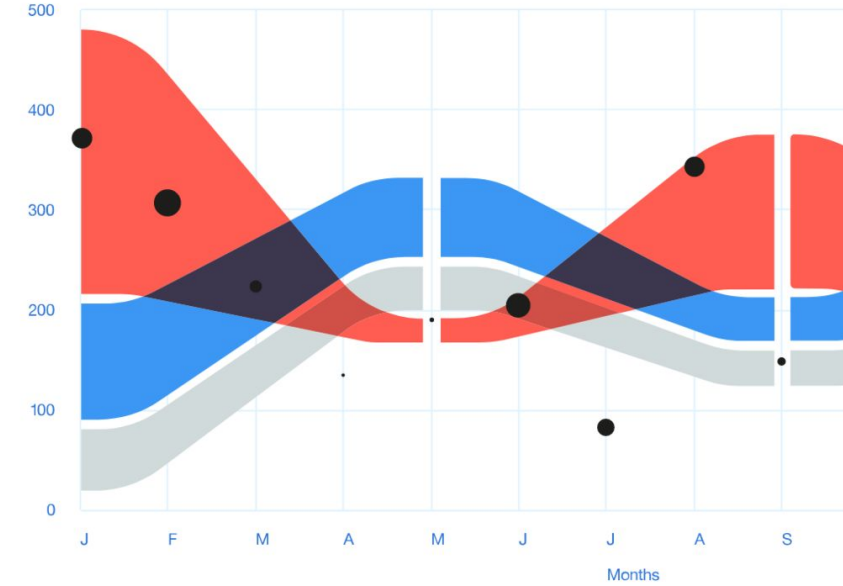
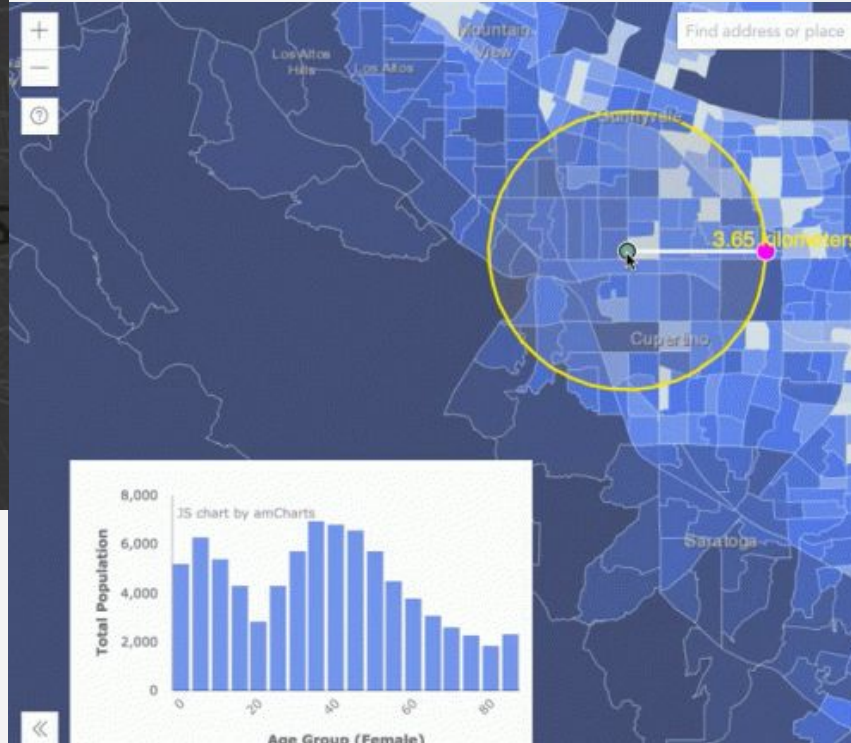


Data Visualization

تصوير البيانات

Data collection

جمع البيانات



بيانات المناخ والذكاء الاصطناعي

Climate Data and AI



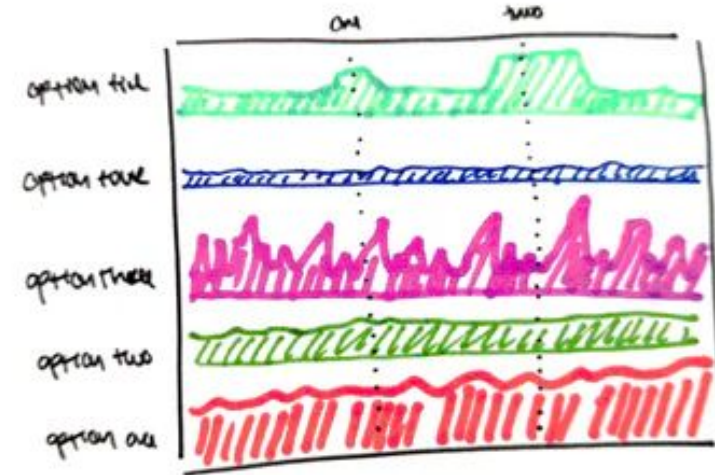
Definition of Data تعريف البيانات

البيانات هي معلومات مثل الحقائق والأرقام تُستخدم لتحليل شيء ما أو اتخاذ قرارات.

Data is information such as facts and numbers used to analyze something or make decisions.

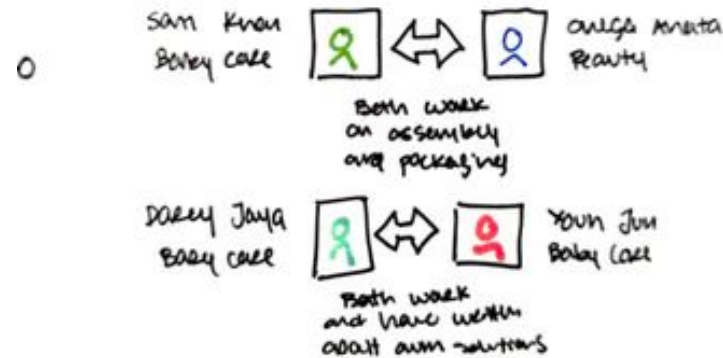
نستخدم البيانات للإعلام والتواصل وسرد القصص.

We use data to inform and communicate and tell stories.



Missing links

this is where people can find connections



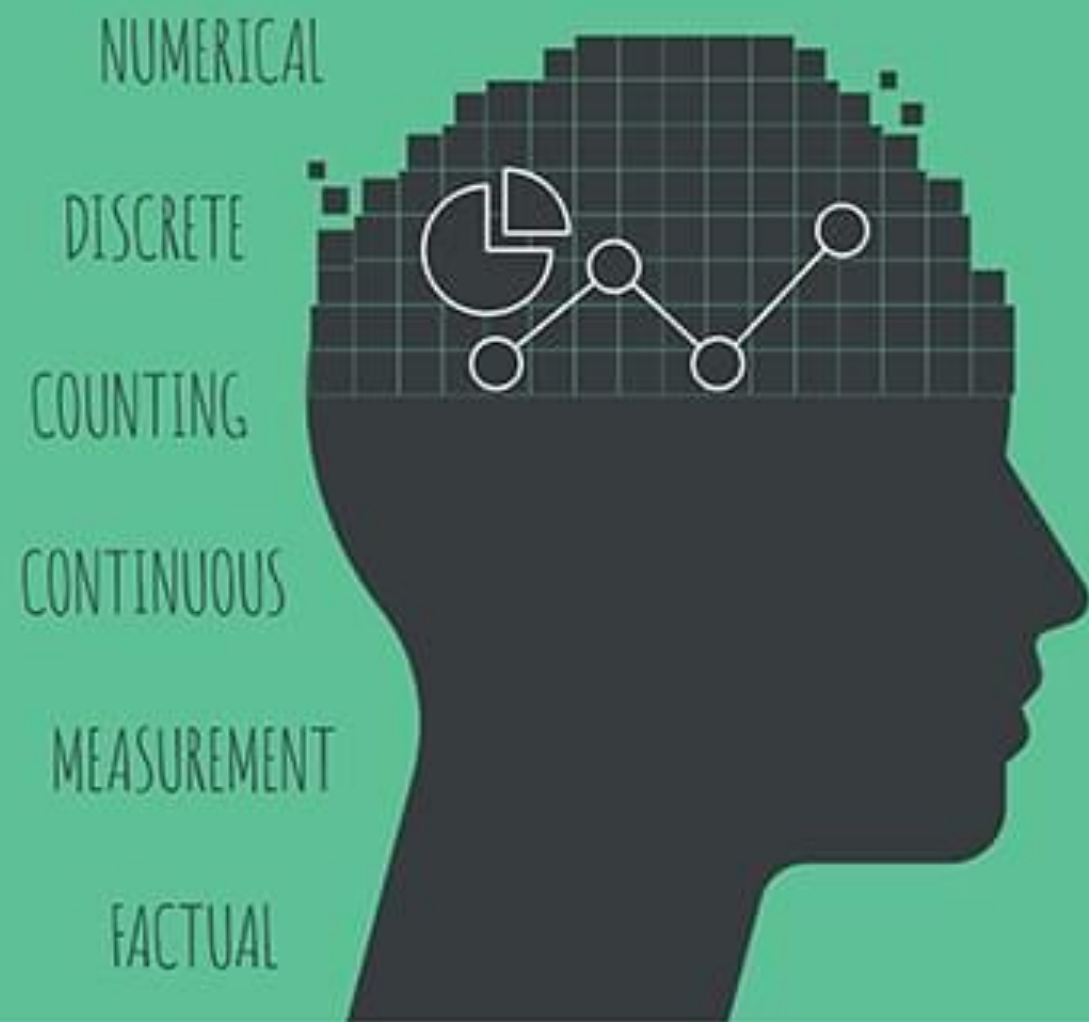
ASKER **Team expert** **Find**

Anyone who's done work and projects in tasks on packaging.

Recommended models	name of	name two
 Sam Khan	79	4
 Daisy Jaya	23	2
 Omega Amanta	45	1
 Yung Jun	42	3

QUANTITATIVE

DATA



QUALITATIVE

DATA





تصوير البيانات من جون سنو إلى الوقت الحاضر

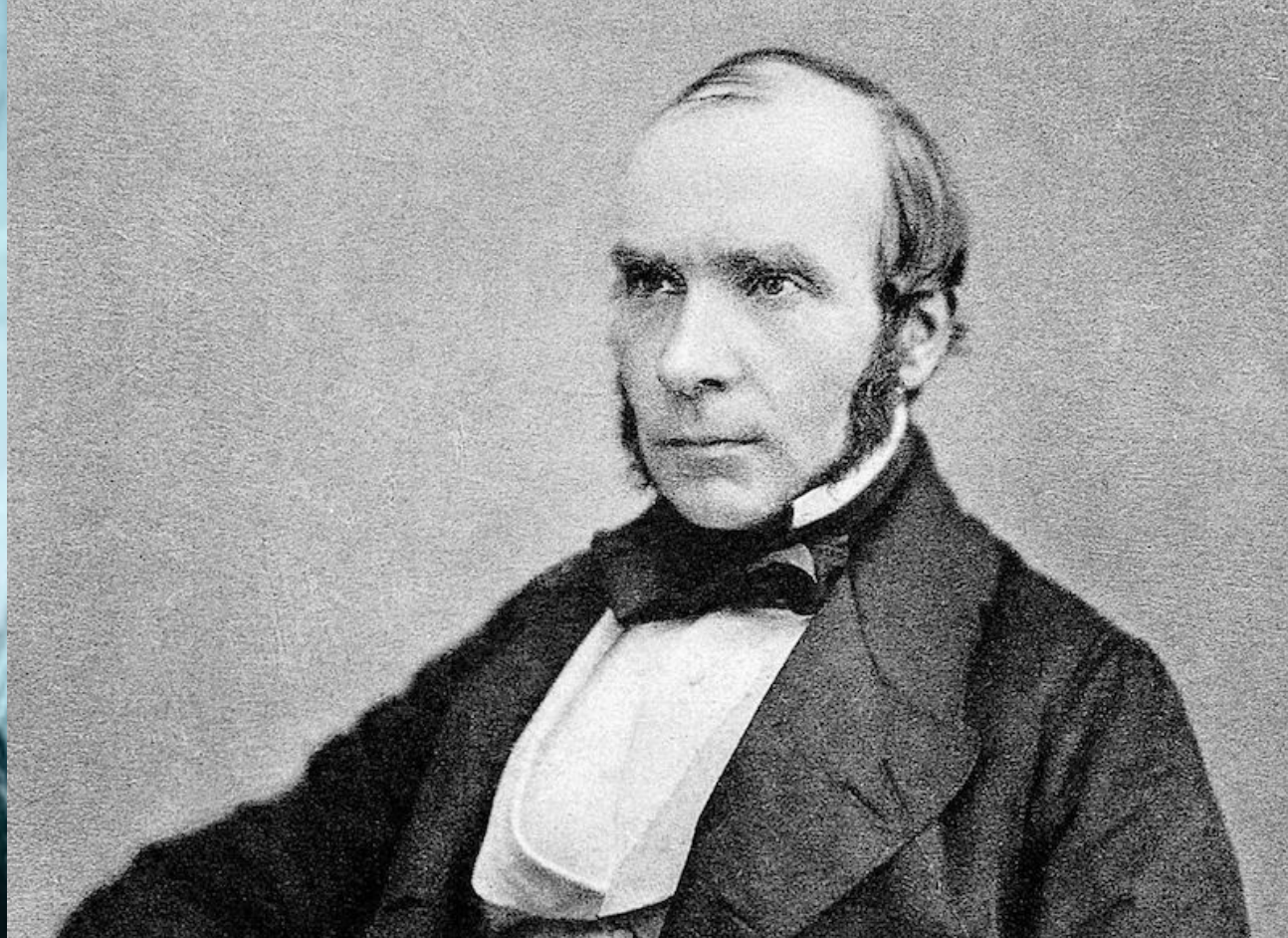
Data visualization from John Snow to Now





تصوير البيانات من جون سنو إلى الوقت الحاضر

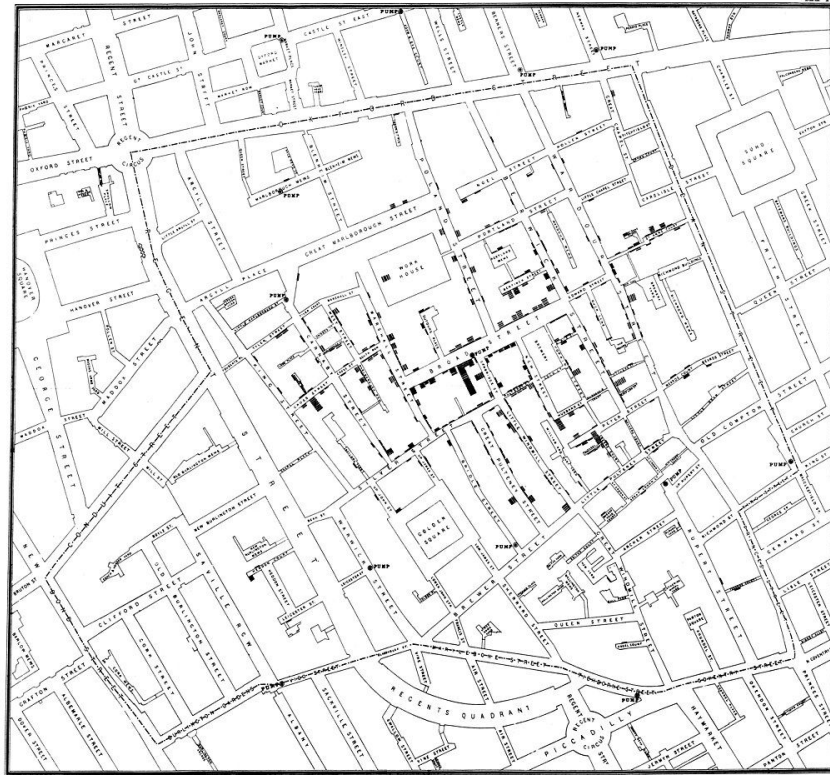
Data visualization from John Snow to Now





تصوير البيانات من جون سنو إلى الوقت الحاضر

Data visualization from John Snow to Now



JOHN SNOW

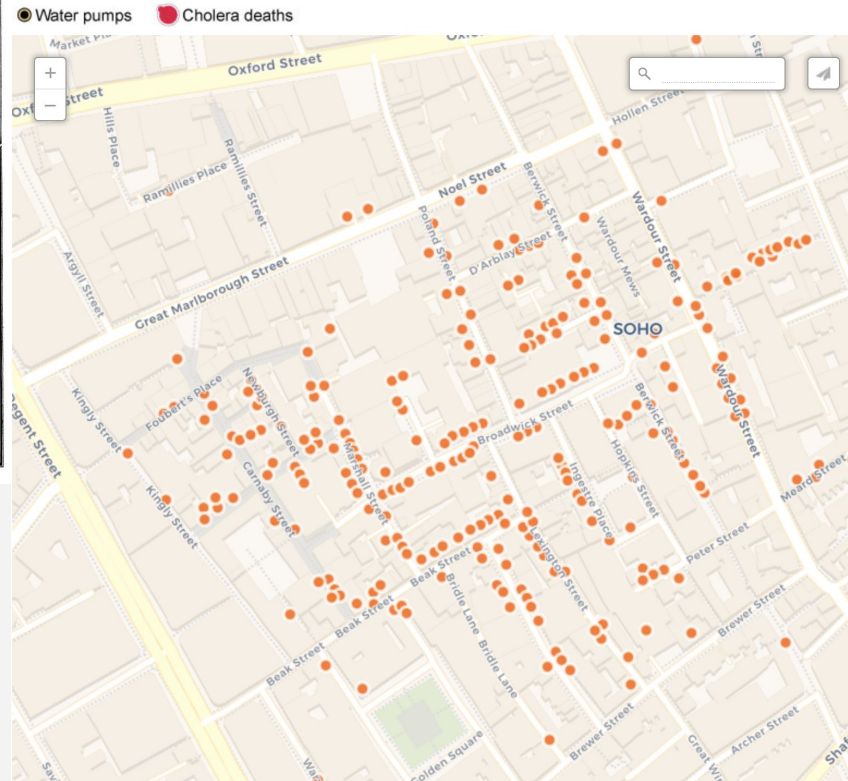
خريطة تفشي الكوليرا في شارع برود عام 1854.

Map of the cholera outbreak on Broad Street in 1854.

SIMON ROGERS (CARTO), 2013

خريطة تفاعلية لتفشي الكوليرا في شارع برود عام 1854.

Interactive map of the cholera outbreak on Broad Street in 1854.



Cholera outbreak around Broad Street, 1854

How to read it: Every block is a building and the height shows the number of deaths at that location. Also, the darker the color the more deaths occurred. The dark dots indicate the location of the water pumps.

Total deaths 1 15



Data source: Dr. Robin Wilson, ArcGIS

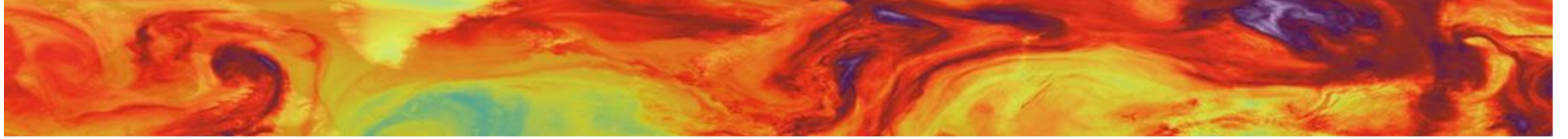
FLOURISH, 2022

عرض لتفشي الكوليرا في عام 1854، تم إنشاؤه باستخدام Flourish و GeoPanda.

Display of the cholera outbreak in 1854, generated using GeoPanda and Flourish.



Some definitions بعض التعريفات



المناخ

هو متوسط الظروف الجوية التي يتمتع بها مكان معين عادة.

Climate

The average weather conditions a place usually has.

بيانات المناخ

هي سجلات الظروف المناخية التي تم ملاحظتها في مواقع وأوقات محددة باستخدام أدوات معينة وفقًا لمجموعة من الإجراءات القياسية.

Climate Data

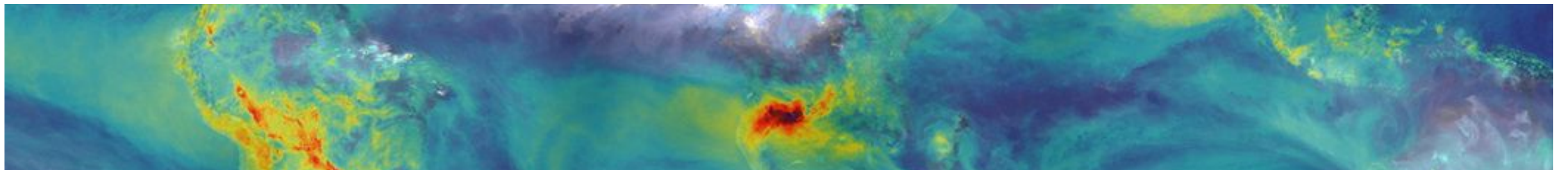
The records of observed climate conditions taken at specific sites and times with particular instruments under a set of standard procedures.

تغير المناخ

هو كيفية تغير متوسط الطقس في مكان معين على مر العديد من السنوات. يتم قياسه من خلال عوامل مثل درجة الحرارة، وهطول الأمطار، وغيرها.

Climate Change

How the average weather in a place changes over many years. This is measured in things like temperature, rainfall, etc.





How do we collect data from Nature?

كيف نجمع البيانات من الطبيعة؟



مراقبة Observe



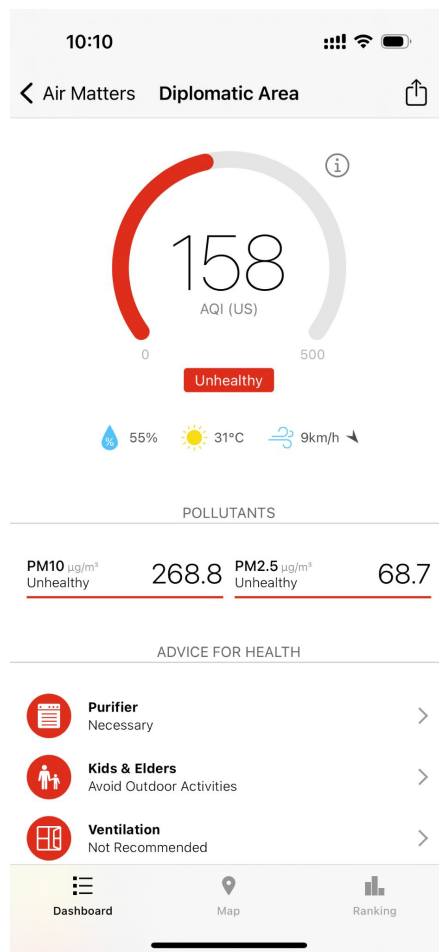
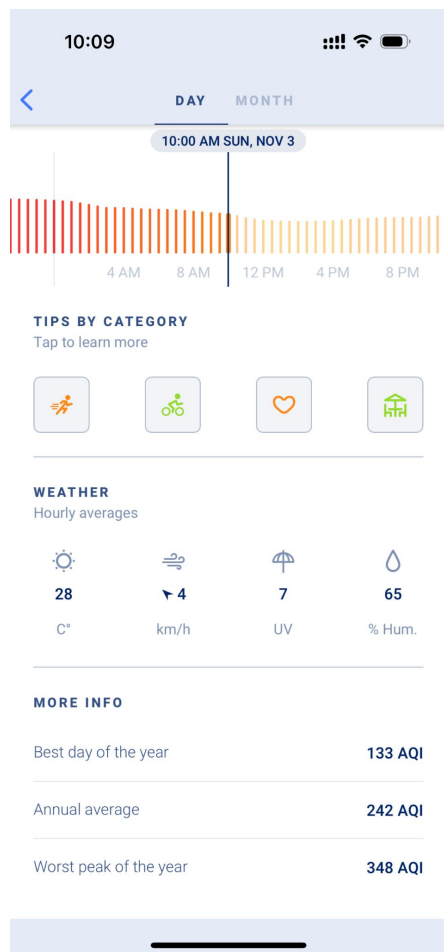
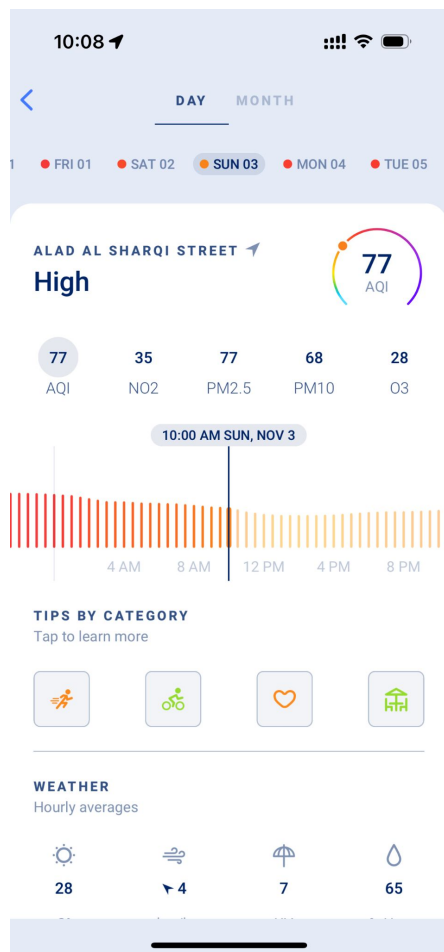
سجل Log



المقارنة والمراجعة
Comparing & Revising



Which type of data are we going to collect? أي نوع من البيانات سنجمع؟

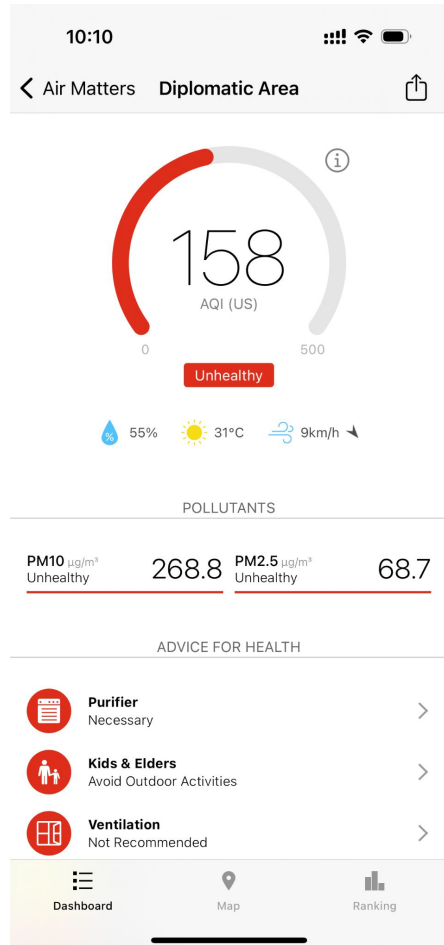


AirQ جودة الهواء
PM10 PM2.5
UV Index مؤشر الأشعة فوق البنفسجية
Humidity الرطوبة
Wind الرياح
Temperature درجة الحرارة



What are we going to use?

ماذا سنستخدم؟





البيانات The Data

G6		x	✓	fx				
	A	B	C	D	E	F	G	H
1	Time	AIRQ	UV_Index	Temperature	Wind	Humidity	PM10	PM2.5
2	5PM	51	9.5	25.5	15.4	35.9	78	14.7
3	7PM	52	3	20	11	40	78	14.7
4	8AM	51	4	21	4	20	79	14.7
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

الأقل هو الأكثر...
لكن ليس عندما يتعلق الأمر بجمع
البيانات!

Less is More...
But not when it comes to
collecting Data!





قسم إلى 5 مجموعات Divide in 5 groups

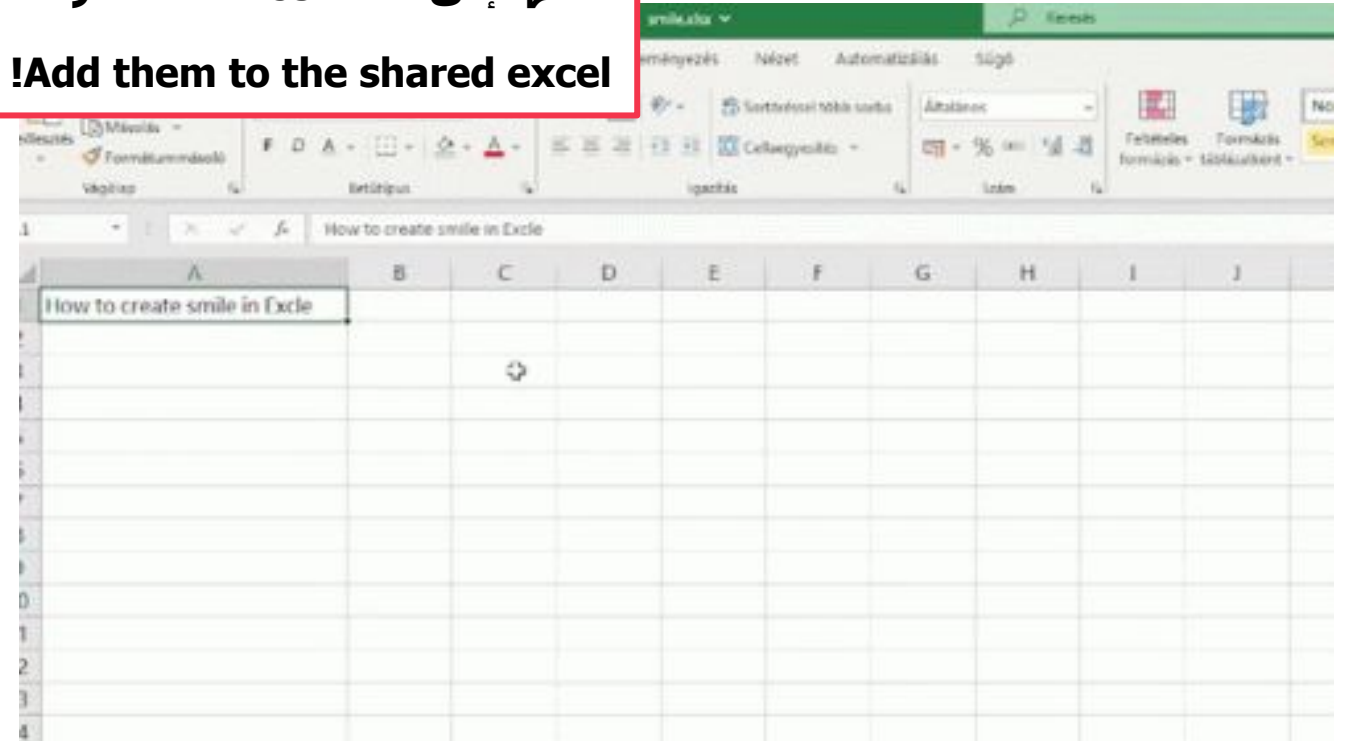
سجل البيانات التالية بين الساعة 7-8 مساءً
في موقع منزلك.

**Record the following data between 7-8pm
At your house location**

جودة الهواء AirQ
PM10 PM2.5
مؤشر الأشعة فوق البنفسجية UV Index
الرطوبة Humidity
الرياح Wind
درجة الحرارة Temperature

أضفها إلى ملف Excel المشترك!

Add them to the shared excel





البيانات الكمية مقابل البيانات النوعية Quantitative vs. Qualitative Data

الكمية
Quantitative

AirQ جودة الهواء
PM10 PM2.5
UV Index مؤشر الأشعة فوق البنفسجية
Humidity الرطوبة
Wind الرياح
Temperature درجة الحرارة

VS

النوعية
Qualitative

Air Visibility مدى رؤية الهواء
Smog smell رائحة الضباب
Level of noise مستوى الضوضاء
Light pollution التلوث الضوئي



أضف بيانات نوعية واحدة
أو أكثر إلى ملفك الإكسل

Add one or more
qualitative data to your
Excel!



You have 10 minutes! لديك 10 دقائق

ابتكر بعض البيانات النوعية الإضافية وأضفها إلى ملف الإكسل الخاص بك.

Come up with some additional Qualitative data and add them to your Excel





افتح ملف Excel وابدأ بإضافة اسمك تحت مجموعتك

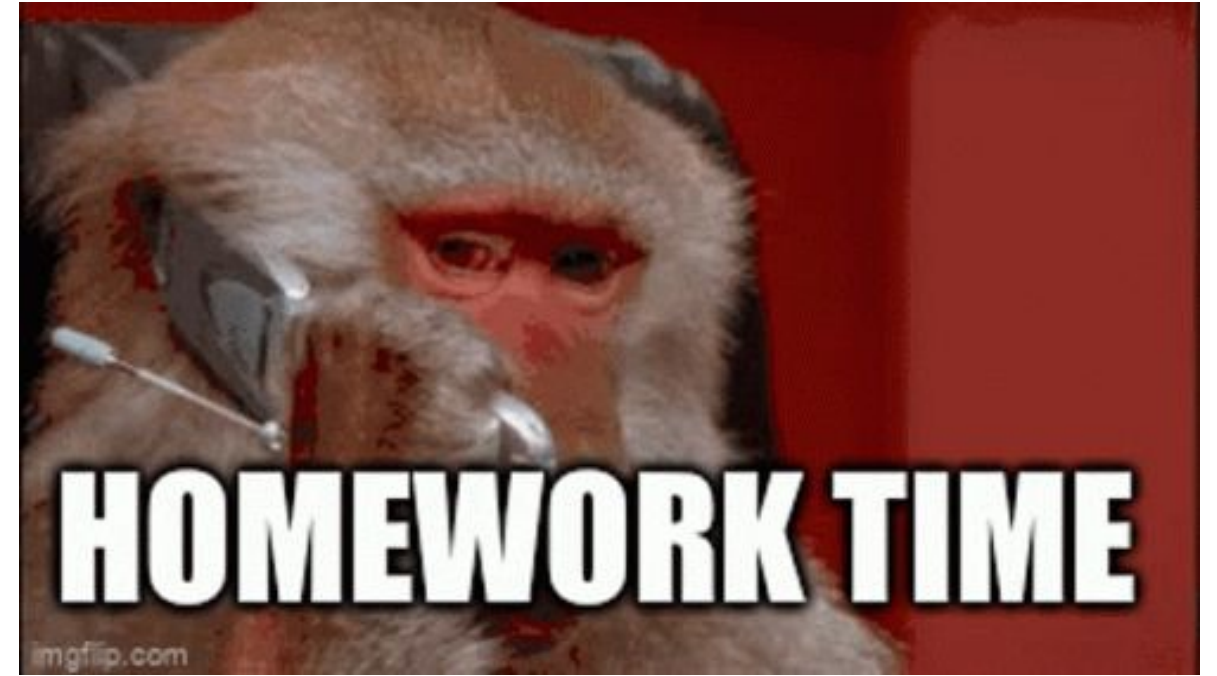
Access the excel, start adding your name under your group

<https://rb.gy/wx7klv>



لجمع المزيد من البيانات، ستحتاج إلى العمل عليها من المنزل أيضًا.

In order to collect more data, you will need to work on it from home as well





البيانات الحقيقية مقابل البيانات المُولدة Actual Data vs Generated Data





المحاكاة البيئية Environmental Simulation

تحدث العمليات البيولوجية والبيئية الطبيعية على مدى فترات زمنية طويلة. قد تمر سنوات طويلة أثناء انتظار جمع بيانات كافية. ولكن، ماذا لو كان بإمكاننا تسريع هذه العمليات؟
المحاكاة تتيح لنا تحقيق ذلك، كما تُمكننا أيضاً من عزل العوامل المحددة التي نرغب في مراقبتها ودراستها.

The natural biological and environmental processes occur over long periods of time. You could grow old waiting for enough data to be collected. What if we could fast forward these processes?
Simulation makes it possible, and also Isolate specific factors you want to monitor and study





STARLOGO NOVA

New Project Remix Save Version Saved Run Code

Owner: Soumia

Collaborators:

Created: Nov. 11, 2024, 12:24 a.m.

Version: 1 (Current Version) View Project History

Remixed from: Blank Starter Project

Privacy: Public - any user can view this project

Latest Save: Nov. 11, 2024, 3:15 a.m.

Play Mode Disable Autosave

Add this project to my gallery

Add collaborators to this project

Galleries:

Soumia's Private Gallery
Soumia's Public Gallery

Tags: Add Tag

Transportation effect on pollution levels in ppm

This is a simulation of pollution levels in parts per million, assuming the following conditions:
Cars emit 10 ppm of CO₂ per minute, airplanes emit 20 ppm of CO₂ per minute, and trees absorb CO₂ at a rate of 2 ppm per minute.

Edit Interface Create Widget Clear All Edit Camera Reset Camera

Engine speed 5

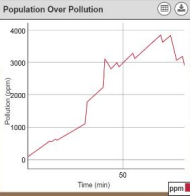
server setup 3D

Add Car Add Plane

Pollution Level (PPM)
2916

Show Graph Hide Graph

Population Over Pollution



18 FPS (240)



Agents

create (s)

create (s)

each do

delete

delete everyone

each do

delete agent

scatter

create 100 Grass (s)

each do

set my shape to built-in shape: Grass

set my color to color: green

set my size to 15

scatter

create 3 Tree (s)

each do

set my shape to built-in shape: Tree

set my color to color: green

set my size to 5

scatter

create 1 Ground (s)

each do

set my size to 200

stamp color: brown

delete

on collision with

do

collide

count within

count within

with =

nearest within

nearest within

with =

The World Everyone Car Grass Ground Pollution Plane Tree + Add Breed

Show Traits

when setup pushed

delete everyone

clear terrain

set clock to 0

clear line graph: Population Over Pollution

create 5 Car (s)

each do

scatter

while forever toggled

set Pollution Level (PPM) data box to clock

Add data to line graph: Population Over Pollution for ppm

x-axis: clock y-axis:

count Car within 200 steps x 10 x clock + count Plane within 200 steps x 20 x clock - count Tree within 200

set Pollution Level (PPM) data box to count Car within 200 steps x 10 x clock + count Plane within 200 steps x 20 x clock - count Tree

when Add Car pushed

create 1 Car (s)

each do

set my shape to built-in shape: Race Car

set my color to color: gray

set my size to 2

when Add Plane pushed

create 1 Plane (s)

each do

set my shape to built-in shape: Plane

set my color to color: white

set my size to 7

when Hide Graph pushed

hide Population Over Pollution

when Show Graph pushed

show Population Over Pollution

when 3D pushed

take camera

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StarLogo Nova is a project of the MIT Scheller Teacher Education Program





البرمجة والمحاكاة لتحليل البيئة

Simulation and coding for Environmental Analysis

أخيراً: اجمع البيانات
Last: Collect data

ثالثاً: ابدأ المحاكاة
Third: Simulate

ثانياً: برمج
Second: Code

أولاً: حدد الظروف
First: Define the conditions

اجمع بياناتك من الرسم البياني
أو الجدول الذي تم إنشاؤه!

Collect your data from the
generated graph or a table!

1- ابدأ المحاكاة، واستخدم
النظام الذي أنشأته لمراقبة
العوامل البيئية التي أضفتها.
2- جرب إضافة عناصر جديدة،
وتسريع أو إبطاء العملية!

1- Start the simulation, and
use the system you created to
monitor the environmental
factors you added.
2- Experiment by adding
element, Fast Forward or slow
down the process!

استخدم البرمجة:
1- أضف العناصر التي تريدها بالنقر
على "إضافة سلالة" واضبط ميزاتها.
2- قم ببرمجة العناصر وفقاً للظروف
التي حددتها.

Use block coding:
1- add the elements you want
by clicking on "add breed" and
set their features
2- code the elements according
to the conditions you have

فرضاً:
1- السيارات تنتج 100 ppm CO2 /دقيقة
2- الطائرات تنتج 1000 ppm CO2 /دقيقة
3- الأشجار تمتص 10 ppm CO2 /دقيقة
4- عدد الأشجار يزداد طبيعياً بمعدل 1.5
شجرة في الدقيقة.

Supposedly:
1- Cars generate 100 ppm of CO2/min
2- Airplanes generate 1000 ppm/min
3- Trees absorb CO2 in 10 ppm/min
4- Trees population increases naturally
in rate of 1.5 tree/min



Transportation effect on pollution levels in ppm

 Run Code Register Login

Galleries:

Soumia's Private Gallery

Soumia's Public Gallery

Tags:

Transportation effect on pollution levels in ppm

This is a simulation of pollution levels in parts per million, assuming the following conditions:
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Owner: Soumia
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Remixed from: Blank Starter Project
Privacy: Public - any user can view this project

[View Code](#)

[Edit Interface](#) [Create Widget](#) [Clear All](#) [Edit Camera](#) [Reset Camera](#)

Engine speed 5 

forever

setup

30

Add Car

Add Plane

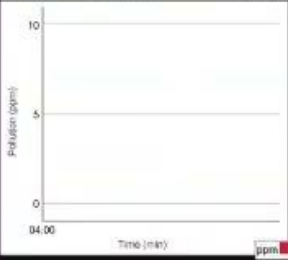
Pollution Level (PPM)

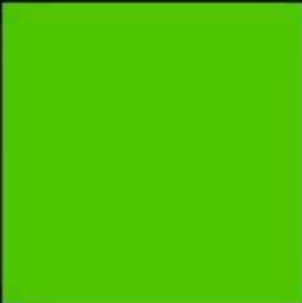
1578

Show Graph

Hide Graph

Population Over Pollution



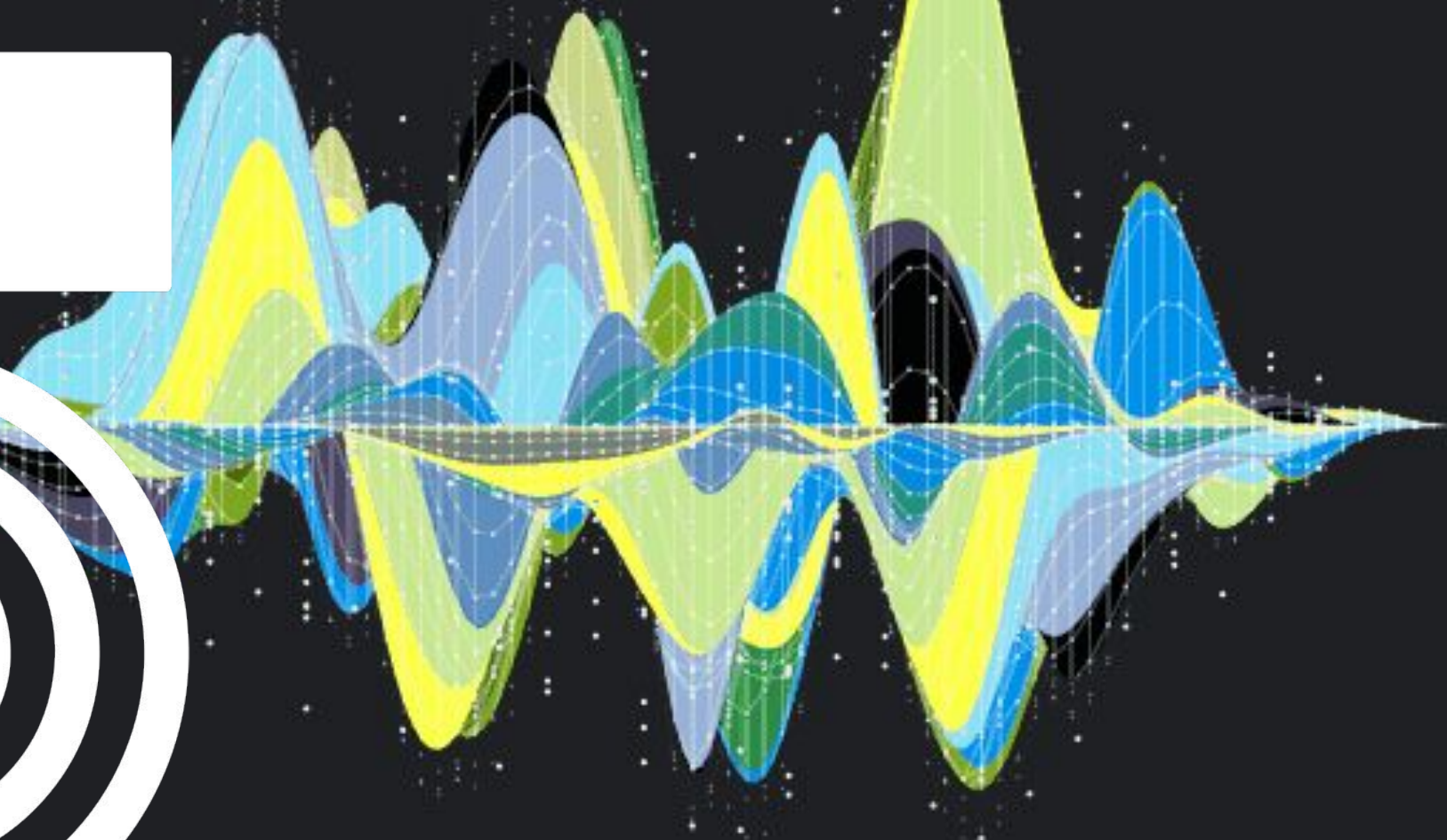
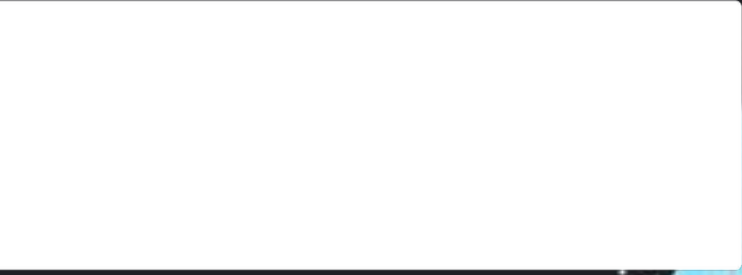


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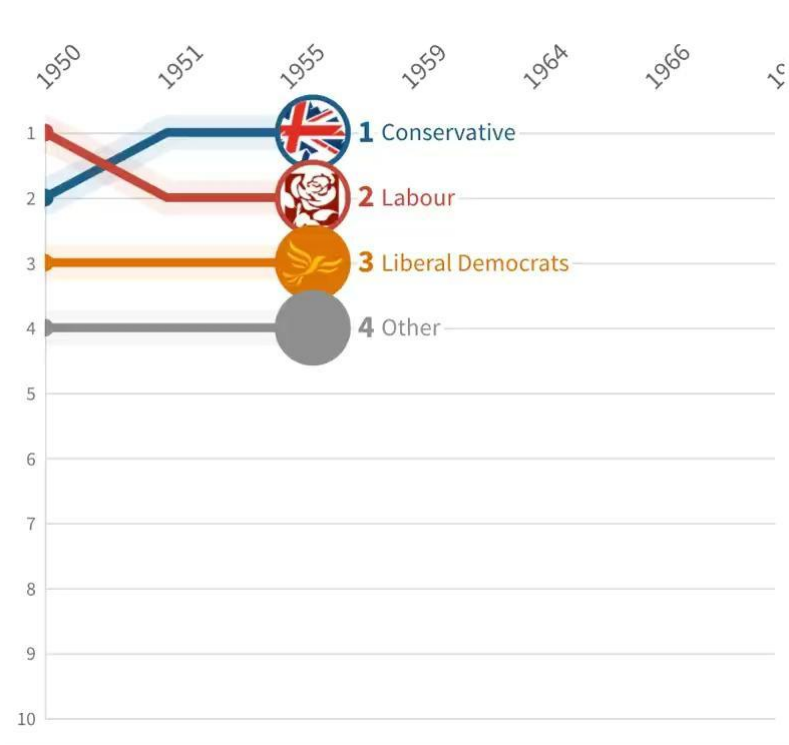
 

اليوم الثاني - تحليل وتصوير البيانات بالذكاء الاصطناعي DAY 2 - DATA ANALYSIS AND VISUALIZATION with AI

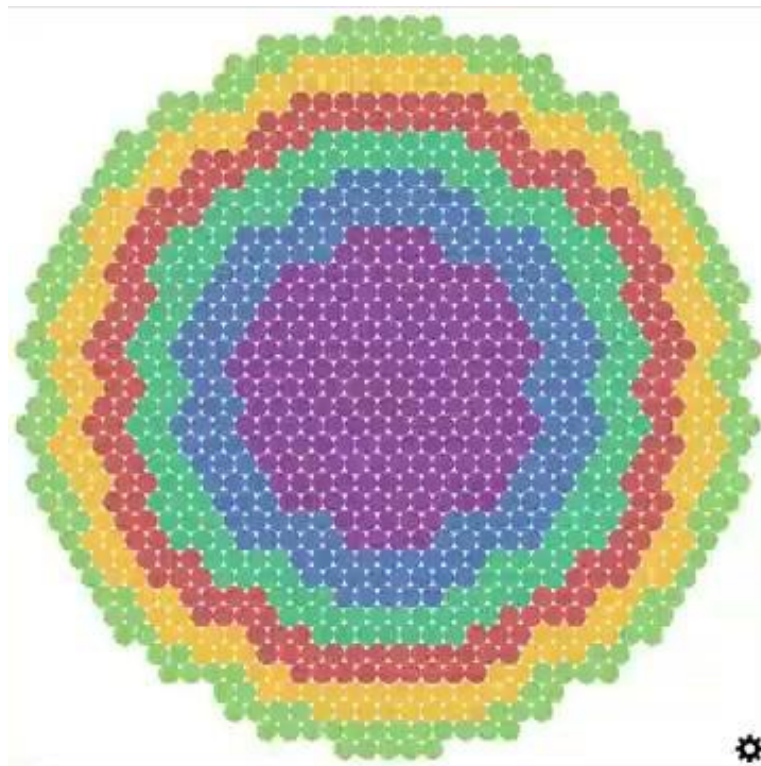




كيف تصور البيانات باستخدام الذكاء الاصطناعي How to visualize data with AI



إنشاء البيانات أو تنقيحها
Generate or clean the data

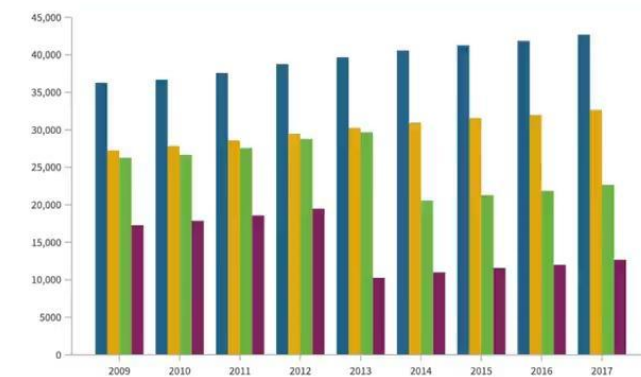


فهم البيانات واتخاذ قرار بشأن ما
نريد تصويره

Understanding the data decide
what we want to visualize

Export reports 2009-2017

Based on early reports



إنشاء الرسم البياني وإضافة طبقة
من التفاعلية

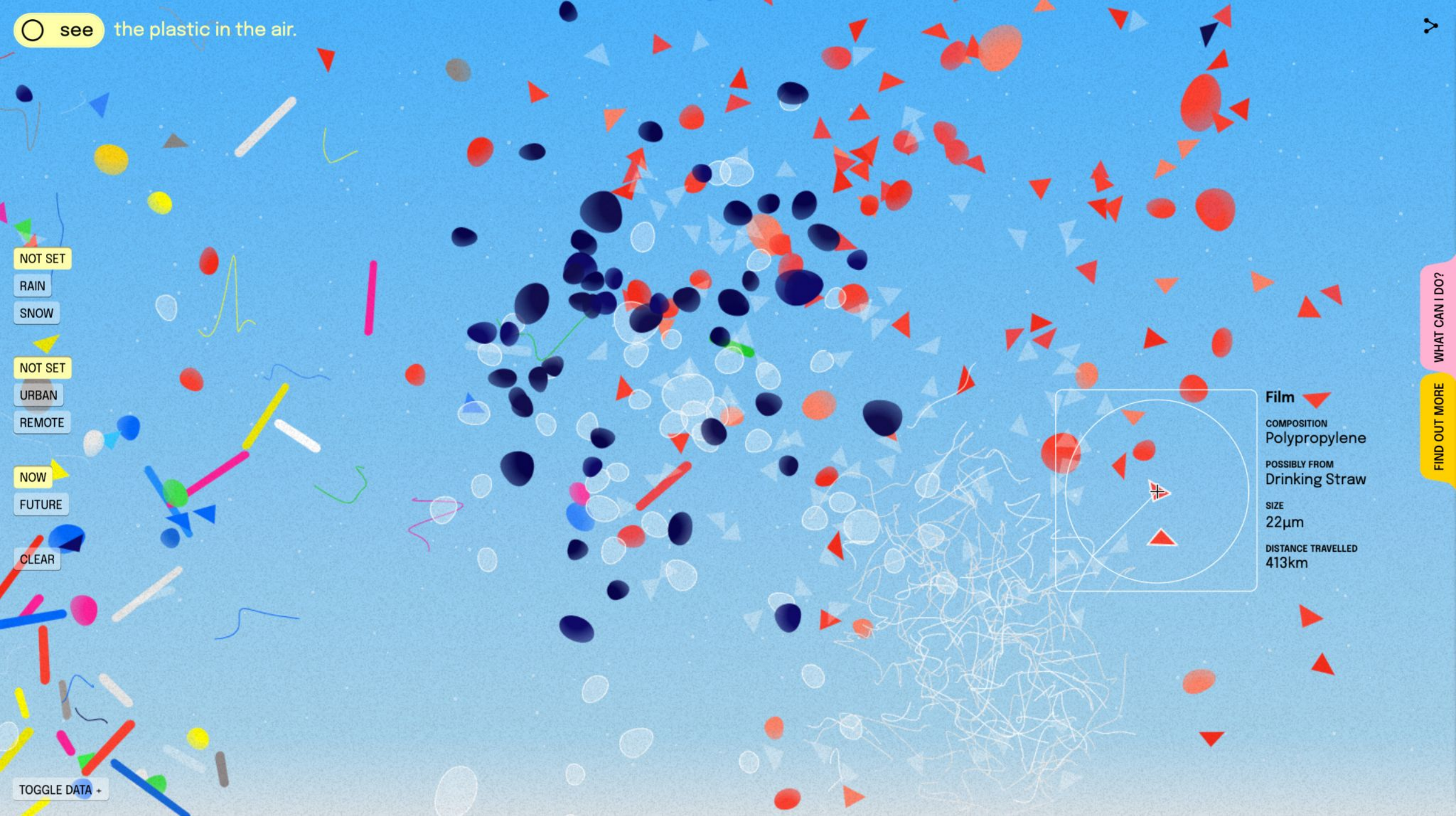
Generate the graph and add a
layer of interactivity

The background is a solid light blue. It is decorated with several abstract elements: a thick yellow diagonal line on the left, a red vertical line on the right, a red horizontal line below the center, a dark blue circle on the left, and a thin purple line with a red oval on the right. There are also some faint, thin grey lines and small white dots scattered across the background.

PLASTIC IS IN THE AIR

You don't see it,
but it's there.

☐ see the plastic in the air.



NOT SET

RAIN

SNOW

NOT SET

URBAN

REMOTE

NOW

FUTURE

CLEAR

TOGGLE DATA +

Film 
COMPOSITION
Polypropylene
POSSIBLY FROM
Drinking Straw
SIZE
22µm
DISTANCE TRAVELLED
413km

WHAT CAN I DO?

FIND OUT MORE

ARTISTS + CLIMATE DATA

A series of online artworks responding to key findings from the UN's IPCC Reports

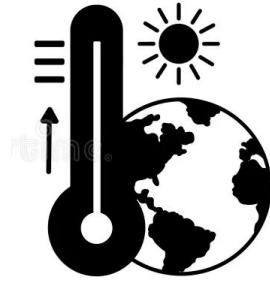


SEY MIN

Data Artist
Republic of Korea



التأثير على المانغروف Effect on Mangroves





The tools الأدوات

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Here's the heatmap visualizing the relationships between the features of the Iris dataset, colored by species:

جوليوس Julius
Clean and Analyze the data
نظف البيانات وقم بتحليلها

*Flourish Leyla

Choose a template

Search templates

By Flourish By Me

Type: All 3D Animated Areas Bars Circles Icons Images Interactive content Lines Maps Pies Radial Small multiples Text

Purpose: All Annotation Change over time Comparison Correlation Counter Distribution Engagement Exploration Flow Hierarchy Magnitude Part-to-whole Ranking

Line, bar and pie charts

Line chart Line chart (projected) Line chart (search...) Line chart (with hig...) Column + line Area chart (proporti...) Area chart (stacked) Bar chart Bar chart (proportio...) Bar chart (stacked) Bar chart (with filter) Column chart Column chart (grou...) Column chart (prop...) Column chart (stack...) Column chart (with...) Donut chart Donut chart with ti... Grid of area charts Grid of bar charts Grid of donut charts Line + area Pie chart Population pyramid Streamgraph Area bump chart Area bump chart (pr...

Projection map

Blank (upload your... World (categorical s... World (numeric sha... World (with points) World (with spikes) Africa (countries) Albania (countries) Albania (municipalit... Argentina (departm... ? Help

فلوريش Flourish
Creatively Visualize the Data
تصور البيانات بشكل إبداعي



جوليوس Julius



Quick Visualization

Visually explore a spreadsheet...

🚀 29754 runs



Data Cleaner

Methodically clean your data...

🚀 7818 runs



Significance Testing

Run significance tests...

🚀 3597 runs



Time Series Analysis

Forecast time series data for...

🚀 6168 runs



Extract Tables from...

Extract tables from a PDF!...

🚀 2496 runs



Workflow example مثال على سير العمل

Table

Plots

What is the relationship between UV Index and...

How do PM10 and PM2.5 levels change over time?

What is the correlation between Humidity and...

What is the relationship between Wind speed and...

	Time	AIRQ	UV_Index	Temperature	Wind	Humidity	PM10	PM2.5
0	5PM	51	9.5	25.5	15.4	35.9	78	14.7
1	7PM	52	3	20	11	40	78	14.7
2	8AM	51	4	21	4	20	79	14.7

Sheet1

Notes

Reasoning

Julius' Notebook

Julius will provide any additional information here to help you along your way.

Clarification

Clear

File Loaded

The "environmental_metrics.xlsx" file contains hourly environmental data, including air quality (AIRQ), UV index, temperature, wind speed, humidity, and particulate matter levels (PM10 and PM2.5). This data can be used to analyze trends in air quality, UV exposure, and other environmental factors over time, potentially revealing patterns and correlations between these variables.

You can right click on columns to preview or plot additional details before starting your conversation.



Workflow example مثال على سير العمل

Based on the data analysis, let me explain the relationships in the environmental metrics dataset:

The dataset contains several environmental measurements recorded at different times:

Optional: Click on columns or rows to focus on specific data

↓ Export ⓘ

	Time	AIRQ	UV_Index	Temperature	Wind	Humidity	PM10	PM2.5
0	5PM	51	9.5	25.5	15.4	35.9	78	14.7
1	7PM	52	3	20	11	40	78	14.7
2	8AM	51	4	21	4	20	79	14.7

The variables measured are:

- Time of measurement
- Air Quality (AIRQ)
- UV Index
- Temperature
- Wind speed
- Humidity
- PM10 (Particulate Matter ≤ 10 micrometers)
- PM2.5 (Particulate Matter ≤ 2.5 micrometers)

Regarding the correlation between Humidity and Temperature:

Correlation between Humidity and Temperature:

0.15616373052194826



Workflow example مثال على سير العمل

The correlation coefficient of approximately 0.156 indicates a very weak positive correlation between temperature and humidity in this dataset. This can be visualized in two plots:

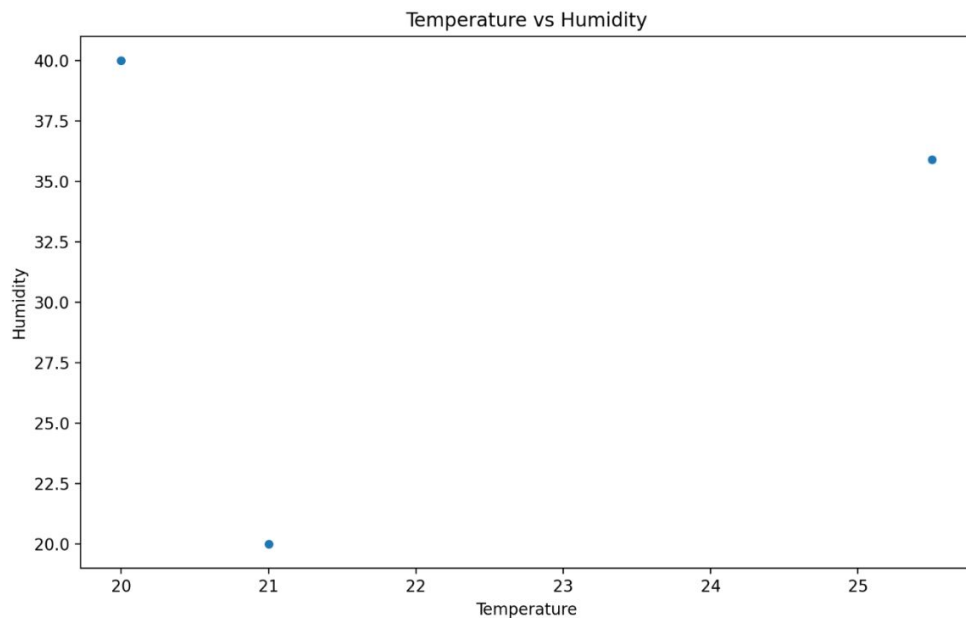
1.

A simple scatter plot:

[Want better charts? View in interactive mode](#)

Interactive

Static



A scatter plot with regression line:

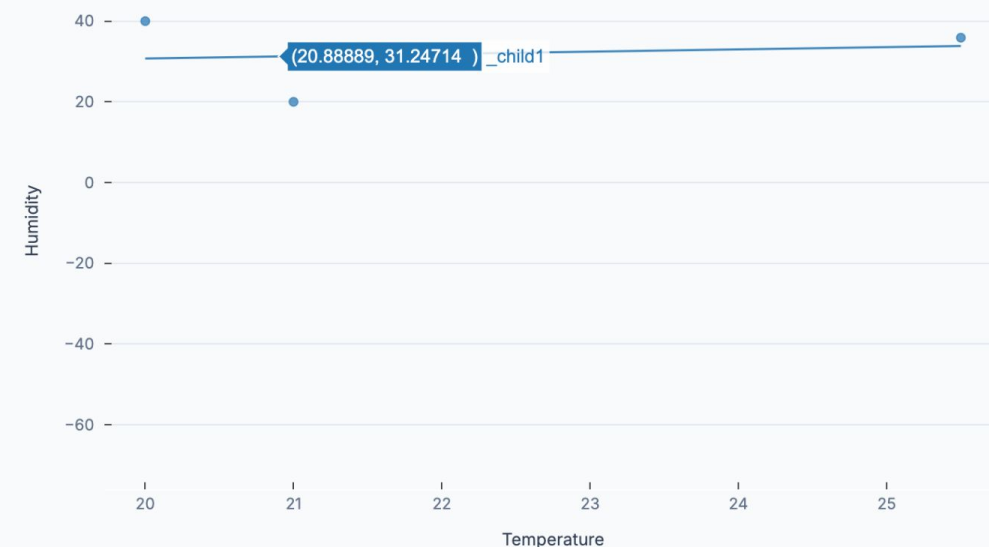
[Chart look wrong? View in static mode](#)

Interactive

Static

Temperature vs Humidity with Regression Line

■ _child1 ■ Series



The plots show that while there is a slight positive trend, the relationship between temperature and humidity is not very strong in this dataset. This suggests that changes in temperature don't necessarily correspond to proportional changes in humidity, and other factors likely influence these variables

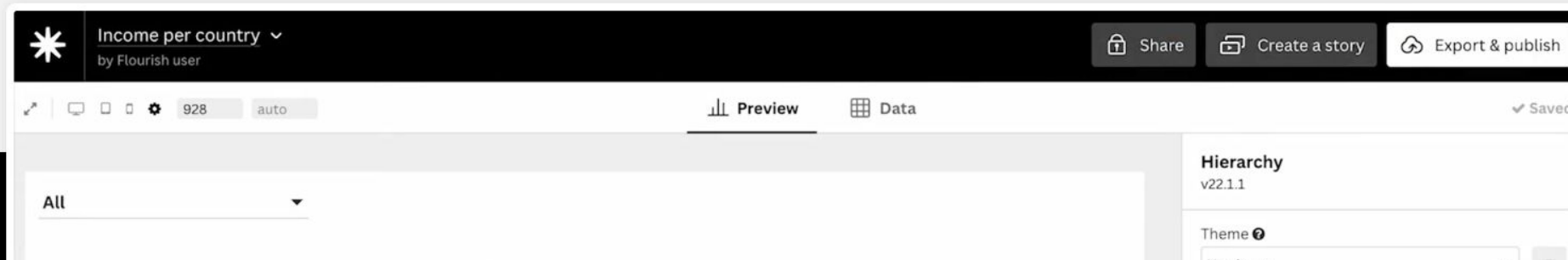


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فلوريش

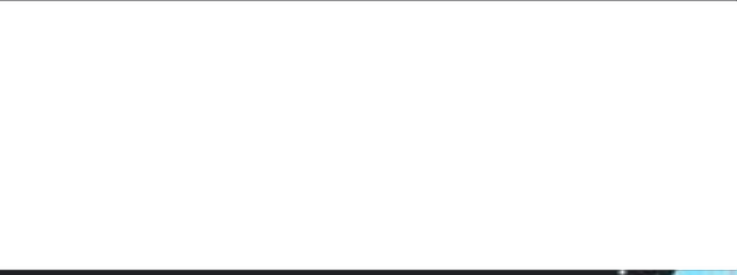
- الرسوم البيانية والخرائط التفاعلية
- تجارب السرد التفاعلي بدون برمجة
- تصوير البيانات المحدثة بشكل مباشر
- الرسوم المتحركة والانتقالات

Flourish

- Interactive charts and maps
- No-code scrollytelling experiences
- Live-updating data visualization
- Animations and transitions

اليوم الثالث - إنشاء البيانات باستخدام التصنيع الرقمي

DAY 3 - DATA CREATION USING DIGITAL FABRICATION



Production
Tech

إنتاج

Distribution
Tech

توزيع

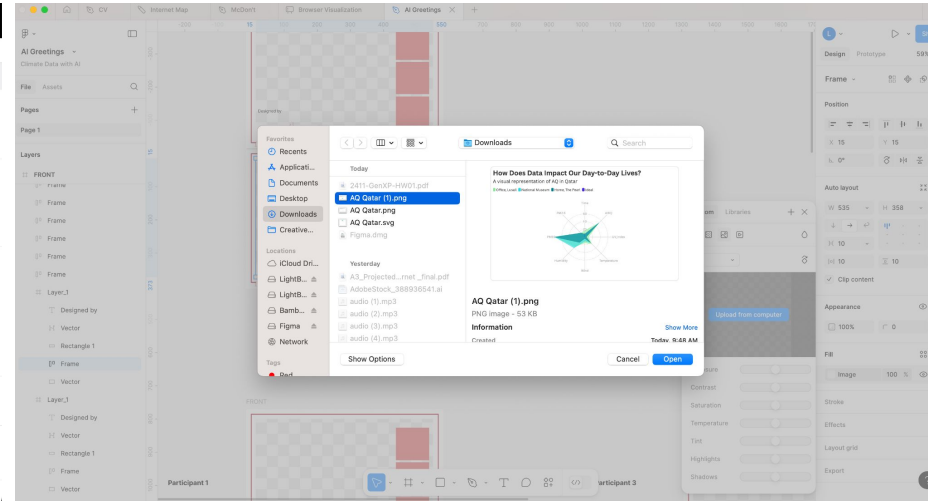
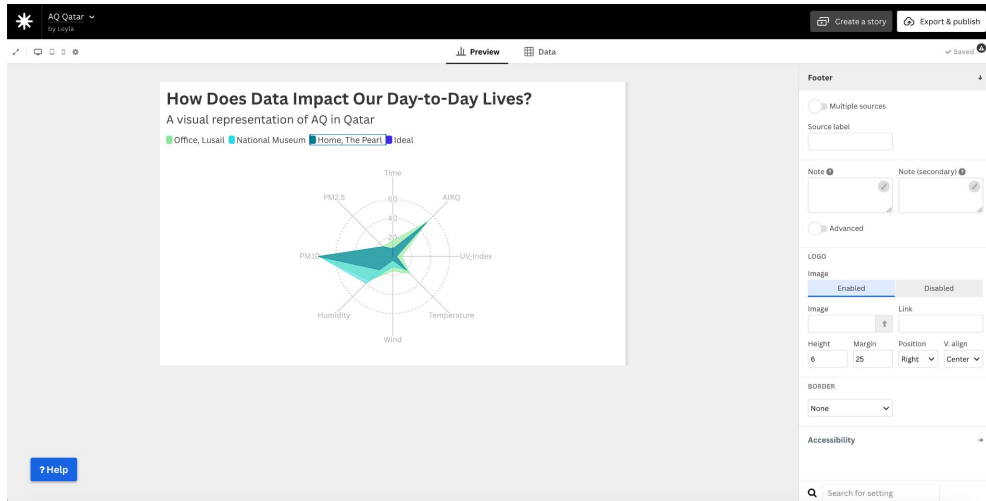


Collaborative Tech

تعاوني



Figma

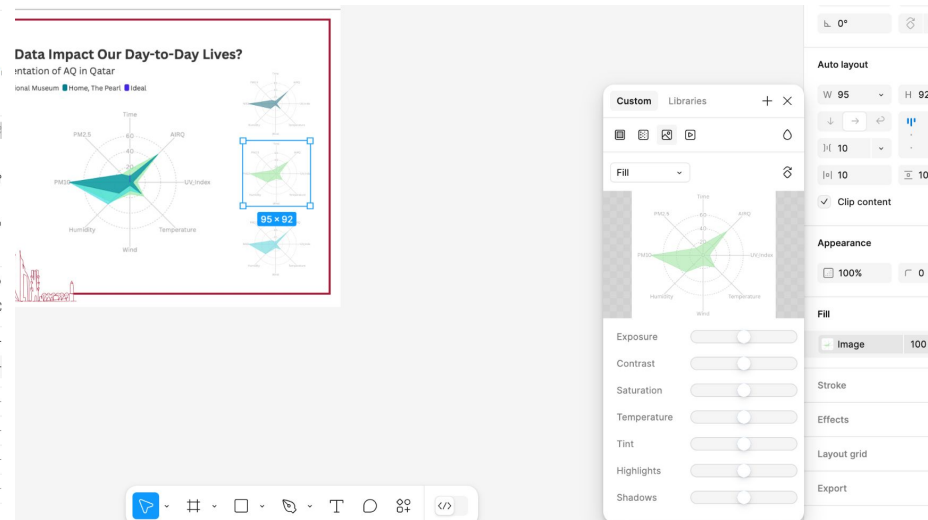
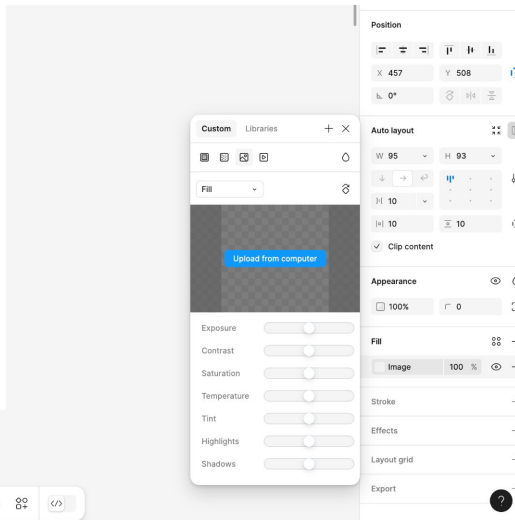
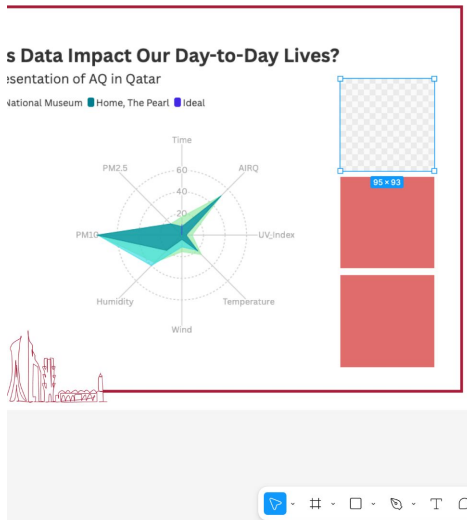


1- حمل ملف PNG لتصوير البيانات من Flourish.

2- افتح Figma، وانقر على العنصر النائب للشكل وأضف IMG.

3- حدد الملف من جهاز الكمبيوتر.

4- قم بتغيير الحجم إذا لزم الأمر.



1- Download the PNG of the data visualization from Flourish

2- Open Figma, click on the shape placeholder and add IMG

3- Select the file from the PC

4- Resize if necessary



افتح ملف Figma.com من خلال الرابط التالي

Access the file on Figma.com through the following link

<https://rb.gy/r9gslc>



شكراً لكم!
Thank you!



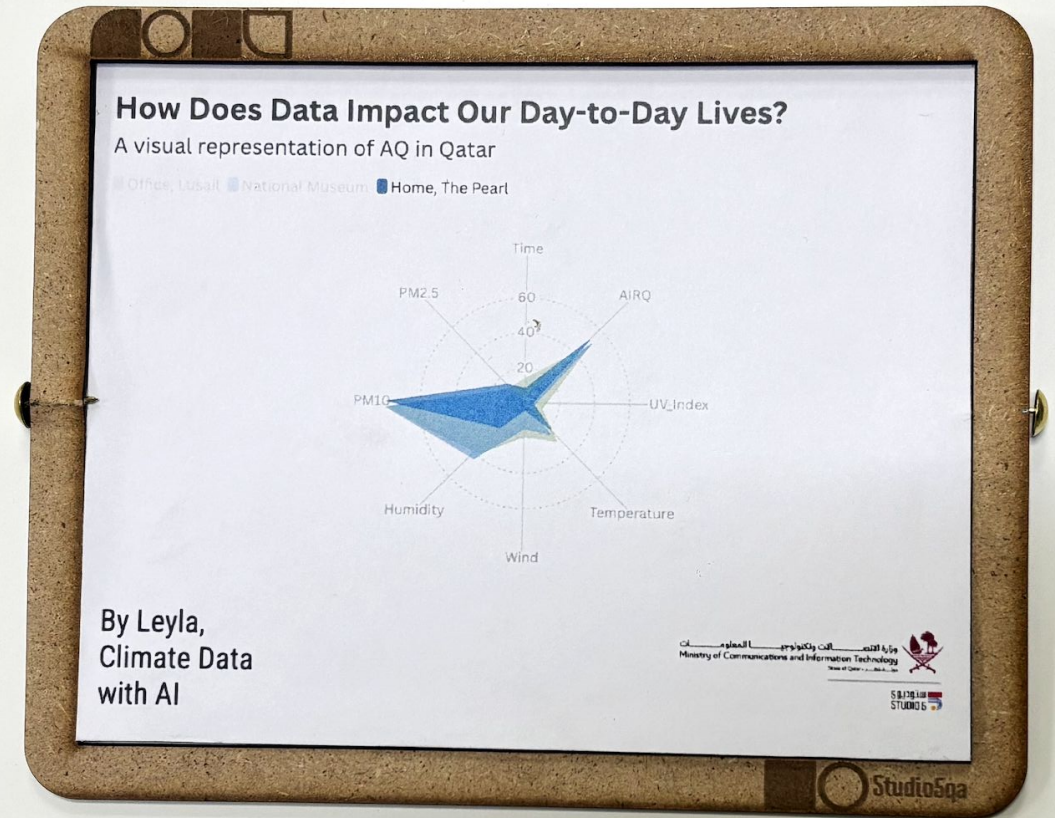
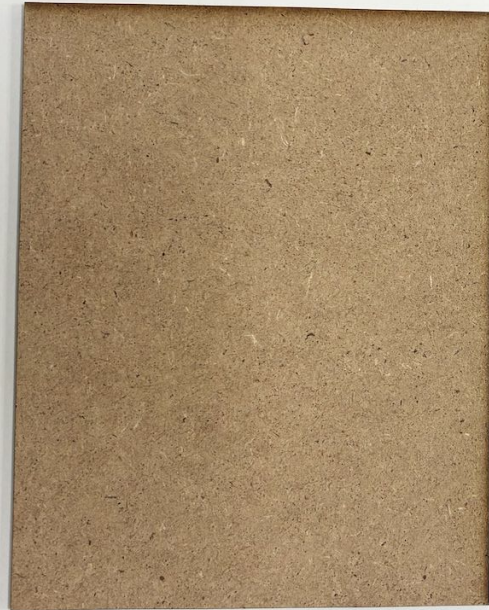


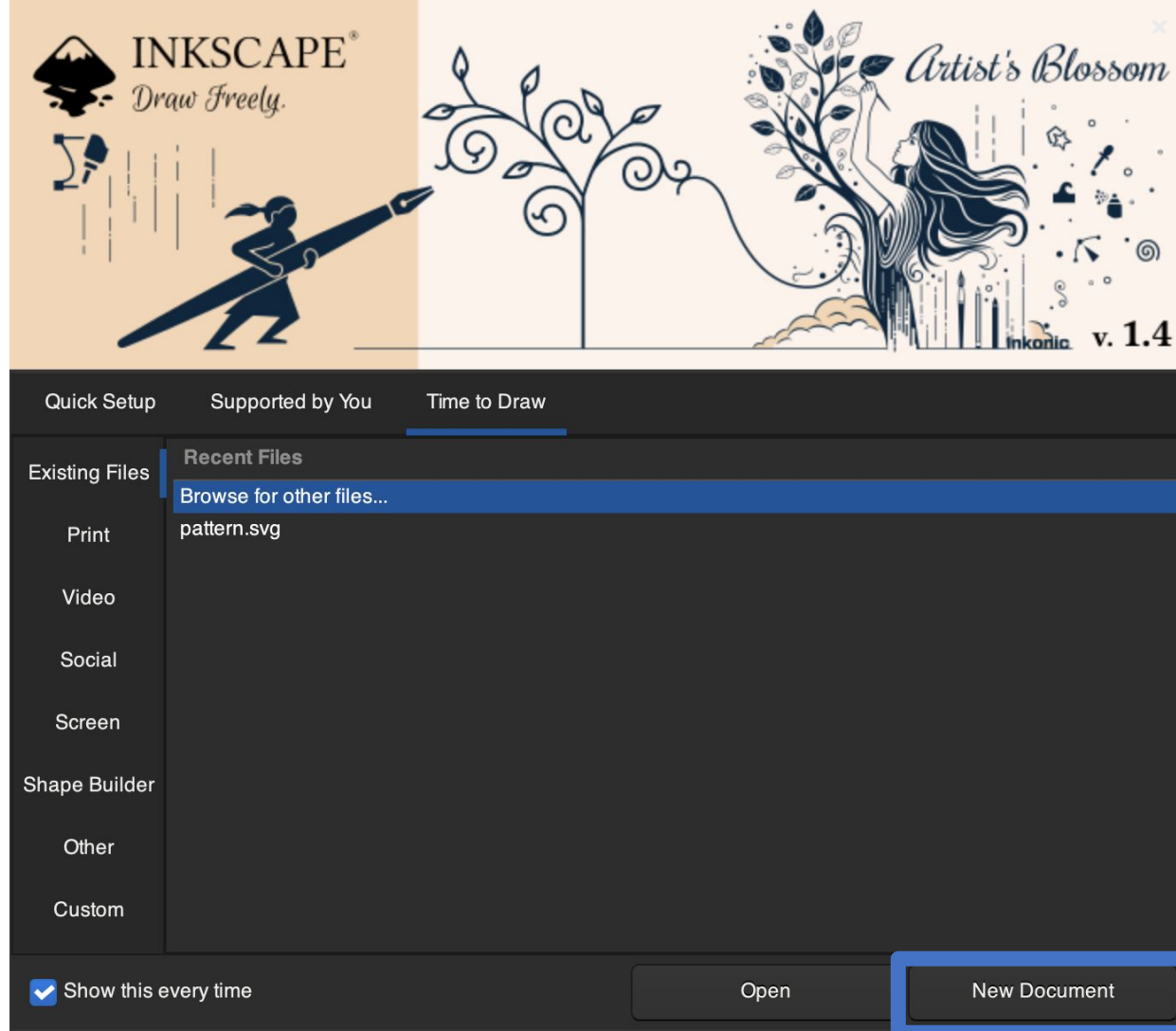
What are we going to build? ماذا سنصنع؟

2xTacks



Wooden frame



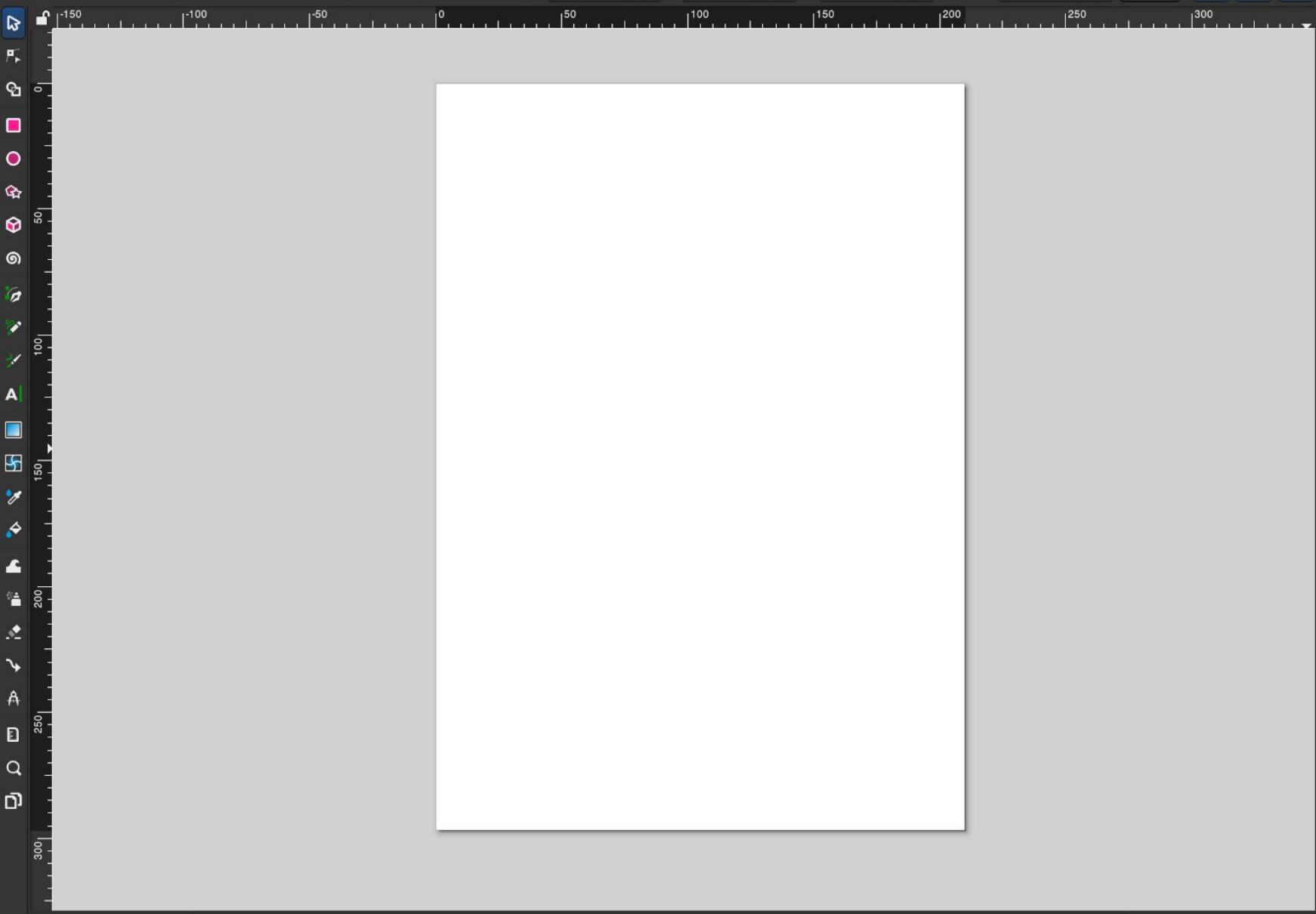


Inkscape

أداة مفتوحة المصدر لرسمات المتجهية
Open source tool for vector graphic



X: 0.000 Y: 0.000 W: 0.000 H: 0.000 mm



Layers and Objects x Fill and Stroke x

Fill Stroke paint Stroke style

No objects

Blend mode: Normal

Blur (%) 0.0

Opacity (%) 0.0



- New ⌘ N
- New from Template... ⇧ ⌘ N
- Open... ⌘ O
- Open Recent >
- Revert
- Save ⌘ S
- Save As... ⇧ ⌘ S
- Save a Copy... ⇧ ⌘ S
- Save Template...
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- Export... ⇧ ⌘ E
- Print... ⌘ P
- Clean Up Document
- Document Resources
- Document Properties... ⇧ ⌘ D
- Close ⌘ W

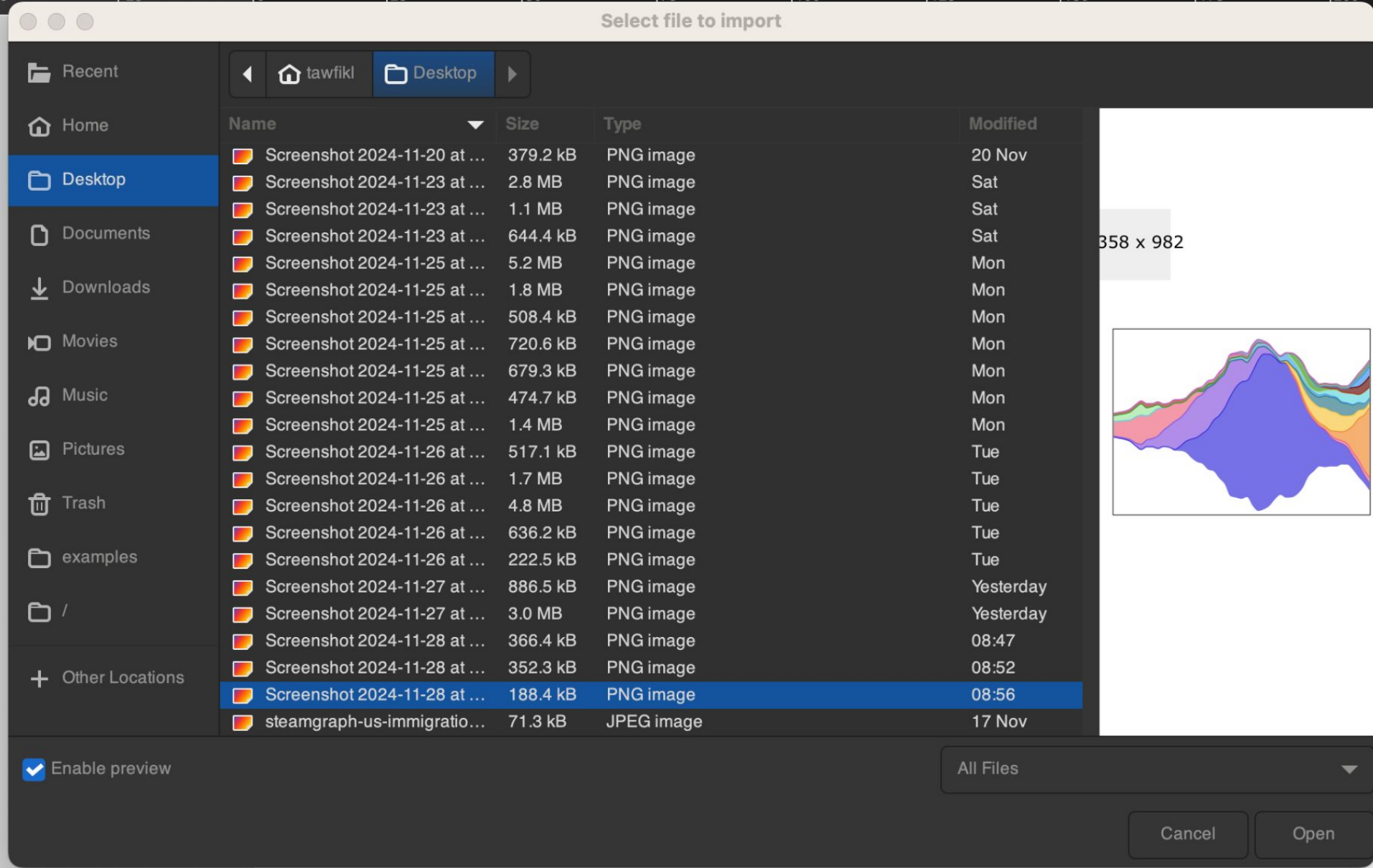
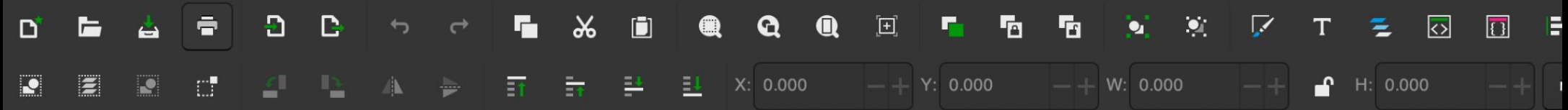




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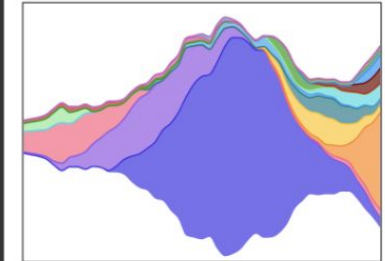
50 75 100 125 150 175





Name	Size	Type	Modified
Screenshot 2024-11-20 at ...	379.2 kB	PNG image	20 Nov
Screenshot 2024-11-23 at ...	2.8 MB	PNG image	Sat
Screenshot 2024-11-23 at ...	1.1 MB	PNG image	Sat
Screenshot 2024-11-23 at ...	644.4 kB	PNG image	Sat
Screenshot 2024-11-25 at ...	5.2 MB	PNG image	Mon
Screenshot 2024-11-25 at ...	1.8 MB	PNG image	Mon
Screenshot 2024-11-25 at ...	508.4 kB	PNG image	Mon
Screenshot 2024-11-25 at ...	720.6 kB	PNG image	Mon
Screenshot 2024-11-25 at ...	679.3 kB	PNG image	Mon
Screenshot 2024-11-25 at ...	474.7 kB	PNG image	Mon
Screenshot 2024-11-25 at ...	1.4 MB	PNG image	Mon
Screenshot 2024-11-26 at ...	517.1 kB	PNG image	Tue
Screenshot 2024-11-26 at ...	1.7 MB	PNG image	Tue
Screenshot 2024-11-26 at ...	4.8 MB	PNG image	Tue
Screenshot 2024-11-26 at ...	636.2 kB	PNG image	Tue
Screenshot 2024-11-26 at ...	222.5 kB	PNG image	Tue
Screenshot 2024-11-27 at ...	886.5 kB	PNG image	Yesterday
Screenshot 2024-11-27 at ...	3.0 MB	PNG image	Yesterday
Screenshot 2024-11-28 at ...	366.4 kB	PNG image	08:47
Screenshot 2024-11-28 at ...	352.3 kB	PNG image	08:52
Screenshot 2024-11-28 at ...	188.4 kB	PNG image	08:56
steamgraph-us-immigratio...	71.3 kB	JPEG image	17 Nov

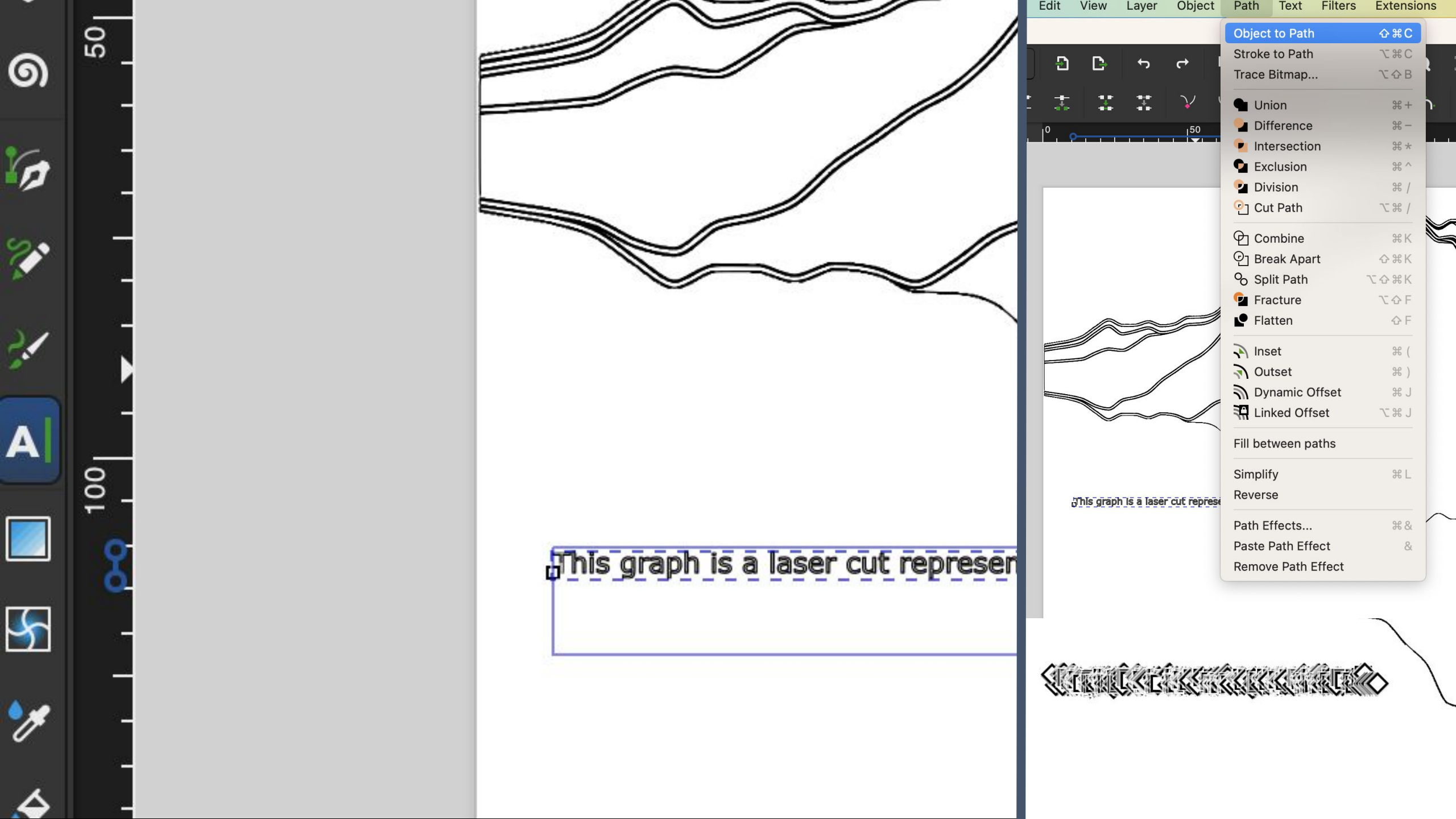
358 x 982



All Files

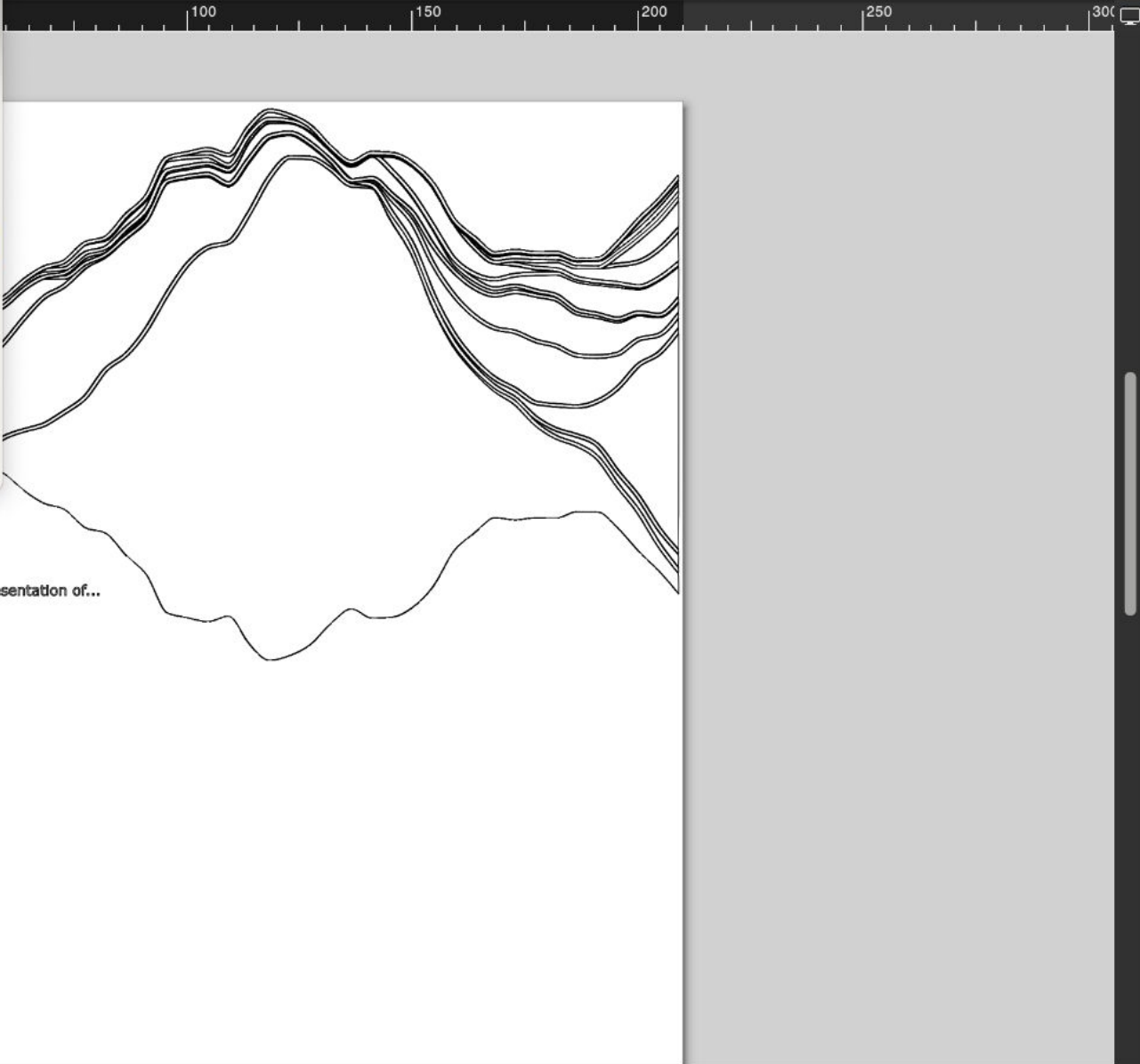
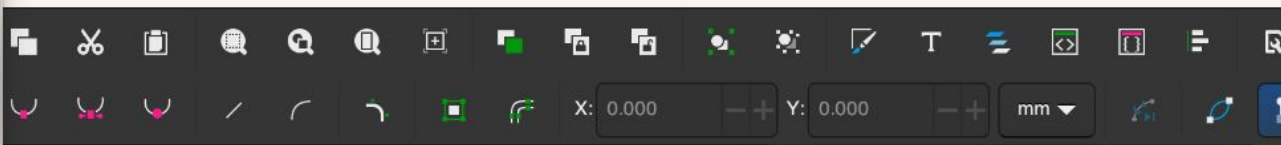
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- Open... ⌘ O
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- Revert
- Save ⌘ S
- Save As... ⌘ S
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- Print... ⌘ P
- Clean Up Document
- Document Resources
- Document Properties... ⌘ D
- Close ⌘ W

*New document 1 - Inkscape



DocumentPageSelectionCustom

Image Size

Width (px)794

Height (px)1123

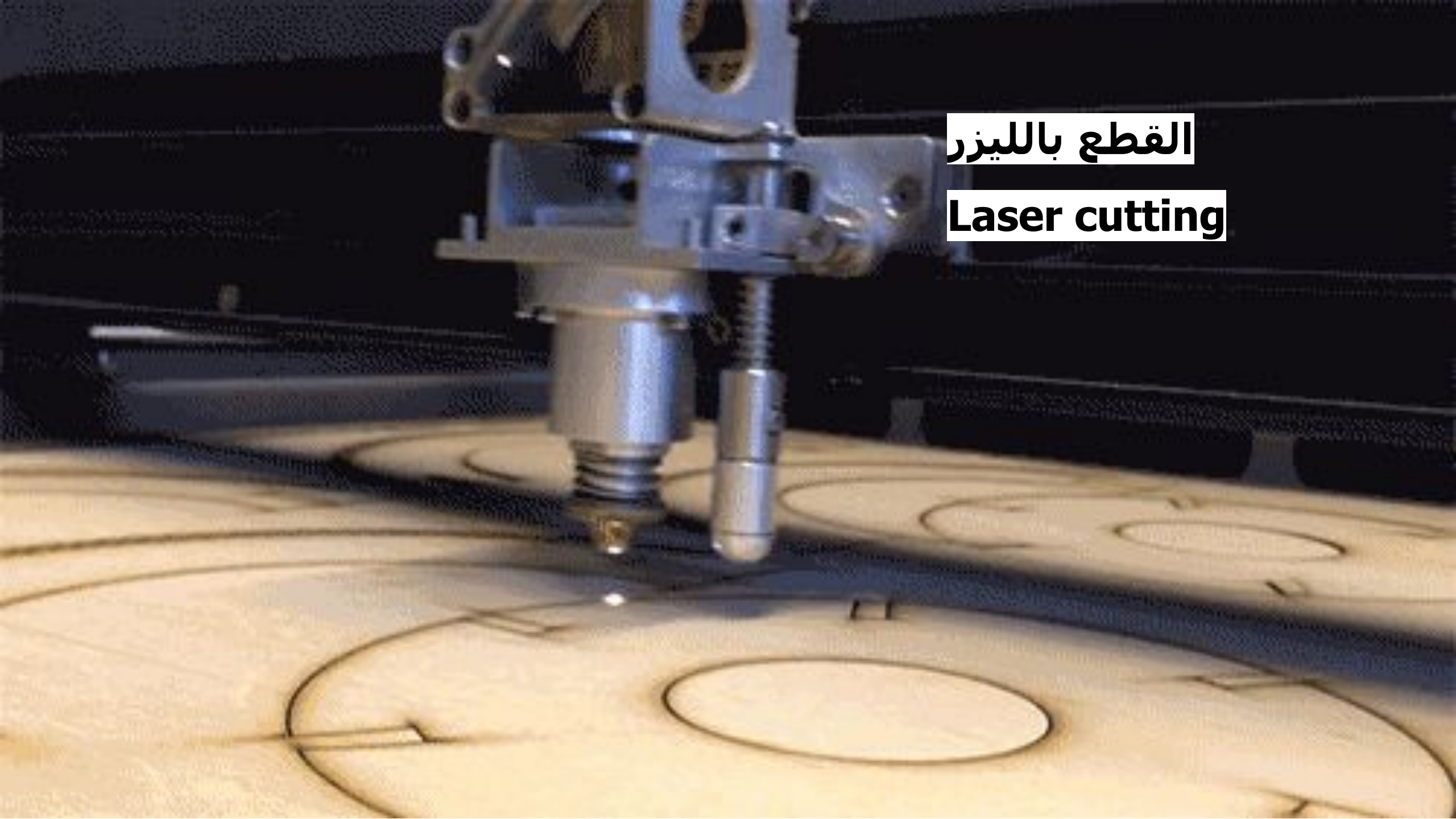
DPI96.00

☐ Export Selected On
☐ Background

/Users/tawfikl/bitmap.svg

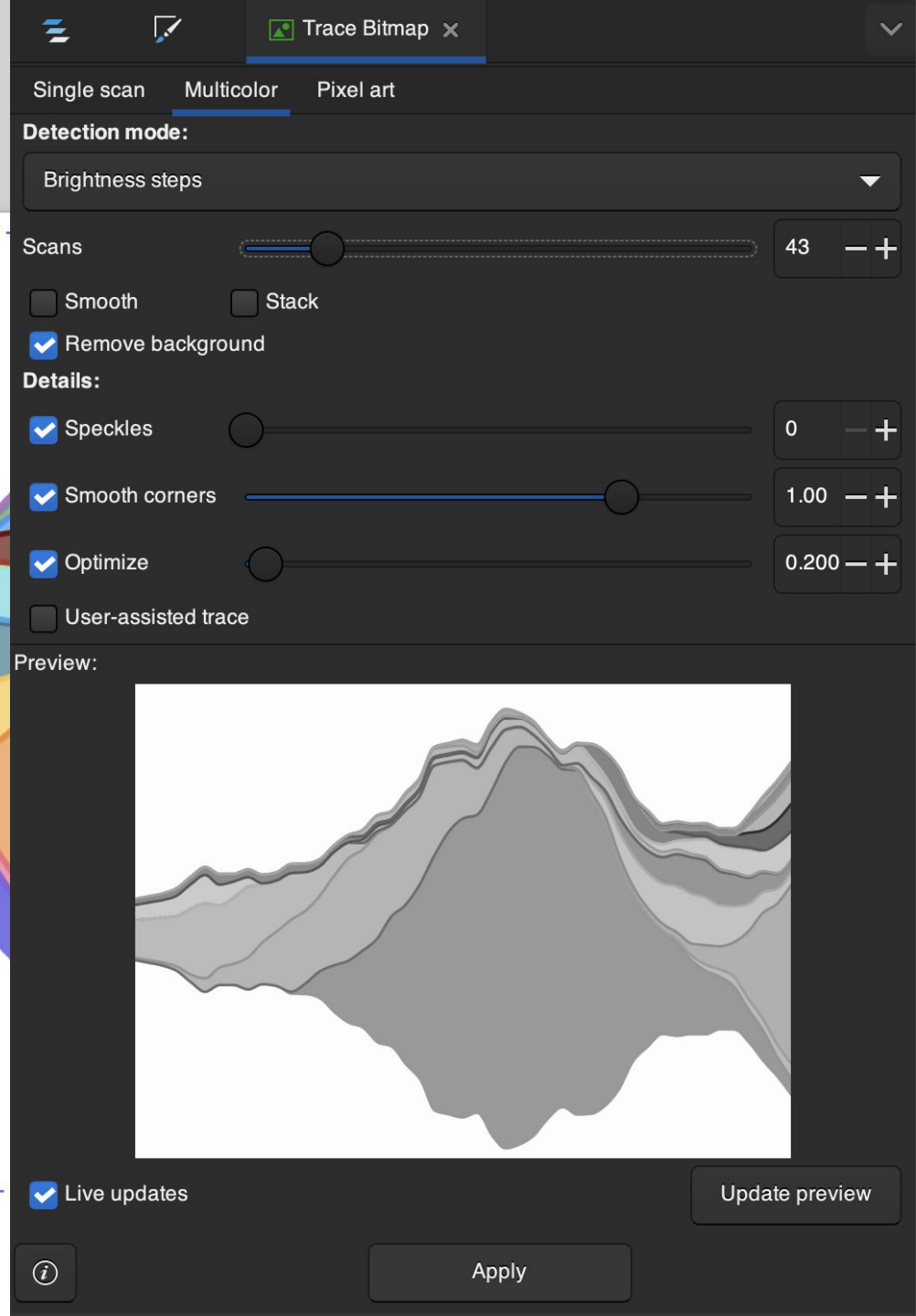
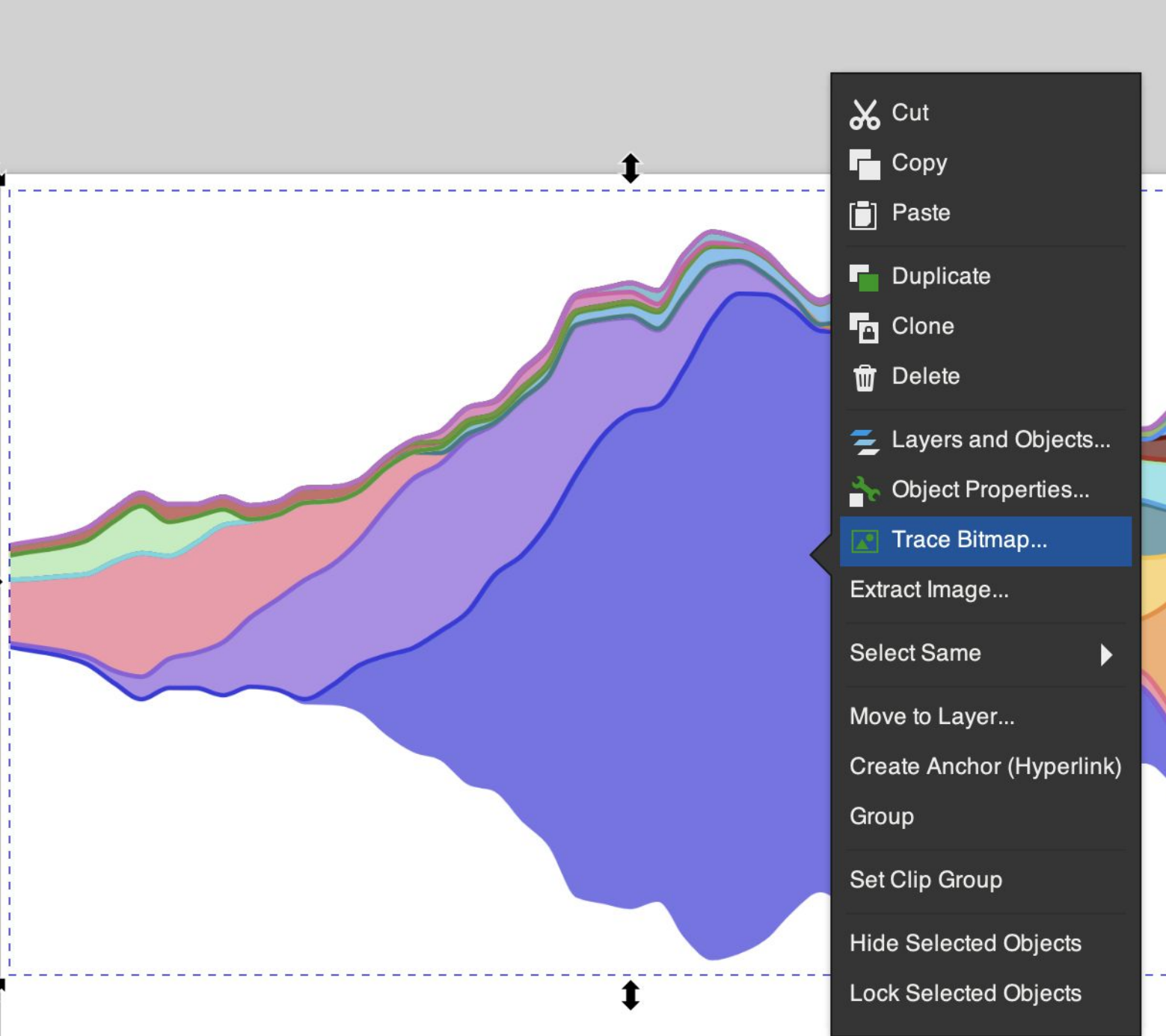
Plain SVG (*.svg)

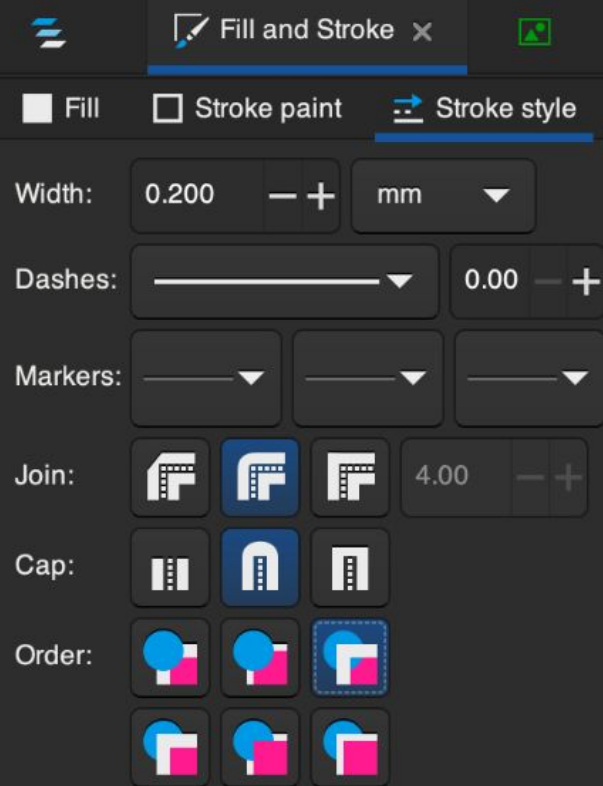
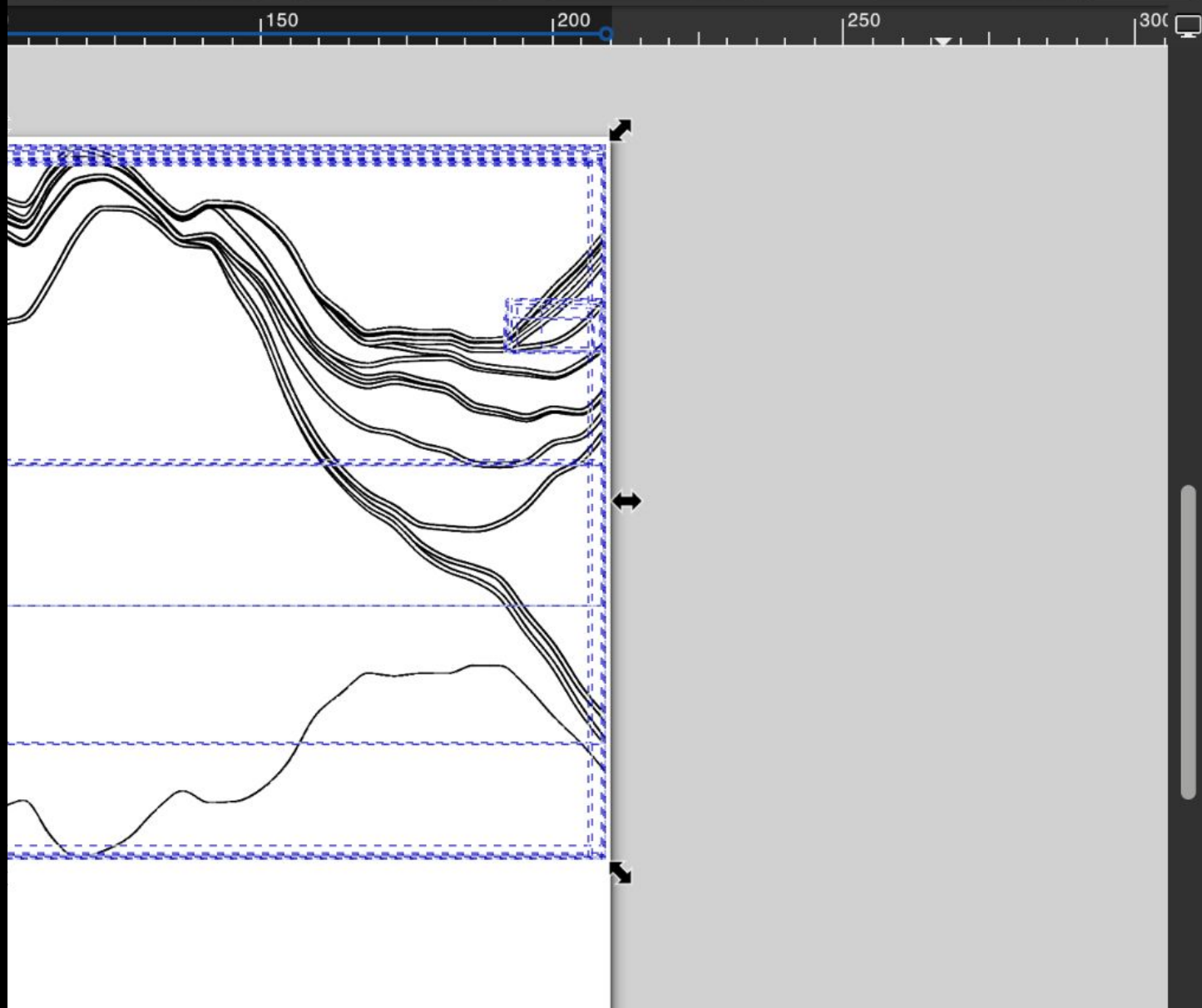
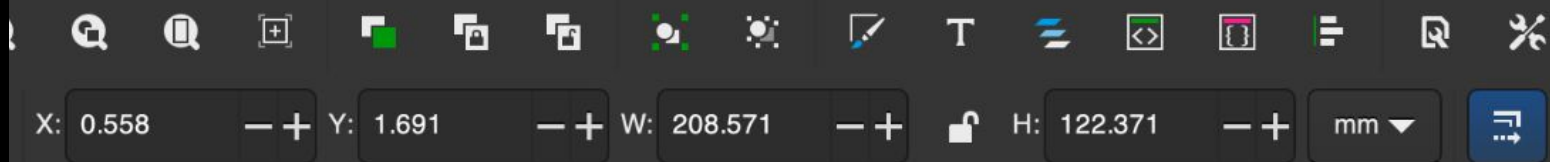
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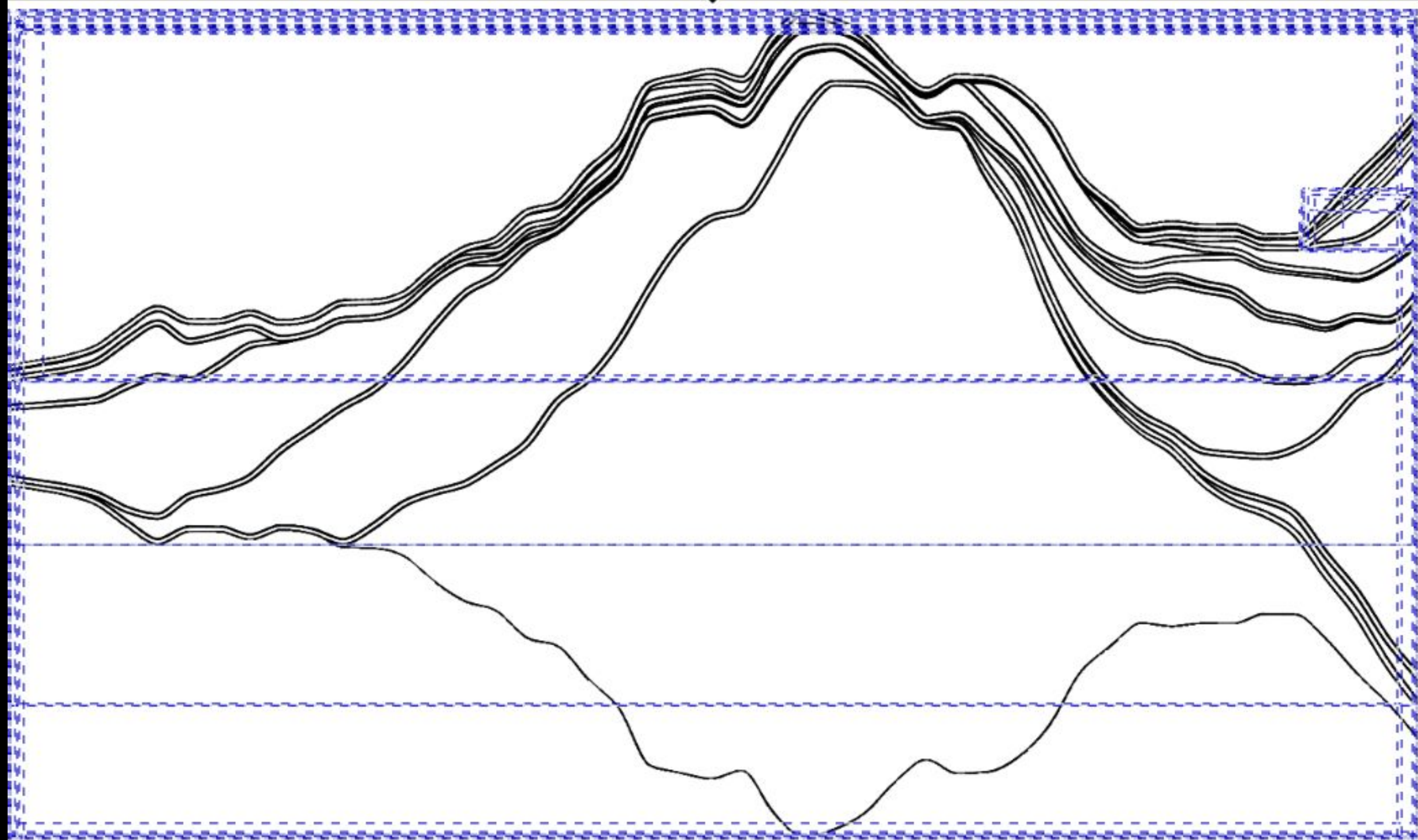


القطع بالليزر

Laser cutting





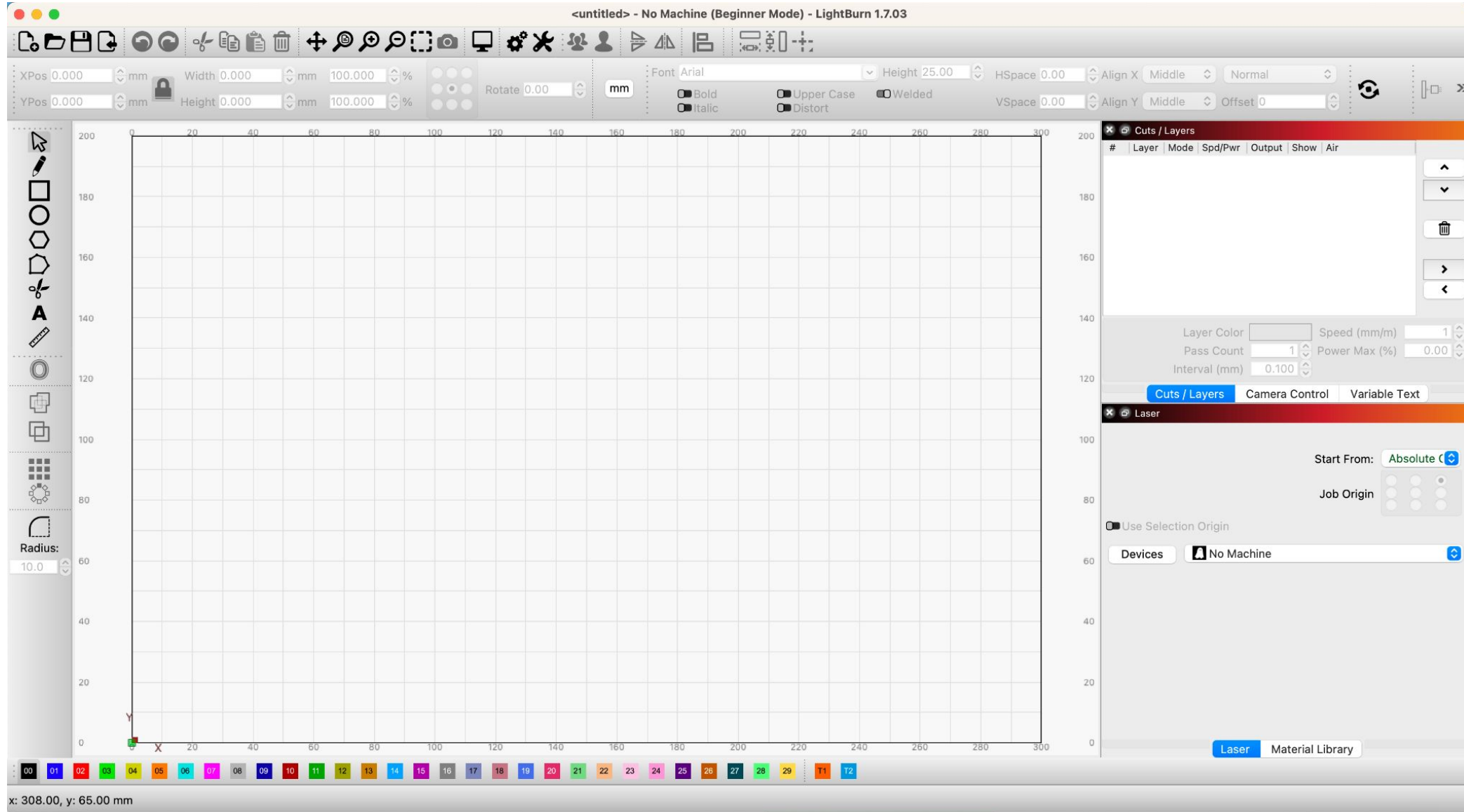




Lightburn

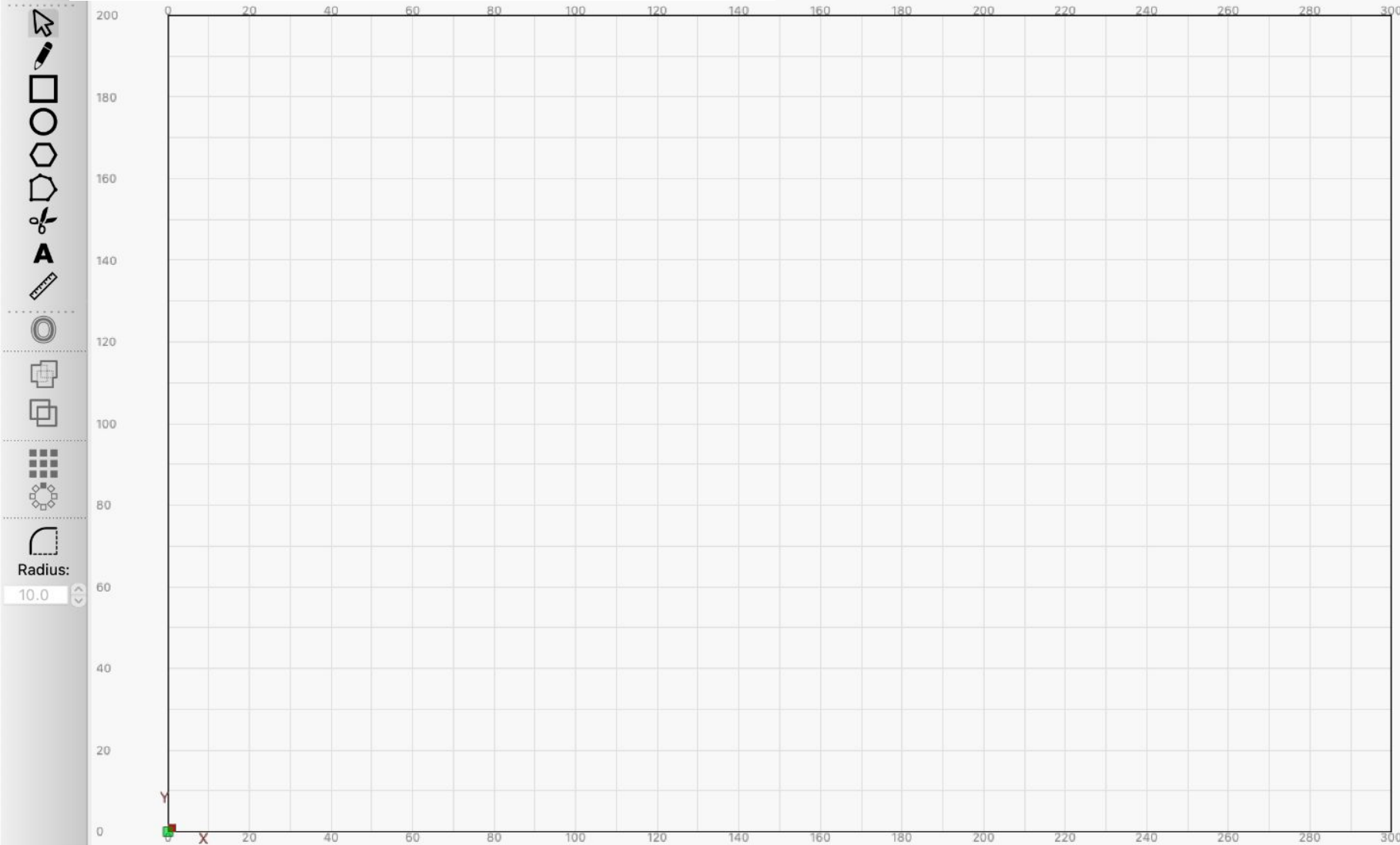
لايتبرن

ستوديو 5
STUDIO5





استيراد الملف Import file



Cuts / Layers

#	Layer	Mode	Spd/Pwr	Output	Show	Air
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Layer Color

Speed (mm/m) 1

Pass Count 1

Power Max (%) 0.00

Interval (mm) 0.100

Cuts / LayersCamera ControlVariable Text

Laser

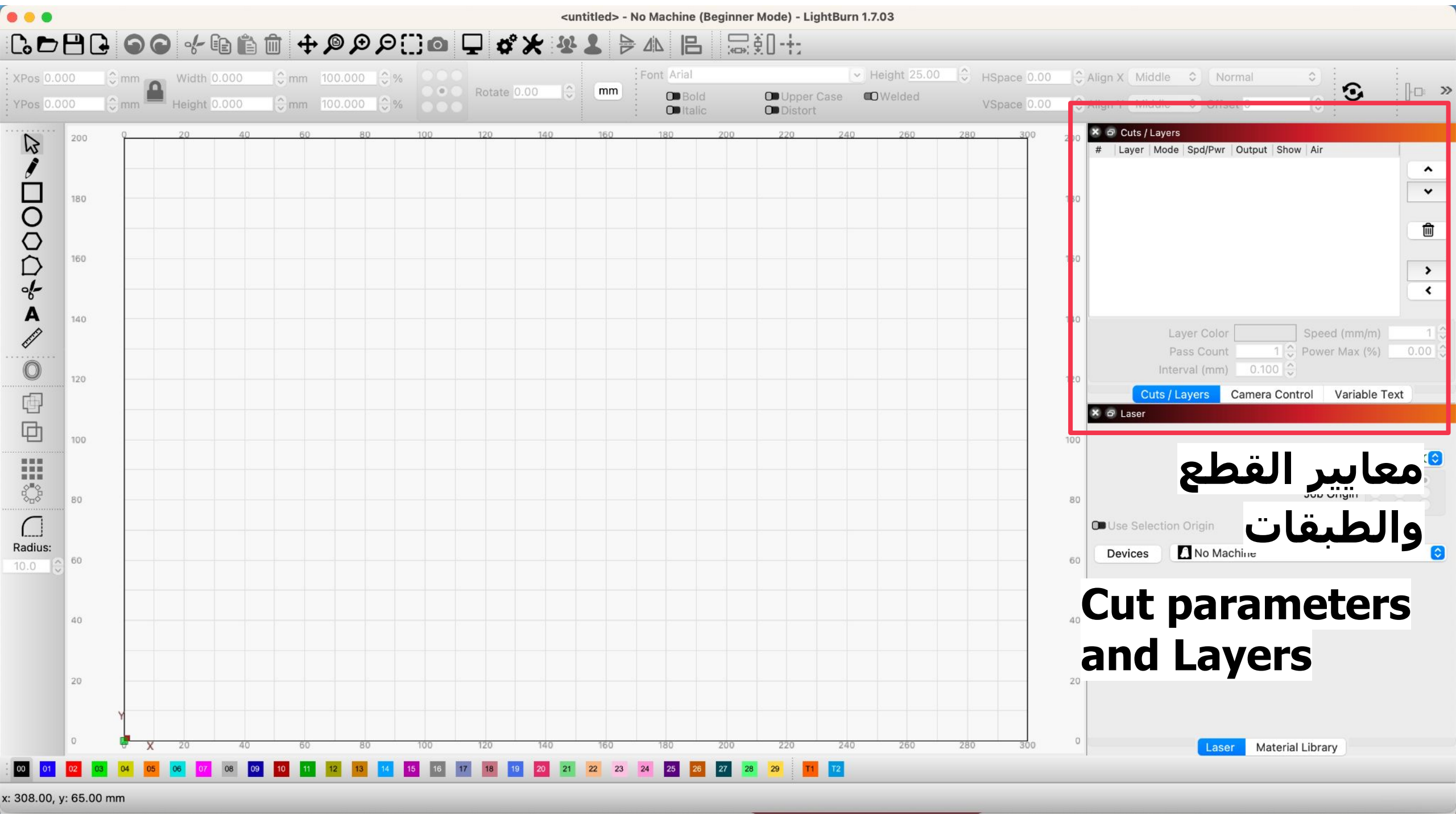
Start From: Absolute

Job Origin

Use Selection Origin

DevicesNo Machine

LaserMaterial Library



معايير القطع
والطبقات

Use Selection Origin

Devices No Machine

Cut parameters
and Layers

Laser Material Library